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SANTA CRUZ

**CAUGHT IN COMPARISONS:  
JAPANESE SALMON IN AN UNEVEN WORLD**

A dissertation submitted in partial satisfaction  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

ANTHROPOLOGY

by

Heather Anne Swanson

June 2013

The Dissertation of Heather Anne  
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## **Abstract**

Heather Anne Swanson

Caught in Comparisons: Japanese salmon in an uneven world

Comparisons are powerful tools for making sense of worlds. But comparisons do not merely identify inherent or pre-existing similarities and differences; instead, they participate in making the very worlds they aim to describe. This dissertation probes how comparative practices shape the formation of multispecies landscapes. I show that the specificities of how people make comparisons and what kinds of comparisons they make are a powerful but often overlooked part of the production of human-nonhuman arrangements, as well as knowledges about them. By focusing on salmon in Hokkaido, Japan, I demonstrate that neither the island's watershed ecologies nor its fish population structures can be understood without attention to practices of comparison-making.

Since the mid-19<sup>th</sup> century, natural resources management in northern Japan has been profoundly shaped by how people both within and beyond Japan have compared Hokkaido's landscapes and fish to those in other parts of the world. After the Meiji Restoration of 1868, Japanese officials sought to "develop" Hokkaido's lands and waters and make them legibly "modern" to Euro-American audiences. They did so by importing "Western" crops and livestock, promoting large-scale commercial agriculture, and constructing salmon hatcheries. Since that time, the ways that Japanese fishermen, scientists, government officials, and indigenous peoples

have compared Hokkaido's salmon and salmon-bearing watersheds to others around the globe have dramatically affected the region's approaches to fisheries management, as well as its salmon. Drawing on ethnographic, archival, and fisheries science research in Hokkaido, the U.S. Pacific Northwest, and Chile, my dissertation demonstrates how particular practices of comparison have created cross-border movements – such as transplants of salmon eggs, exchanges of currency, transfers of scientific technology, and exports of processed fish products – that have shaped the course of Hokkaido's development, the genes of its fish, and the identities of its people. Comparison, I show, is not just a “meta” act of analysis, but also an everyday practice that alters both human and nonhuman bodies and relations. When a Japanese consumer compares kinds of salmon at a supermarket and decides to purchase the fish labeled “wild,” or when a Chilean biologist compares the temperature of a Patagonian river to one in Hokkaido, determining that it might be possible to transplant fish from one side of the Pacific to the other, such decisions fundamentally reconfigure human and salmon lives. By tracing such far-reaching comparisons, this dissertation attempts to open up the practices and geographies through which we know landscapes.

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did not live long enough to read this dissertation, and I dedicate Chapter 3 to his memory.

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**Chapter 1**  
**Introduction: How are salmon done in Japan?**  
**(And why does this question matter?)**

**Introduction: Not “just fish”**

I am an anthropologist who studies salmon, and the document you are about to read is an ethnography of fish. Over the years, this has generated some confusion, both in conversations with relatives and other academics. How could an anthropologist – a member of a field that ostensibly focuses on humans – be conducting research about salmon? If I wanted to study fish, why didn't I pursue a degree in fisheries science? To be sure, the natural sciences provide countless essential tools for understanding nonhumans, and I draw on some of them in my work. Yet, as an increasing number of scholars have shown us, the techniques and sensibilities of anthropology are also critically important for understanding the relations that constitute nonhumans. Salmon are not “just fish”; they are multispecies worlds.<sup>1</sup> As we will see in the coming pages, these fish are complex knots of incommensurable processes: tectonic movements, colonial histories, climate patterns, and resource management practices. Such knots demand the modes of attention and forms of descriptive practice in which anthropologists are particularly skilled. Thus, this dissertation attempts to do fishy anthropology – to describe salmon worlds from within rich histories of anthropological practice, even when, at first glance, such a

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<sup>1</sup> See, for example, Noske 1997, Rose 2004 and 2012, Haraway 2008, and Tsing 2013.



project seems a bit “fishy” – suspect or “off” – to many accustomed to stark divisions between the natural and social sciences.

In the 1990s, I came of age in Astoria, Oregon, a salmon fishing town at the mouth of the Columbia River. During that decade, the region’s salmon populations were in “crisis.” The river had once been the richest salmon-bearing watershed in the continental United States, and salmon were part and parcel of our everyday lives. Salmon were in local school curricula, in public artwork, at the community maritime museum, and, frequently, on my dinner plate. I lived in a house built by a salmon cannery administrator, and I watched gillnet boats set drifts from my parents’ bedroom window. Our local high school had its own onsite fish hatchery and offered three science courses on salmon biology and fisheries management (all of which I took). But when I was growing up, it seemed that salmon were everywhere except in the river. In the 1990s, just as I was becoming aware of my social, political, and ecological surroundings, salmon runs hit all-time lows, and fishing seasons were cancelled. The situation was so dire that several salmon populations hovered on the brink of extinction. Soon, several kinds of salmon – once our town’s staple – were listed under the federal Endangered Species Act. It is hard to capture the sense of emergency that these fish declines provoked. Salmon were not just an economic resource; they were the stuff of our lives. Hardly a day passed when the town’s newspaper did not have a story about the waning numbers of the fish. Although almost everyone agreed that we needed to “save the salmon” in order to revitalize our region, no one could agree on what to do. A big part of the problem, we soon

realized, was that there was no consensus about what should be “saved” – and no consensus about what counted as a salmon.

Since the 19<sup>th</sup> century, hatcheries – facilities that reared young salmon, then released them into the river – had been used to augment the Columbia River’s salmon runs.<sup>2</sup> For decades, no one saw much difference between hatchery-born fish and non-hatchery cousins. There was no categorical distinction between the two: a salmon was a salmon. But with advances in population genetics and conservation ecology, scientists began to make cuts between “hatchery” and “wild” (non-hatchery) fish.<sup>3</sup> Because salmon return to the precise tributary of their birth, the fish who spawn in a specific stream form a distinct population. Over the generations, salmon evolve special traits and life patterns to match the particularities of their portion of a river system, making the salmon in one tributary markedly different from those in another. This tight coupling between fish and place, scientists explained, was one of the key parts of salmon being. Hatchery, fish, however, lacked this link. Until the late 20<sup>th</sup> century, hatchery managers routinely swapped salmon eggs from one river to another as they sought to “improve” fish stocks and meet fish production quotas. Because hatchery fish homed to the facility of their birth, they formed their own populations. But, as weedy admixtures, they no longer had a link to a specific river: they were bundles of genes “out-of-place.” Over time, hatcheries had also exerted their own

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<sup>2</sup> As part of a practice called “sea ranching,” hatcheries harvest gametes from adult salmon, fertilize the eggs, and rear the resulting young salmon until they are ready to migrate to the ocean. Although the hatchery salmon then swim out to the ocean and back alongside river-born fish, their stainless steel tanks and pelleted fish feed are markedly different from river gravels and stream insects.

<sup>3</sup> Here, I borrow the concept of “cuts” from Karen Barad (2007).

selective pressures on fish, creating fish that were better adapted for a juvenile life of pelleted feed and concrete tanks than of foraging and predator avoidance. According to scientists, the very connection between watershed and fish that stood at the heart of salmon-ness had been broken. Hatchery fish were, of course, still salmon, but they were not fully salmon.

Such a distinction started to slip into state and federal fisheries management policies, as well as public discourse. But not everyone agreed. Even if their genes were slightly different, hatchery and wild fish looked and tasted the same. Weren't they all just salmon? Let me explain such tensions around the definition of salmon-ness through the story of Oregon's Fall Creek coho. In late 1998, Ronald Yechout, a small-town banker, was elk hunting with a friend along Fall Creek when he saw Department of Fish and Wildlife staff killing salmon with wooden clubs. Yechout asked the workers to which hatchery the eggs were to be taken for rearing. Their answer enraged Yechout. They replied that over 6,600 Fall Creek salmon were being killed to eliminate their genetic material and that the eggs would not be raised, but sold for trout bait. The killings were aimed at preserving an endangered stock of wild Coho salmon with which the hatchery fish shared the river.

In 1951, the year before the Fall Creek hatchery opened, over 80,000 coho salmon naturally reproduced in the river system of which Fall Creek is a part (Foster 2002). But by 1998, fewer than 300 fish from that genetic stock remained (Foster 2002). Throughout the 1990s, commercial fishing in the area was largely curtailed to reduce harvest of these wild stocks. In 1997, the state of Oregon closed the Fall Creek

hatchery because of a surplus of hatchery fish – the fishing restrictions aimed at reducing pressure on genetically wild fish also dramatically reduced harvest of hatchery salmon. Though the hatchery closed in 1997, hatchery fish already in the ocean at the time of the facility’s closure would return to the creek in 1998 and 1999. The state wanted to prevent the hatchery fish – a genetic mixture resulting from eggs from multiple, distant rivers and years of artificial selection – from spawning in the creek and genetically diluting the remaining wild fish, which they saw as the real salmon of value (Foster 2002). The Department of Fish and Wildlife thus ordered the elimination of all returning hatchery fish to avoid the perpetuation of genes out of place. The practice made Yechout, and many other Oregonians furious. It reduced the number of fish spawning in Fall Creek in 1999 from many thousands of fish of hatchery descent to 32 wild fish (Foster 2002). Returning hatchery fish, they argued, should be allowed to spawn in the creek to increase numbers of naturally reproducing salmon. Genetics, they claimed, were not a significant unit of difference. If the descendants of hatchery fish could survive in the ocean, return to the creek, and successfully spawn, they should be considered equal to other fish, and their in-creek reproduction encouraged.

As I watched these debates, I was struck by how they were not simple arguments about quantity vs. quality, but a more complex conflict about what and how to count. For Yechout, the state’s killing of the returning hatchery fish dramatically reduced the population of wild salmon in the creek from thousands to 32. For fisheries biologists, however, the move prevented a genetic inundation of

what they considered to be the few salmon of value, and increased the number of real salmon – of wild salmon – from a likely zero after genetic mixing to 32. Yet such decisions about what counts as a real salmon, I realized, fundamentally shape what salmon are. If salmon managers followed Yechout’s logic or that of the scientists, the salmon in the river would actually be different – their bodies, genes, and evolutionary trajectories would not be the same. This controversy and its population-making effects made it obvious that “salmon” were not “just nature.”

In the wake of the Yechout incident, I began to realize that the seemingly simple question of “What is a salmon?” is anything but simple. More and more fisheries research revealed that hatcheries were far from the only “human” influence on salmon. The fish were also genetically and behaviorally changing in response to dams, fishing gear, and even river restoration projects. But while salmon were clearly not “natural beings” beyond the pale of human influence, neither were they a “social construction.” Salmon certainly existed in relation to a whole host of nonhuman entities – insects and crustaceans, water currents and woody debris – but humans literally mattered, too. These fish were knots of relations in motion – where things we sometimes call nature (like fish genes) and sometimes call culture (like ideas about value and “realness”) were inextricably intertwined. A salmon was less a “thing” than a process; it was a becoming or an enactment – not an entity. Before the salmon controversies, I thought I knew how organisms were made: through lines of lineal descent where like beget like, with some variation and natural selection. But processes of becoming salmon, we see, cannot be described solely through attention

to their ancestors and kin because they far exceed the labor of reproduction. Instead, salmon – even at the genetic level – are made in the dynamics of encounters that far exceeded the bounds of their skin and scales. Salmon actually come into being as entirely different organisms depending on their relationships. The scientists were already realizing this: salmon populations that spawn in varying rivers had stark differences because each river was a unique bundle of relations – of water temperatures, bedrock composition, tree species, and so on. But seemingly less tangible and more “human” things – like concepts of value, notions of wildness, and definitions of “salmonness” – were also powerful forces in the making of salmon. Histories of land use and practices of fisheries management – entangled with yearnings for economic development and dreams of scientific rationalization – were undoubtedly essential to understanding the shape of any salmon population.

### **Anthropology and ANT: Tools for engaging salmon worlds**

Anthropology offers practices of scholarship that are clearly useful for thinking, writing, and living such complexities. When it comes to the study of fish, anthropology provides techniques for noticing and analyzing that are not found in typical species descriptions or evolutionary histories. The discipline’s extended engagement with feminist theory, colonial critique, political economy, and practice theory offer powerful conceptual apparatuses for engaging power, process, relationality, co-constitution, embodiment, and subjectivity, and these apparatuses make possible the above description of Columbia River salmon as knots of human-

nonhuman relations.<sup>4</sup> But while anthropology has provided critically imported insights for research on multispecies entanglements, it has not done so in isolation. Rather, it is the contact zone where such anthropological approaches encounter science and technology studies (STS) and environmental history that has proved so especially productive of ways for studying more-than-human emerging worlds.<sup>5</sup>

One set of practices that has been at play in this contact zone has been actor-network theory (ANT) and its relatives. I use ANT here to connote a family of related approaches, including material-semiotics, empirical philosophy, and “after-ANT,” that are closely associated with Latour, Law and Callon.<sup>6</sup> What ANT designates is clearly fluid; over time, even Latour and Law –its most avid proponents– have revised how they think and do ANT (see for example, Law 1999, as well as other pieces in Law and Hassard 1999). Yet, ANT is still a useful – and widely used – shorthand for capturing a set of methodological and theoretical orientations that initially emerged within science and technology studies and that have subsequently had substantial influence on – and been remade within – anthropology in general. Painting with overly broad brushstrokes, I would like to point to three of ANT’s most important interventions. The first is its insistence on the primacy of performativity and practices. ANT proposes that objects, subjects and “facts” emerge within networks of relations rather than prior to them. Such scholarship proposes that we understand “being” or ontology as a process rather than a state. Instead of asking

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<sup>4</sup> I thank Susan Harding for this insight.

<sup>5</sup> See Pratt 1992 and Haraway 2008 on contact zones.

<sup>6</sup> See Latour 2005 and Law 1992 and 2009 for overviews of ANT. See also Law’s extensive archives and bibliographies at <http://www.heterogeneities.net/>.

what objects or phenomena are or what they mean, ANT scholars instead ask how they how they are enacted or “done” in practices (Lien and Law 2011, Law and Lien 2012, Mol 2002). The second ANT intervention that I would like to highlight is its assertion of “generalized symmetry,” or equal attention to materially heterogeneous entities (Callon 1986). For ANT scholars, difference does not exist before relations, but is instead constituted through network encounters. ANT insists that actors – which can be human or nonhuman – derive agency only within relations, and it rejects any *a priori* distinctions such as subject-object or as nature-culture. For example, if one were examining the scene of a royal banquet, a fork would be just as worthy of attention as a possible actor as a political leader. This example leads into the third ANT intervention that I want to highlight: a redefinition of power and politics. By focusing on the agency of material entities (the fork in the previous example), ANT scholars have enlarged definitions of politics. They propose that “politics” is not limited to halls of parliament, but is instead found within all practices that bring specific material arrangements, networks, and knowledges into being. Through its assertion of these principles, ANT proposes a method: the task of the scholar is to follow, trace, and map the webs of relations within which things become. In practice (pun intended), this has led ANT scholars to material configurations – to what John Law has called the “pipes and wires” – as the scene of political action and world-making (Law 2012).

ANT has been popular with anthropologists because it strongly resonates with concepts already common in the discipline. Performativity, attention to material



culture, and more expansive definitions of politics are topics that have long been on the table in anthropology. But ANT's particular articulation of these ideas – especially its articulation of them as a method – has made it a powerful package that has traveled well.<sup>7</sup> Through its emphasis on material agency, ANT has provided significant tools for scholars interested in understanding sociality as a more-than-human phenomenon (Tsing 2013). Although one can certainly trace many genealogies for and strands of contemporary multispecies anthropology (Abram and Lien 2011), I do not think it is unreasonable to identify ANT as one of its most influential contributors. Indeed, the insights of ANT undergird this dissertation's understanding of salmon as knots of relations and help me (along with other anthropologists) to ask questions about nonhumans that expand the scope of anthropological inquiry itself. If humans (the typical subject of anthropology) come into being within networks of practices that include nonhumans – including animals and technologies – one must take nonhumans seriously in order to understand how different modes of “being human” emerge.<sup>8</sup> In addition, if salmon come into being within networks of practices that include humans, one must also understand how different modes of “being fish” emerge within webs of multispecies relations that include humans. But while it is generally acknowledged that ANT's approaches have proved powerful for opening up questions about more-than-human socialities within anthropology, there has not yet been enough reflection about how anthropology's rich methodological and theoretical toolbox can productively torque ANT.

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<sup>7</sup> See Tsing 2005 on “traveling packages.”

<sup>8</sup> See Tsing 2012.

Indeed, if I had conducted dissertation research on salmon in the Columbia River basin, as I had originally planned, the theoretical and methodological apparatuses of ANT would have meshed almost seamlessly with my ethnographic material. They certainly give me the tools to ask the question that sits at the core of this dissertation: How are salmon done? But as a result of a surprise encounter, which I describe in the following section, I ended up studying salmon not in the Columbia River, but in Hokkaido, Japan. And that project, I quickly found, demanded a different amalgamation of anthropology and ANT than is commonplace in current multispecies scholarship. It requires that I not only use the insights of ANT to expand anthropological practices, but that I also use the insights of anthropology to rethink the practices of ANT.

### **Doing salmon in Japan**

By the time I arrived to grad school, I thought I knew a lot about how salmon were done. In addition to growing up in a salmon fishing town, I had worked for several years at a salmon research and education organization and studied North American salmon-related issues for more than a decade. Based on those experiences, I thought I had a handle on the scales, units, and geographies through which salmon were done. I thought the geographies of salmon worlds were self-evident, even if contested. As I knew them, the units of salmon worlds were things like watersheds, farm fields, irrigation district boundaries. Although conflicts over Columbia River basin fish occasionally linked the area to Washington, D.C., salmon issues remained

more or less regional concerns. In my years both working in and researching salmon management in Oregon and Washington states, the people I encountered – be they hatchery workers, fisheries scientists, government officials, or environmental activists – all mapped out salmon worlds that were linked to a specific tributary watershed, to the Columbia River Basin, or – at the largest – to a salmon “ecoregion” that stretched from coastal California to Southeast Alaska. There were, to be sure, a few acknowledged lines of connection that linked the Columbia River basin to other geographically distant locations. The worlds of Columbia River fishermen extended to other parts of Bristol Bay, where they sometimes found work when Columbia River salmon runs weren’t enough to pay the bills. In addition, environmental activists often gestured rather generically to the foreign-origins of imported farmed salmon. But in our everyday doings of salmon, people in the Columbia River did not invoke many transnational connections or make comparisons to sites beyond their watershed. We practiced salmon management through a “sense of place” in which “place” evoked typical notions of the “local” and the “particular”; we almost never thought beyond the borders of the rainforest coast region.

But one winter day, during my second year of graduate studies, my sense of salmon worlds completely changed. I opened a copy of *The Atlas of Pacific Salmon*, a newly published collection of GIS maps that depicted Pacific Rim salmon populations – stretching from California to Japan – as a single arc, a connected world (Augerot 2005). I was dumbstruck to “discover” that there were salmon in Asia – in Kamchatka, Siberia, and Japan. Despite more than a decade of working with fish in

the Columbia River basin, I had – until that moment – been able to not know about the very existence of salmon in Asia. In my fisheries training, I had learned briefly about salmon runs along the coasts of Europe, eastern Canada, and the eastern United States. I had superficially studied the translocation of salmon to New Zealand and the rise of salmon farming in Chile. But until I opened the cover of that atlas, Pacific salmon worlds – as I knew them – had stopped abruptly at the end of the Aleutian chain. I was immediately seduced by my own salmon *terra incognita*. The wilds of Siberia seemed somehow comparable to Alaska, and thus somehow comprehensible. But salmon in Japan? It had never crossed my mind. In countless interactions in hatcheries, on fishing docks, at dams, and at meetings, I don't recall anyone ever mentioning Japan and the salmon that live there. Japanese salmon were completely absent from fisheries discussions in the Columbia River basin. My lacuna doubly piqued my interest – at once, I wanted to know about Japanese salmon and about how it was possible for me to have not known about them. I immediately began trying to investigate salmon fisheries and management in Japan, but I found few English-language materials. Fascinated by this “empty space” on my mental salmon map and obvious gaps in scholarly literatures, I decided enthusiastically (and perhaps a bit impulsively) to reformulate my dissertation research to focus on salmon-human relations in Japan, rather than in the Columbia River basin.

I kept the same research question but with two words added on to its end: How are salmon enacted (or done) in Japan? I expected that those two words would change the content of my research; what I did not expect was how they would

demand that I change its form. I initially imagined that my explorations of Japanese salmon worlds would be roughly comparable to those I had conducted in the United States. I would learn Japanese, find a sizable watershed in Japan, and trace out the relations among Japanese hatcheries, fishermen, scientists, and bureaucrats through which Japanese salmon populations emerge. But immediately after I arrived in Japan, I realized that I would have to completely reconceptualize my research – along with my sense of the geographies and ontologies of salmon. In Japan, salmon were not lived exclusively in relation to watersheds, regional land use concerns, and struggles over how to count salmon. Doing salmon in Japan was fundamentally different from the Columbia River basin in that it was profoundly comparative. No one did anything – from hatchery fish rearing to salmon processing to research design – without constantly referencing geographically distant sites. Transnational connections and comparisons were clearly embedded in the quotidian practices of making Japanese salmon in a way they were not in the Columbia River.

### **Transnational geographies of salmon: Bringing political economy into STS**

In this dissertation, I focus on how these omnipresent comparisons and references to transnational locations have required that I join the increasing number of scholars who are trying to diffract STS practices, including ANT, through colonial critique and attention to political economy. I see myself as allied with what Warwick Anderson calls “postcolonial” science studies, a form of STS that does not merely tack the term “postcolonial” onto a pre-existing science studies, but that demands we

use the insights of postcolonial theory to rethink how to do STS research (Anderson 2002, Anderson and Adams 2007). STS, particularly in its ANT-inflected forms, has come under criticism for the ways that it flattens space-time and misses the unevenness of worlds. By stressing that actors emerge only within relations (and not before them), ANT has largely disavowed “context” – including commonly used analytical categories such as race, class, and gender. For ANT scholars, such categories and the subjectivities related to them are seen as coming into being only within phenomena, not before them. Many ANT scholars have similarly turned away from “history” as such, arguing that it, too, only emerges in relations.<sup>9</sup> Nothing is “prior.” Although I wholeheartedly agree with the basic idea underlying such sentiments – that everything is relational – I am concerned with the ways that, in the actual doing of ANT, certain kinds of relations of power have been systemically swept under the rug. In their admirable and utterly necessary attempts to expand the realm of the political and conceptions of power, ANT scholars have developed methods that repeatedly miss the power and politics that inhere in colonial histories and global political economy.

When ANT scholars have conducted their research, they have consistently asked about the practices through which things are made and phenomena come into being. But such scholarship has not adequately addressed the question of how one recognizes a practice. Usually, it seems, one relies on one’s interlocutors. For

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<sup>9</sup> Kristin Asdal (2012), however, has taken a different approach, calling for efforts to reconnect history and ANT. Although ANT has typically been present-oriented and rejected notions of “context,” Asdal shows that ANT itself does not mandate a refusal of history, but can instead be used as a historicizing method.

example, if I observe a fisherman doing X, I take X as the unit of practice. Similarly, if a fisherman says that ‘doing fish’ involves this but not that, one typically takes him at his word. Such an approach, however, is insufficient when one is conducting research in Europe and North America, where historical relations of power are systematically erased and rendered difficult to observe. Often, ANT scholars have done research in sites – such as laboratories, hospitals, and techno-scientific projects – where there is a tendency to avoid overt enactments of legacies of dispossession, discrimination, and violence – even when they are most certainly there. Such inequalities are suppressed through subtle practices that ANT research methods seem to systematically miss. In the quintessential Global North locations of STS, people can – and typically do – get through their days without thinking or talking about the constitution of their own positionality within transnational political economies. In sites like the Columbia River, my collaborators are often entangled in histories and relations that repress recognition of transnational worldings. But if one ignores the contexts in which delineations of a practice occur, one runs the risk of reproducing one’s collaborators’ myopia. Although the enactments of salmon in the Columbia River portrayed the region and its salmon practices as *sui generis*, that is – of course – far from the case. How, then, does one see the historical relations of power that are part and parcel of practices? ANT scholars have often asserted that politics lies precisely in these kinds of questions about where to extend and where to cut networks, but – in practice – such politics too rarely make their way into ANT texts.<sup>10</sup>

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<sup>10</sup> For a nuanced discussion of ANT and politics that begins to make such politics

How can we simultaneously make visible the politics of delineating practices and the politics that too often get left out by common practices of cutting?

This dissertation argues that shifting locations is key. Research in places outside centers of global power sensitizes one to the ways that practices are almost always part of geographically far-reaching webs of connection and complex relations of inequality. For example, the comparisons that occur in Japanese salmon worlds jar me out of my myopia and alert me to the erasures of such relations in many Euro-American projects. These kinds of encounters remind me of the continued importance of paying attention to political economy even as I focus on practices and enactments. Thus, starting in Japan, a location outside of Europe and America, does not merely add another “site” or another “case” to knowledge about how salmon are enacted around the globe. Instead, studying salmon in Japan makes it impossible for me to ignore colonial histories and political economy and requires that we rethink how we define practices of doing salmon.

Yet, while shifting locations is important, it is not enough. We must also think more carefully about how and where we cut our curiosities and thus our networks. What are the geographies that our definitions of “practice” bring into being? Consider, for a moment, Michel Callon’s classic STS piece on the scallops of St. Brieuc Bay. Callon astutely examines how three French scientists try to enroll the bay’s bivalves and fishermen into a project to boost the number of scallops in the area. Initially, the scientists were able to garner the interest of both the fishermen and

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more visible, see Singleton and Law 2013.



the scallops themselves. But in the end, the scientists could not get either party to fully enroll in the project: the scallops would not attach to the collector devices on which they were to be cultivated, and the fishermen backed out of their commitment to forgo harvesting during the restocking efforts. In passing, Callon mentions that the French scientists were trying to implement a technique that they had observed during a trip to Japan. But Callon does not follow up on the transnational link and become curious about what happened during the French scientists' travels to Asia. Narrowly focusing on the action in coastal France, he does not ask questions about how scallops are enrolled in aquaculture practices in Japan or consider how encounters between the French scientists and Japanese scallop culture experts – undoubtedly marked by differences in language, culture, and race – might have played a significant role in how practices of bivalve cultivation unfolded in St. Brieuc Bay. Using this example, Anna Tsing has encouraged us to question why Japanese scientists and scallops did not make it into Callon's network, as well as what we miss when they do not (Tsing 2011). Decisions about whether or not Japanese humans and nonhumans enter the story have theoretical, methodological, and political implications to which we must attend. How might not only this classic article but also the very method of ANT been otherwise if Callon had been curious about Japan and defined the scope of his project more broadly?

In this dissertation, I hope to inspire scholars in anthropology and STS to ask such questions and open up the boundaries of their research. I aim to explore some of the possibilities of an amalgamation of ANT and anthropology that draws as much on

anthropological modes of noticing transnational histories, colonial relations of power, and “engaged universals” as on ANT-style attention to “pipes and wires,” i.e. to the details of material practices.<sup>11</sup> The enactment of salmon in Hokkaido, Japan requires that we do precisely this: that we take transnational connections seriously.<sup>12</sup> The geographies through which Japanese salmon come into being certainly include their migration routes through the North Pacific, but they do not end there. The transnational geographies of Japanese salmon extend to 19<sup>th</sup> century success of the Columbia River salmon canning industry, late 20<sup>th</sup> century efforts to cultivate farmed fish in southern Chile, and 21<sup>st</sup> century European consumer desires for “sustainable” seafood. But as I push us to consider new geographies for our research, I also urge us to attend to the forms of scholarship that such geographies require. In my project, the transnational processes through which salmon come into being in Japan are deeply intertwined with the processes through which people come into being in Japan. And both, it turns out, are caught up in practices of comparison that that cannot be understood without attention to colonial histories and global political economy.

### **Practices of comparison**

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<sup>11</sup> This project in many ways echoes that of Donna Haraway in *When Species Meet* (2008). Haraway opens the book with the question: “What do I touch when I touch my dog?” For Haraway, this question compels her to seriously explore not only continental philosophy, but also grassland ecologies, histories of Australian colonization, developmental biology, animal breeding and genetic research, kinship practices, bioart, and animal rights discourses. For me, the question of how salmon are done in Japan calls for similar work. See also Haraway 2003.

<sup>12</sup> Interestingly, one of Law’s earliest ANT-style pieces on Portugese colonial shipping takes a much more transnational approach than the bulk of later ANT (Law 1986). I would like to rekindle some of the sentiments in this piece.

This dissertation is a comparison (between what happens when one asks “how are salmon done” in the U.S. versus in Japan) in which comparisons are themselves central. In this text, practices of comparison are at once an object of study, a method of analysis, and a mode of intervention. In recent decades, overt comparison has gotten a bad rap in anthropology. In the turn-of-the-century anthropological worlds in which I grew up, “comparison” was a positivist anachronism, a heuristic for the theoretically un-savvy. It was a method for the unenlightened – i.e., sociologists and political scientists – who had not yet questioned their own analytical categories. In a time of “relationality,” “deterritorialization,” and “borderlands,” explicit comparison appeared to wrongly presume a world divisible into “constants” and “variables.” It reified cultures as bounded objects and was too sure of the naturalness of its scales.<sup>13</sup>

But more recently, anthropologists such as Marilyn Strathern, have shown us how explicit comparisons can be tools for undermining epistemological certainties rather than for merely shoring up “commonsense.” Commonly, anthropological cross-cultural comparisons in Melanesia, from which Strathern draws many of her examples, have been too quick and confident. Scholars working in the region have been too sure of the “levels” and categories of regional comparison: “Gifts, festivals, initiation rituals, sexual practices: this is the scale of phenomena anthropologists are

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<sup>13</sup> This quick gloss of comparison in anthropology is, by its very nature, overly simplistic. For more in-depth treatments of explicit and implicit comparison-making in anthropology and related disciplines, see Gingrich and Fox 2002, Holy 1987, and Friedman 2011, as well as the journal *Common Knowledge*'s 2011 special issue on “comparative relativism” (Jensen et al 2011). Even during historical moments when anthropologists have been rather allergic to explicit comparisons, comparison has been consistently (and fundamentally) embedded in all anthropological work. I thank Susan Harding for this reminder.

used to taking for comparison” (Strathern 2004:69). Strathern, however, asks us to do comparisons otherwise, to consider classifying canoes as aerophones rather than as boats based on their relation to spirit voices (2004:70). Comparing the knowledge practices of Melanesian peoples and Western academics, Strathern not only challenges “the methodological requirement of comparing like with like” but also forces us to rethink how we know what “like” is (2004:69-70). She insists that we “get tripped up on the very issue of association: how one knows in each instance what one is ‘looking at’” (2004:68). Comparison, here, produces confusion and surprise rather than categorical confidence. It throws units and relations into question. It makes us doubt what we think we know and how we think we know.

This kind of Strathernian sensibility is essential for my work on comparisons, but it is also insufficient. In her efforts to show how Melanesians do worlds otherwise, she fails to show how such worlds are invariably constituted in relation with others, including those whom she calls Euro-Americans. Such efforts to cut rather than connect are, of course, part of her intellectual project. But such a project has its limits when it comes to thinking about a place like Japan, where people feel compelled to constantly reference the “West” as they perform their own knowledge practices.<sup>14</sup> Strathernian languages do not help us to understand how Japanese practices of knowing and doing the world are shaped by histories of global

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<sup>14</sup> From this point onward, when I use the terms “West” and “Euro-American,” I am attempting to use emic categories. The “Wests” in this dissertation are those of the people with whom I worked in Japan, not the “West” of U.S. or European academic discourse.

inequalities. Working in Japan demands a focus on transnational encounters, in which comparisons – and the uneven world in which they are done – come to the fore.<sup>15</sup>

### **Colonial power and comparison: Thinking with Anderson and Stoler**

It is not an exaggeration to state that nothing related to Japan (including salmon) can be understood without attention to comparative practices. In Japan, everyday life is explicitly lived through transnational histories, practices, and relations of power. As a result, one cannot do anything there without making comparisons. Sometimes these are specific comparisons that connect specific points or practices, say a fish hatchery in eastern Hokkaido and a facility in Oregon. Other times they are less specific comparisons between Japan and that thing called “the West.” So prevalent are these latter categories that simple daily tasks such as ordering breakfast at a restaurant or using a public restroom requires selecting a breakfast or toilet configuration that is labeled “Japanese” or “Western.”

In Japan, histories of colonial power and continuing inequalities of multiple kinds are always on the table, and, as a result, I must turn to scholarship on colonial history to help me think about how imperial encounters matter in comparative practices. My work draws particular inspiration from the work of Benedict Anderson and Ann Stoler, who – in the context of island Southeast Asia – show us how colonial comparisons shape bodies, landscapes, and lives. Anderson opens his book, *Spectre of Comparisons*, with a story from Jose Rizal’s novel *Noli Me Tangere* (Anderson

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<sup>15</sup> I borrow the phrase “uneven world” from *Theory in an Uneven World* (2003), edited by R. Radhakrishnan.

1998:2) that illustrates how colonies are haunted by comparisons with their so-called metropolises. Set in the 1880s, Rizal's story tells of Ibarra, a *metizo* man who has just returned to Manila after extensive travel in Europe. When Ibarra moves through the colonial city, he discovers that he can now only see its landscapes in comparison with those of the center. Manila's municipal botanical gardens, he realizes, are forever shadowed by their "sister gardens" in Europe. Ibarra finds himself caught in the comparisons of the colonial predicament: he can "no longer matter-of-factly experience [the gardens], but sees them simultaneously close up and from afar" (Anderson 1998:2). Rizal terms this "incurable doubled vision" the *demonio de las comparaciones*, the devil or spectre of comparisons (Anderson 1998: 2).

But at the same time that Anderson clearly shows how colonial comparisons force those in the colony into the position of the "copy," he also demonstrates how comparisons also contain subaltern possibilities. In the introduction to his book *Under Three Flags*, Anderson offers the example of Isabelo de los Reyes, a late 19<sup>th</sup> century Filipino folklorist and nationalist, who harnessed colonial comparisons in order to challenge the European domination with which they were entangled (2005:13-19). Drawing on the allegedly "universal science" of European folkloristics and writing in Spanish, Isabelo cleverly talked back to his colonizers by using their comparisons as well as their language. Isabelo routinely placed the customs of Filipino groups alongside those of "Peninsulars" (2005:19). By depicting Filipino and Spanish folk traditions as comparable, Isabelo sought to stake a broader claim of equivalence that would undermine colonial projects and bolster Filipino nationalism.

As Anderson has demonstrated in much of his work, nation-making is always shot through with comparative practices. It requires “imagining community,” both fostering a “we” and defining its boundaries by making comparisons with constitutive outsides (Anderson 1983). But while nation-making is always a comparative process, nation-making in the midst of colonial comparisons requires double work. For example, European national folklorists, similar to Isabelo, played important roles in developing imagined communities. But while European folklorists could work to conjure one singular audience (“themselves”) to which they wrote, Isabelo always had to speak to two. He had to both use comparative folklore to create a “national brotherhood” among Filipinos – a category that itself did not yet exist – and to make the Philippines a “nation” in the eyes of Europeans. “If in Europe folklorists wrote mostly for their *paisanos*, to show them their common and authentic origins, Isabelo,” Anderson explains, “wrote mostly for the early globalizing world he found himself within – to show how Ilocanos and other *indios* were fully able and eager to enter that world, on a basis of equality and autonomous contribution” (2005:22). In a world dominated by colonial logics, nation-making outside the metropole required more than consolidation; it required the extra work of making one’s nation “comparable” to the European nation-states by which it was inevitably haunted.<sup>16</sup>

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<sup>16</sup> As Marianne Lien pointed out to me, the need for nationalist folklore projects to speak at once to audiences at “home” and in centers of power is not unique to locations outside of Europe. It was also important for nations in Europe’s own margins. For example, according to Lien, late 19<sup>th</sup> century Norwegian intellectuals involved in nation-building projects not infrequently spoke and wrote for non-Norwegian, urban intellectuals in France and England, as well as for the people they hoped to conjure as “Norwegians.”

While Anderson focuses on the experiences of the colonized, Ann Stoler turns our attention to those of the colonizers. Stoler shows us how acts of colonization – like experiences of being colonized – are productive of comparative practices. By examining the comparative practices of 19<sup>th</sup> century white Europeans (primarily in Southeast Asia), she asks how Western/colonial “commonsense” comparisons get made. In her article “Tense and Tender Ties,” Stoler urges us to attend “to the practices of colonial comparison by colonial governments themselves” – to probe the specific histories of how colonial administrators have enacted strategies of racial and sexual differentiation as they manage bodily intimacies (Stoler 2001). She concretely shows how the biographies of 19<sup>th</sup> century colonial officials created imperial worlds that were, to borrow a phrase from Strathern, more than one but less than many (Strathern 1991: 35). “Agents of empire,” she writes, “were themselves rarely stationary. They moved between posts in Africa and Asia, schooled their children in international Swiss boarding schools, read avidly about other colonials, visited colonial expositions in Paris and Provence, came together in colonial hill stations around the globe, and had a passion for international congresses where their racial taxonomies were honed and their commonsense categories were exchanged” (Stoler 2001). Stoler draws our attention to how such movements and personal connections of colonial officials fostered ricocheting comparisons, a transnational currency that created partially connected imperialisms: “Category making produced cross-colonial equivalencies that allowed for international conferences and convinced their participants—doctors, lawyers, policy makers, and reformers—that they were in the



same conversation, if not always talking about the same thing” (Stoler 2001). But while she focuses on the making of European categories, Stoler also decenters Europe. In her work on modes of racialized and sexualized governance in Southeast Asia, Stoler asks us to “provincialize comparison,” to think it from the colony rather than the metropole. Stoler prompts us to think about how 19<sup>th</sup> century colonial comparisons were not fully created in the “core” then exported to the “peripheries,” but rather were made in encounters beyond the borders of Europe (and later the United States). Furthermore, her Europeans are not “pure”; they are empathetically not marionettes who are shaping comparison from “above,” but are themselves made in the fray. As she shows us, “Euro-American” and its permutations are just as much “made in comparison” as colonial subjects are.

### **Comparison-making in Japan**

For both Anderson and Stoler, the line between colonizer and colonized is clear; one falls into one category or the other. Japan, however, has awkwardly straddled both. People in Japan have been caught in the comparative predicaments of the colonized, including unequal relations with Euro-America. But Japan has not only occupied the position of the colonized, but also that of the colonizer. Beginning with Hokkaido, Japanese colonial officials and settlers have undertaken comparative projects and come to inhabit subjectivities structurally similar to those of Euro-Americans engaged in imperial projects. Furthermore, after World War II, the Japanese state has continued economic efforts and international development projects

imbued with colonial sentiments. Neither the work of Anderson or Stoler is sufficient to understand the comparative predicaments of people – like those in Japan – who have been entangled both ways with colonialism, simultaneously caught up in Euro-American colonial frameworks and in building their own colonial structures. To understand such dilemmas, I turn to Japanese intellectuals' descriptions of their own experiences with comparison-making.

Prior to the 19<sup>th</sup> century, Japanese scholars made countless comparisons with China as they struggled to define an identity at once connected to and distinct from the mainland. But in the context of such comparisons, boundaries were rather fluid. With identity linked more to differences in manner, customs, and the style of one's poetry than to cultural essence, people could slip easily between categories. Although there was a vague sense of a "Japan," feudal domains – not the "nation" – were the important grounds for identity-making. Indeed, before the 19<sup>th</sup> century, the word *kuni* (country) was not often used, and when it was, it "more often referred to the local region or domain than to Japan as a whole" (Morris-Suzuki 1998:13). Although the Tokugawa state held varying levels of influence over the islands of the North Pacific, its borders were uncertain, and, in outlying areas, tenuous ties to the central government were the norm.

In the 17<sup>th</sup> and 18<sup>th</sup> centuries, Japanese intellectuals began more extensively mapping the world and their relations to it. Drawing on Confucianist models, they depicted the world in terms of concentric rings of foreignness, envisioning a geographical gradient from intimately familiar to utterly exotic (Morris-Suzuki 1998).

As historian Tessa Morris-Suzuki has shown, Tokugawa intellectuals – like many mainland Chinese scholars – saw difference primarily through spatial comparisons, with *i* (barbarian qualities) increasing as one moved farther away from the *ka* (the settled center) (Morris-Suzuki 1998:15).<sup>17</sup> But in the mid-19<sup>th</sup> century, Japanese intellectuals began to radically alter their comparative practices. For the previous two centuries, foreign exclusion policies had seriously circumscribed contacts with Europeans and kept trade relations under tight shogunal control. But by the 19<sup>th</sup> century, the growing number of British, French, American, and Russian vessels plying Asian waters made the foreign exclusion policy – and the political control it provided – seem increasingly untenable. From their writings, it is clear that Japanese elites were well aware of the Opium Wars and the mounting power of Europeans to subjugate China. After watching the United Kingdom open Chinese ports to free trade, build a colony on the barren island of Hong Kong, and force the Qing Dynasty to sign what are now known as the “unequal treaties,” the Japanese intellectuals worried about their own future. It seemed to them that a new global binary, that of colonizer/colonized, was quickly upsetting the concentric *ka-i* circles on which they had previously relied to map their worlds. Japanese officials and intellectuals began to fear that, if they didn’t do something quickly, they – like China – would fall on the wrong side of this new colonizer/colonized divide.

The arrival of Perry’s Black Ships in 1853 upended both intellectual thought and everyday life across much of the archipelago. The arrival of a militarily powerful

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<sup>17</sup> Toby describes a similar spatial logic in his work on 17<sup>th</sup> century Japanese maps of the world’s peoples (Toby 2001: 27).

American fleet catalyzed unrest among political elites and helped spark the Meiji Restoration, which ousted the shogunate and returned power to the Emperor.

However, it created more than a political regime change; it also created a comparative one. Once their naval cannons were pointed at island cities, Euro-Americans were no longer distant barbarians; they were clearly not following the *ka-i* paradigm. Instead, the Euro-Americans were relying on a distinctly different mode of comparison more closely linked to time than to space (Morris-Suzuki 1998). Instead of a mapping of difference based on geographical distance, this alternative form of comparison linked it to notions of “development” and “progress.” Where *ka-i* models viewed Others as “foreign,” these new forms of comparison viewed them as “backwards.” Because these new comparative logics relied heavily on a notion of temporal progress, those on the so-called margins changed from being “bizarre” to “behind.” “Civilization” (*bunmei*) replaced *ka* as the center.<sup>18</sup>

Island intellectuals realized that they were about to be colonized by such comparisons, in all senses of the phrase. Mid-19<sup>th</sup> century Japanese intellectuals, including Ito Hirobumi and Fukuzawa Yukichi, saw that Euro-American forms of comparison had universalizing intentions. *Ka-i* frameworks had been understood as relational and particular; people in Japan and China had had their own versions of centers and peripheries, and no one demanded recognition of their model over others. Euro-Americans, however, clearly believed that their form of comparison provided a master narrative, and – through military violence and colonial practices – they

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<sup>18</sup> This entire paragraph relies heavily on the arguments of Morris-Suzuki (1998).

insisted that others recognize their hierarchical ordering of the world. Japanese intellectuals knew that negotiations with such comparisons carried real consequences.

Although there was much internal disagreement, most powerful 19<sup>th</sup> century Japanese elites felt that the island's best hope for avoiding colonization lay in modern nation-state formation – i.e. in making a different kind of “Japan.” With no other viable options, Japanese intellectuals strove to join the ostensibly universal system proffered by Euro-American worldviews. They understood that enacting “Japan” through the Euro-American logics of progress and the nation-state – rather than through *ka-i* frameworks – would call a very different “Japan” into being, but it seemed like a decent one. They dove into the project of creating a nation in dialogue – in comparison – with those emerging in the U.S. and Europe. During the Meiji period, Japanese elites adopted a Prussian-style constitution, built an English-style navy, studied French army tactics, and instituted an American-style education system. Meiji era Japanese intellectuals and government officials worked as hard as they could to build a “Japan” that would be legible to existing Euro-American nations, that could occupy the same categorical “level.” Unconsolidated early 19<sup>th</sup> century Japan seemed to Euro-Americans to be a terrain ripe for colonization; as a real first-rate nation, “Japan” would no longer be a target. Such efforts were projects of comparability. In order to join the ranks of the “civilized” instead of the “backwards,” the Japanese had to become comparable to the West rather than to other Asian countries. In his famous essay titled “Datsu-A Ron” (“Leaving Asia”), Fukuzawa argued that Japan needed to escape from Asia and enter the West:

Once the wind of Western civilization blows to the East, every blade of grass and every tree in the East follow what the Western wind brings... The spread of civilization is like the measles . . . In my view, these two countries [China and Korea] cannot survive as independent nations with the onslaught of Western civilization to the East . . . We do not have time to wait for the enlightenment of our neighbors so that we can work together toward the development of Asia. It is better for us to leave the ranks of Asian nations and cast our lot with civilized nations of the West... Those [who] are intimate with bad friends are also regarded as bad, therefore I will deny those bad Asian friends from my heart (Lu 1996 [1885]: 351–353).

Just as new comparisons were producing a different “Japan,” Japanese intellectuals hoped that a new “Japan” would produce different comparisons – different evaluations of their place in the global order.

At first, the plan seemed to be working. As “Japan” embraced Western-centric forms of modernization, it began to work its way towards the top echelons of international hierarchies. Drawing on physical and institutional infrastructure from the Tokugawa period – including standardized weights and measures, an integrated road system, a wealthy merchant class, systems of credit, and extensive intra-regional trade – Japanese elites were rapidly able to build both a strong economy and a powerful military. Concepts of *han* identity also proved useful in nation-making. Japanese intellectuals were able to use the language of feudal domain identity writ large to form the beginnings of an “imagined community.” Japan’s victory over Russia in the 1904-1905 Russo-Japanese War displayed the success of such endeavors. The conflict marked the first time that a “non-Western” country had defeated a “Western” one, and both Euro-Americans and Japanese took note of the significance of the occasion. Just after the war, a Japanese author, in an English-language article published in *The New York Times*, wrote:

To rise in a bound from the rank of ‘yellow monkeys’ to the position of a great power is certainly a most prodigious feat; yet this is, in a sense, what Japan has accomplished. Only yesterday she was regarded, at least by the Russians, as a ‘yellow monkey’ with a thin veneer of civilization; to-day all nations look upon her as one of the world’s greatest powers. (Kawakami 1906)

After this buoyant beginning to the 20<sup>th</sup> century, Japanese intellectuals believed that the ostensible universalism of Euro-American comparative practices offered a real mechanism through which they could claim the mantle of “world power.” They realized that they were stuck with the West’s culturally-specific mode of comparison, but they did not feel stuck in a low-ranking position within it.

In the early 20<sup>th</sup> century, “Japan” continued to change in the midst of imperial aspirations. In the run-up to World War II, Japanese intellectuals yearned to do more than just work their way up the West’s ladder. Some sincerely sought to make more just and non-Western-centric worlds possible through the construction of new Asian alliances; others sought to maintain, but invert, existing hierarchical structures. As historian John Dower explains, “In the modern world, [as] Japanese researchers repeatedly observed, racism, nationalism, and capitalist expansion had become inextricably intertwined. The Greater East Asia Co-Prosperity Sphere, as they described it in the abstract, would break this pattern by creating an autarkic community governed by reciprocity and harmonious interdependence” (Dower 1986:266). In practice, their colonial policies were “so structured economically and politically as to ensure that the relationships of superior and inferior would be perpetuated indefinitely” (Dower 1986: 266). Ultimately, Japanese elites ended up flipping models of hierarchy – putting Japan at the top – rather than reconfiguring

them. Keeping models of civilized/backwards in place, they endeavored to replace Western pretenses of universalism with Japanese ones.

As Japanese soldiers took over increasing amounts of Asia, “Japan” changed not only in terms of its physical boundaries but also in its categorical meaning. The category of “Japanese” increasingly yoked together nation, culture, and ethnicity into a single unit. In the Tokugawa period, identity had been primarily linked to one’s compartment; but in the midst of Taisho era colonialism, it became increasingly linked to a formula in which blood and nation were made isomorphic. One famous example of this nation building scholarship is philosopher Watsuji Tetsuro’s 1935 book *Fudo*, in which he claimed that Japan’s four-season climate and environmental variety made the Japanese people distinct, uniquely balanced and superior to other peoples (Watsuji 1988 [1935]). Yet even frameworks that espoused Japanese superiority and incomparability were entangled in deep conversations with Europe. As historian John Dower shows in his book *War Without Mercy*, “[t]he affirmation of Japanese supremacy reflected Western intellectual influences as well as Western pressures” (Dower 1986:265). Japanese intellectuals, he shows, drew extensively on German ideas of *volk*, blood purity, and social Darwinism. As they did so, “race” became as an increasingly key ground for “Japan”-making comparisons. A 1943 document written by Furuya Yoshio, a medical doctor who held a position in the Japanese government, illustrates the use of ideas that echo those used in European, particularly in Nazi, formulations of nationalism: “no nation in this part of the Orient can stand comparison with Japan in point of racial virility and organizational ability.



The racial vigor of Japan is the most potent factor that has enabled it to attain its present distinguished position in the polity of nations” (quoted in Dower 1986: 276).

Defeat in World War II, however, made the possibility of equality with the West seem like a pipedream. In the process of trying to beat the West at its own game, Japanese intellectuals realized, they had reaffirmed the power of the West to make the rules. Takeuchi Yoshimi, a Japanese scholar writing in the 1940s-1960s, argued that it was imperative that the Japanese realize that there is no way to “overcome modernity” – not industrialization or foreign exclusion or total war or an East Asian Co-Prosperity Sphere would get them “out” of Euro-American comparative schemas (Takeuchi 2005). Japan’s pathology, he stated, lay in its failure to recognize its inability to be “free” from the West. From his view, Japan’s engagements with Western modernity had been flawed from their beginnings because Meiji era elites did not recognize that they were caught in a double bind. The Japanese, Takeuchi argues, have repeatedly failed to see that they cannot escape a world shaped by Western dominance even if they escape formal colonization. Modern comparisons, he explains, are non-optional and – no matter how made – offer no respite from a Western-oriented world; no amount of maneuvering will lead to “freedom” from them. Takeuchi powerfully wrote that the Japanese must recognize that neither beating the West at their own game of teleological progress nor attempting to “overcome modernity” can ever free Japan. To underscore his own unavoidable intellectual entanglement with Euro-America, he drew on Hegel’s master-slave dialectic to explain how the Japanese – no matter what they do – are forced into the

position of slave vis-à-vis the West.

As the postwar economic boom picked up, so did new hopes for comparability and global power. Rebuilding “Japan” after the war became yet another project of making “Japan” differently – a project of capitalist expansion, rather than military imperialism, in which Japanese intellectuals dreamed of global hegemony through economic success. In the 1980s and early 1990s, as Japanese investors purchased American landmarks, including Rockefeller Center, Pebble Beach golf course, and Radio City Music Hall, it really did seem that – at least economically – Japan was upending Euro-American dominance. But even at the height of this “Japan’s” strength, Japanese intellectuals continued to struggle with Euro-American comparisons that characterized them as derivative. Japanese were consistently depicted as uncreative technicians rather than as inventors; from electronic goods to pop music, their production – material and cultural – was widely seen as “imitative” rather than “original.”

Since the Japanese economic collapse in the mid-1990s, narratives of Japan-as-number-one have attenuated, but a similar comparative predicament continues to haunt the archipelago. Today, Wikipedia describes Fukuzawa, the advocate for Westernization, as “a Japanese Voltaire.”<sup>19</sup> Everyone in Japan, including Japanese intellectuals, remains caught in the ruins of 19<sup>th</sup> century colonial comparisons that render them secondary. Takami Kuwayama, an anthropologist at Hokkaido University who served as one of my advisors during my fieldwork, has written

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<sup>19</sup> [http://en.wikipedia.org/wiki/Fukuzawa\\_Yukichi](http://en.wikipedia.org/wiki/Fukuzawa_Yukichi) (Accessed: May 15, 2013)

extensively about the dilemmas in which Japanese scholars are caught. Drawing on the work of Immanuel Wallerstein, Kuwayama draws our attention to what he calls a continuing “world system” of anthropological knowledge – a set of profoundly unequal relations of power that require he know and engage Euro-American scholarship, while Euro-Americans (even those who conduct fieldwork in Japan) are free to ignore Japanese anthropological theory.<sup>20</sup> In his writings, Kuwayama has also emphasized the unfair burdens of legibility that Japanese and other “marginal” scholars face. Caught in a Catch-22, they “must conform to the dominant discourse at the center in order to be recognized,” but when they do, their work is seen as unoriginal (Kuwayama 2004:39). “[C]onformity to the center may be derided as imitative, whereas nonconformity will likely result in dismissals of their work for being incomprehensible” (Kuwayama 2004:40). In a world where Euro-Americans continue to set the “standards,” he argues, there is no space in which Japanese scholarship can compare favorably.

The experiences of Japanese intellectuals over the past century and a half have made it clear that there is no easy way “out” of Western-centric comparisons. No matter what they do, Japanese botanical gardens continue to be haunted. Power-laden dialogues with Euro-American categories and comparisons are mandatory for people in Japan, but – despite their inequalities – they are indeed dialogues, not monologues. Through uneven and ubiquitous comparative encounters with the “West,” people in Japan have become both thoughtful about and adept at negotiating multiple practices

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<sup>20</sup> This point resonates with Prakash’s “asymmetrical ignorance” (1990).

of comparison. Careful attention to Japan's specific histories of comparison (and the "Japans" made through such processes) shows us how Japanese people have enacted distinct and changing comparisons within the ruins of Euro-American ones. Out of necessity, Japanese people have become particularly skilled in the arts of comparison-making outside the center.

### **Hokkaido, salmon, and colonialism**

Practices of comparison certainly look different when we view them from Japan – a place that straddles the categories of colonizer and colonized. Yet, in the previous section, practices of comparison still remain rather familiar: they continue to enact a conversation about self/Other identity-making that is common within encounter-focused anthropology. Attention to Hokkaido's salmon watersheds, however, pushes us to think about comparison-making in a less familiar way: as a more-than-human endeavor.<sup>21</sup> As we shift our focus to Hokkaido, we come to see comparison as a multispecies landscape practice – as a set of processes that shape nonhuman worlds along with human identities. Hokkaido shows us how comparisons not only shape "commonsense" logics, but also the physical arrangements necessary for creating and maintaining specific comparative sensibilities. By focusing on the salmon that have been so important in the island's history, we see how comparative practices are not human-only, but instead come into being with landscapes (including seascapes). Furthermore, while work that takes "Japan" as its object tends to produce

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<sup>21</sup> I borrow this term from Tsing 2013.

an image of a homogenous Japan that is overly urban and human-centric, focusing on Hokkaido reminds of the unevenness of Japan – of its multiple regional histories and ecological formations.

Home to the majority of Japan’s salmon, Hokkaido, the location of the majority of my fieldwork, sits squarely within the “Japan”-making comparisons of the previous section: it was a Japanese colonial project compelled by fears of colonization. But in the case of Hokkaido, such fears were multiplied. Threats of colonization resided not only in the specters of European and American power, but also in the looming presence of an eastwardly expanding Russian empire.<sup>22</sup> In the mid-19<sup>th</sup> century, the new Japanese state saw their own imperial expansion as a critical component of constructing a powerful modern nation-state, and the first place they colonized, starting in 1869, was Hokkaido. The colonization of Hokkaido was a comparability project from the get-go; it was an attempt to demonstrate Japanese comparability with the West – and thus not a candidate for colonization – by demonstrating its own colonial powers.

Yet it was also, from the start, a comparative project in which landscape could not be ignored. The northern island was very different from the main Japanese islands: it was too cold for growing rice, inhabited by indigenous peoples called the Ainu, and covered with frightening wilderness. Nineteenth century Japanese government officials thus turned to comparing Hokkaido to a similar colonial project

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<sup>22</sup> For more on Japanese views of Russia as a potential threat, see Togawa 1995. Fearful of Russian advances, Japanese government officials implemented a plan to resettle displaced samurai in Hokkaido as *tondenhei*, or soldier-farmers, who could both till the soil and provide a ready militia in case of Russian attack.

– the American West – as a model for their own.<sup>23</sup> These officials began to see Hokkaido as a frontier where they could test and refine the Euro-American ideas of the times – including forms of scientific agriculture and modern resource management. With the help of invited American experts, Japanese officials drew on transnational comparisons to radically reconfigure Hokkaido’s landscapes, importing new breeds of livestock and new kinds of seeds from the U.S., constructing dairy farms with American-style barns and silos, and planting rows of potatoes and corn with the same sod-breaking plows used to turn under the Kansas prairie. In Hokkaido, the grounds of comparison were literal ground.

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<sup>23</sup> Although Russian imperial practices could have provided models for Japanese cold-weather colonization of Hokkaido, they were all but ignored. The Japanese government did not see Russia as “Western” enough or “modern” enough to serve as a beacon of civilization. Russia posed plenty of security threats to Hokkaido, but it offered up few promising dreams. In a classification of nations published by a Japanese government body in 1869,

Russia was not put into the highest category of ‘civilized countries’ (*bunmei no kuni*) together with England, France, the Netherlands, and the United States (later joined by Austria, Prussia, Denmark, and Sweden). Russia, along with Italy, Spain, Portugal, and the countries of Latin America, was placed in the second category, ‘enlightened countries’ (*kaika no kuni*). From there on, the list descended as follows: China, India, Turkey, Persia, and the African nations north of the Sahara were classified as ‘semi-enlightened countries’ (*hankai no kuni*), while the nomadic tribes in Siberia, Central Asia, Arabia, and Africa were classified as ‘countries of uncivilized manners and customs’ (*izoku no kuni*). Last came the ‘barbarians’ (*yaban*): the American Indians and the natives of Africa and Australia (Togawa 1995).

As a consequence of their classification of Russia as a second-rate country, the Japanese government sent few officials and students there, and only one person with Russian experience was selected to serve in an important government position (Togawa 1995: 215). Despite Russian knowledge about winter farming, Hokkaido officials opted for the unambiguously “modern” frontier models of the Americans over those of a late-developing empire itself on the margins of Europe.

Hokkaido's landscapes show us how practices of comparison do not only make knowledges, but also bodies and worlds. The landscape changes that the island's development-in-comparison brought wreaked havoc with Hokkaido's salmon-bearing watersheds. Although Hokkaido's salmon populations had suffered from over-fishing in the decades leading up to the Meiji Restoration, the habitat modifications that Meiji ideas sparked have made their lives evermore difficult. The same floods that made Hokkaido's rivers good for salmon spawning made them bad for modern urban and agricultural development. So as they increasingly promoted settlement, Hokkaido officials diked and dammed most of the island's rivers to increase the amount of usable land. These so-called "river improvement" projects protected crops and provided irrigation water, but they also made Hokkaido's waterways less habitable for salmon. Agricultural runoff, forest clearing, and chemical use compounded the challenges for fish.

In addition to radically modifying salmon habitats, the comparative practices that came into being during the Meiji era also directly acted on salmon themselves. Beginning in the mid-19<sup>th</sup> century, Japanese officials sought to "modernize" Japan's salmon, eliminating indigenous salmon fisheries and developing an export-based canned salmon industry. As they developed their plans, Japanese officials compared Hokkaido's salmon runs to those of the U.S. West Coast and imagined that region's salmon industry as a model for their own. In the 1870s, the Hokkaido Development Commission paid for a report on U.S. fisheries, sent an emissary to observe salmon fishing and hatchery production in Oregon, Washington, and Maine, and hired an

American to help them build a salmon cannery in a Hokkaido fishing town. Such comparisons began to further remake Hokkaido's salmon. Fishermen and government officials adopted new approaches to fisheries management that sought to "rationalize" salmon, improving on nature's productivity by moving their reproduction out of streams and into hatcheries. At these facilities, technicians bred salmon by hand, mixing together strains of fish from geographically distant rivers (including some from the U.S.) in ways that transformed the genetic structures of Hokkaido's salmon populations. Officials also installed fish dams across many of Hokkaido's rivers to block salmon en route to their spawning grounds and divert them into hatchery systems. Such practices led to a sharp decline in river-spawning salmon numbers and further altered the ecosystems in which they had once been a keystone species.

Practices of comparison in Hokkaido's salmon fisheries did not end with the industrialization of fish and the degradation of landscapes. Over time, the evolving salmon industry and Hokkaido's changing landscapes have spawned new comparisons among conservation practices, economic structures, and indigenous rights policies. Today, amidst the legacies of Meiji era comparisons, Hokkaido salmon fisheries remain deeply entangled with attempts to negotiate similarities and differences. When a Japanese consumer compares imported and domestic salmon at a supermarket and decides to purchase the fish labeled "Hokkaido," when a Chilean biologist compares the temperature of a Patagonian river to one in Hokkaido and determines that it might be possible to transplant fish from one side of the Pacific to the other, or when an Ainu leader makes an appeal for fisheries rights modeled on



that of an American Indian group, comparisons continue to reconfigure Hokkaido's human and nonhuman livelihoods.

Comparisons, when seen from Hokkaido's salmon worlds, are material practices that bring both human categories and nonhuman bodies into being. They are landscape-making forces, not just ways of knowing. As such, comparisons are multispecies practices. Their multispecies-ness, however, does not give us permission to ignore the human interactions that matter to them. As we engage with comparison as a multispecies practice, we must continue to notice how transnational colonial history and political-economic relations at the center of the previous section matter to Japanese salmon in Hokkaido. It would be wrong, of course, to tell the emergence of Japanese salmon in Hokkaido as a tale of nothing but political economy and colonial history. Doing so would miss all of the ways that the specificities of Japanese geology, hydrology, climate, and nearby ocean conditions matter in the making of salmon. Nonhumans should not and cannot be ignored in our descriptions of fish – or, for that matter, of almost any social relations. But to focus on the emergence of Japanese salmon without attention to what one might call “world systems” would be equally flawed. In the case of Japan, salmon are literally made in transnational comparison.<sup>24</sup>

### **Guide to the dissertation**

The following chapters demonstrate the ethnographic imperative for attention to multiple kinds of comparative practices and for forms of STS more attuned to the

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<sup>24</sup> I am invoking Wallerstein's work here. See particularly Wallerstein 2004.

unevennesses of the world. Although it falls in the middle of this text, Chapter 5 is the section that motivates this dissertation. This chapter, based on in-depth fieldwork with a salmon fishing cooperative in northeastern Hokkaido, highlights the importance of what I am calling Strathernian comparison – the kinds of comparisons that stop us up and make us question our categories. This is exactly what happened to me when I encountered the members of this fishing cooperative. Based on my experiences in the Columbia River, I expected to encounter “local fishermen” who cultivated identities that celebrated their intimacies with “nature” and fish; instead, I met people who actively rejected such modes of subjectivity and insisted that they were modern, cosmopolitan businessmen – “fishing industry professionals” not “fishermen.” Even though they made their living working with salmon, these people had no interest in talking with me about fish. Rather, they wanted to show me how their practices of transnational comparison, not their relations with salmon, were what defined them and their modes of salmon management. For me, these interactions produced a moment of surprise and disconcertment. They tripped me up and made me question my expectations about how salmon are “done,” reminding me that the U.S. modes of enacting salmon worlds are far from universal. This Strathernian moment of surprise was the spark for the rest of the dissertation, the moment that made me notice that doing salmon in Japan was not the same as doing salmon in the United States. But while encountering the fisheries co-op members and comparing them to the Columbia River, produced a powerful moment of Strathernian comparison, it also forced me to consider additional modes of attention to comparison that

anthropologists and STS scholars need. When I followed the co-op members into their own practices of comparison, I soon realized that they demanded more than surprise and disconcertment; they also required attention to the geopolitical apparatuses with which their practices of comparison are entangled. They were not making comparisons in a world where “Melanesians” could simply interrupt the categories of “Euro-American”; they had to make their own comparisons in an uneven world filled with historically contingent, but highly powerful, structures of comparative practices – precisely the kinds of comparison to which Anderson and Stoler draw our attention.

Chapter 2, which details the Meiji era development of Hokkaido’s landscapes, traces the making of these geopolitical apparatuses of comparison in relation to the island’s watersheds and fish. It builds on the themes introduced in this introduction to explore how colonial histories created particular comparative predicaments in the margins of Japan. While I explore how Japanese government officials’ desires to make legibly modern landscapes in Hokkaido drove them to make specific comparisons with the American West, I also trace how the development of Hokkaido was not done solely in relation to the United States. Rather, Hokkaido, I show, emerged out of complex comparative triangulations in which Japan and parts of Europe also played important roles. By describing how the new webs of comparative practices that proliferated in Meiji era Japan shaped Hokkaido’s watersheds, this chapter shows how the island’s current fish populations must be understood in

relation to Japanese government officials' efforts to craft Hokkaido into a place at once comparable to the "West" and comparable to "Japan proper."

Chapters 3 and 4 extend our understanding of the geopolitical structures of comparison that have emerged in Hokkaido by examining what they have made beyond the island's borders. The first of these chapters traces how the comparisons of Hokkaido fisheries scientists and Japanese government officials sparked the development of the Chilean farmed salmon industry. Tracking back and forth between state comparative projects and those of the Japanese fisheries scientist tasked with introducing salmon to Chile, it aims to show how transnational comparisons are not confined to the realm of the state, but are instead part and parcel of everyday life. By tracing narratives of desire within the scientist's life history, this chapter specifically focuses on the practices of dreaming that comparative global imaginaries have inspired. The second of these chapters, which traces the cascades of new comparisons that the Chilean farmed salmon has triggered, explores how comparisons create new geopolitical and ecological formations by linking together previously unconnected landscapes. This chapter demonstrates how comparisons between the salmon of Chile and Japan are reconfiguring global salmon markets and remaking environmental management practices not only in Chile, but also in Hokkaido – with major consequences for salmon, people, and a host of other organisms in both regions.

Chapters 6 and 7 return to Hokkaido to probe how enactments of geopolitical apparatuses of comparison are complicated, making salmon and people in unexpected

ways. These two chapters show that, even with the specter of powerful binary comparisons such as Japan/West, practices of comparison are always multiple. Although they are sometimes overlapping, they are just as often cross-cutting. In these chapters we see how dynamic, shifting, and even conflicting comparisons are made to “hang together” in Hokkaido (Mol 2002). Comparing the emergence of “wild” salmon in the Columbia River and Hokkaido, Chapter 6 describes a distinctly Japanese mode of doing wild salmon in comparison at the same time that it highlights the multiplicity of ways that wildness is enacted within Hokkaido. Though all of the “wild” salmon in Hokkaido bear traces of common colonial histories and forced dialogues with global power structures, they engage these geopolitical forms in different ways. Chapter 7 details the practices of a group of Ainu fishermen who are using comparisons, particularly those that engage categories of indigeneity and wildness, to claim rights to harvest and manage salmon. By examining how the materialities of salmon shape the ways that Ainu people make fish-related comparison, this chapter demonstrates that seemingly “human” practices of comparison are themselves multispecies phenomena. Showing how human “identity politics” and salmon populations are co-constituted, it encourages additional cross-fertilization between human-centered and multispecies approaches to anthropology.

Finally, the conclusion, Chapter 8, pulls us back into the core claim of this dissertation: that ethnographic work on salmon in Japan demands that we develop forms of multispecies anthropology and STS that are more alert to the world-making force of comparisons. Contrasting the work of Latour, Callon, and Law – the

“fathers” of Europe-centered forms of ANT – with that of Traweek, Asquith, and Fujimura – three women doing STS research in Japan – I expand my call for scholarship that attends not only to the epistemological disruptions that comparisons can offer, but also to the necessity of understanding the geopolitical apparatuses of comparison within which identities, bodies, and landscapes come into being. In conclusion, I ask how one might use the insights about comparisons that one learns from studying salmon in Japan to question where one cuts networks and how one determines the boundaries of practices when working in parts of Euro-America where transnational comparisons and geopolitical relations of power are systematically swept under the rug.

Each chapter of this dissertation is deeply indebted to the theoretical insights of scholars in anthropology, STS, animal studies, subaltern studies, political economy, and Japan area studies. Thus, I could have easily chosen to strongly frame each section of this text within a specific contemporary theoretical debate linked to one or more of these fields. However, I have consciously chosen not to do so. This decision is not a rejection of “theory.” Rather, it is an attempt to “do theory” just a bit differently. In this dissertation, theory is a mode of description and storytelling, not an act of frontloading chapters with citations to well-known texts and situating oneself in relation to them. I acknowledge that without such familiar signposts, some readers may find this dissertation more difficult to read. To those readers, I ask for your patience. The aesthetics of this text are inspired by and intentionally aim to evoke those of environmental history, a field where insights about human-nonhuman

relations bubble up within lengthy and richly detailed stories (ex. White 1995, Cronon 1991 and 2003, Worster 1985, Anderson 2004, Grove 1995, Totman 1989, Crosby 1989, Pyne 1997, and Braudel 1995).<sup>25</sup> I see such narration as an essential practice for cultivating curiosities that extend out to the world rather than into the prose of Big Theorists. While this has long been the very point of ethnography, we are in a historical moment when the pressure to produce quick-to-the-theoretical-point papers has seemingly eclipsed commitments to description itself. Caught in a time crunch, more and more scholars simply read a work's introduction and conclusion to grasp its "theoretical project," skipping over the bulk of the prose. In the process, our curiosities are themselves becoming increasingly narrow.

My choice not to foreground the theoretical insights that suffuse my chapters is an attempt to slow things down. It is an attempt both to trip up rapid movements toward recognizable "theory" on the part of both my readers and myself and to suspend the foreclosures that such quick jumps can bring. Although I occasionally invoke established scholarly debates in the pages beyond this introduction, in the spirit of Isabelle Stengers citing Melville's "Bartleby the Scrivener," "I prefer not to" make too quick a recourse to such conversations. Instead, I opt to play the role of Bartleby by making my interventions partially through acts of refusal (Stengers 2005: 996). This approach to theory comes, in part, out of my focus on comparison itself.<sup>26</sup> Comparison is one of our most powerful modes of theory making. Yet, as this

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<sup>25</sup> It is also deeply inspired by Anna Tsing's critical description (See Tsing 2013).

<sup>26</sup> It is also partially inspired by conversations with Frida Hastrup about what she calls "local theorization."

dissertation shows, comparison – and thus by extension theory – is not only a practice of knowing, but of everyday world-making. In this text, then, theory emerges in the various frictions among my comparative practices and those of the people who appear within this text. Because this kind of theory is distributed across the details of my narratives, I hope it will slow down my readers enough to foster their abilities to notice the particulars of Japanese salmon, as well as their abilities to notice the theoretical value of such particulars.



## **Chapter 2**

### **Japan's Salmon Frontier: Comparing Hokkaido and the American West**

#### **Introduction**

The spirit of the settler and that of the new frontier endow people with unexpected might. Think about it – since Europe emerged from the deep slumber of the dark ages, a myriad of brave adventurers have set their sights on manly adventure in America, Australia and much of our Asian region. Think too how to this day, what was once called Yezo island, now the island of Hokkaido, has taken in countless adventurers from the mainland. Our Hokkaido is the land of freedom, thrown open for us as citizens of Japan. The children of freedom across the country, acting with spirit and bravery, have doubtless been stirred by that untamed land stretching out as it does like a continent. By the mountains of white clouds and setting sun, where not a single human step has been planted since the dawn of the world. By the hinterland of the great verdant forests. By the great plains, expanses of desert reticent of rural Russia. And by the limitless oceans, frothing white and swarming with fish.

- Ishikawa Takuboku (1907) (Petersen 2007)

The word “Hokkaido” appears on maps as if it is a fixed place, an island with determinant boundaries that has existed since time immemorial. But while the large island north of Honshu has physically existed for thousands of years – since the submersion of the land bridge that connected it with Russia – “Hokkaido” is still a relatively recent entity that only came into being in conjunction with 19<sup>th</sup> century Meiji modernization. Prior to the 1868, the island now called Hokkaido was known as a part of “Ezo,” a term that literally means “barbarian lands.” Ezo was a place of fuzzy boundaries. Instead of being firmly labeled as “ethnic Japanese” or “Ainu,” people slid in and out of the category of barbarian depending on their habits. Exactly who controlled what land and resources was often unclear. Ezo was not “Japan,” but neither was it “not-Japan.” Ezo and its Ainu residents were clearly entangled with

Japanese trade networks, but they were not under the control of the Tokugawa Shogunate. It was beyond the bounds of the Shogunate, but not outside its sphere of influence. What places counted as Ezo also varied according to the historical moment; while Ezo generally included most of the island known today as “Hokkaido,” as well as those known as Sakhalin and the Kurils, it was indeterminate, often expanding and contracting depending on who drew the map (Morris-Suzuki 1998, Edmonds 1985).

But in 1869, everything changed. In the frenzy of post-Restoration nation-making and increasing fears of Russian incursion, fuzzy boundaries became a problem. In that year, Meiji modernizers changed the name of these northern lands to Hokkaido, a word that means “North Sea Route” or “North Sea District,” and initiated efforts to incorporate the area into the territorial imaginary of Japan through colonization and development. The change in name marks an important conceptual shift. While Ezo was a constitutive outside to Japan, Hokkaido was to be “Japan’s frontier,” a part of the new nation and a critical site for practices of nation-making. The new Meiji state was explicit about such a shift. “Today’s Hokkaido is not yesterday’s Ezo,” declared one government document (Mason 2005: 2)<sup>27</sup>

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<sup>27</sup> The transformation of Ezo into Hokkaido did not happen overnight. For several decades, both names were used, often with some confusion. For example, 1902 missionary report indicates that “Ezo” was used to refer to the main island, while “Hokkaido” referred more generally to all of Japan’s new northern lands (Batchelor 1902, see also online version at <http://anglicanhistory.org/asia/jp/batchelor/yezo1902/01.html>). Such usage, however, was not consistent. In 1910, an article in *The New York Times* still referred to the entire main island as Yesso (See *The New York Times* 1910).

“Hokkaido” marked an imaginative project clearly distinct from that of Ezo – a project rooted in new kinds of comparative practices.<sup>28</sup> When Japanese officials compared their new nation to those of Europe and North America, they felt that they needed their own colonies in order to claim their place as a first-rate global power. In the 19<sup>th</sup> century,

[a] regime was civilized only if it could claim the ability to transform an uncivilized people. Making legal the claim to protect a place inhabited by people defined as incapable of becoming civilized on their own describes the logic of the politics of enlightened exploitation. It was understood, of course, that the protecting regime had access to the material and human resources it protected. Ultimately, the ability to control colonial space defined a nation as ‘sovereign’ and ‘independent’. (Dudden 2005: 3)

For the Meiji state, Hokkaido – with its dense forests and indigenous Ainu people – was the perfect site to enact the kind of colonial drama that would begin to demonstrate the Japan’s potential to become the “Great Britain of the East” (Kublin 1959: 76). Indeed, they saw the northern island as a particular kind of colonial project: that of frontier settlement. Hokkaido was to be Japan’s Australia or American West, a place to demonstrate national virility by simultaneously domesticating “wild” people and “wild” landscapes. It was a place to enact the classic Western frontier fantasy of settling the virgin territory of *terra nullius* while civilizing the barbarians, a place where the oxymoronic platitude of “peaceful conquest” reigned supreme

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<sup>28</sup> It is important to note here that while “Hokkaido” eventually came to denote a fixed district that encompasses the main northern island, Japan’s northern boundaries did not become static. Even today, the northern boundary of Japan remains uncertain. Disputes with Russia over the ownership of the southern Kurils continues, and – though the Japanese government is not actively pursuing claims to its former colonial lands in Southern Sakhalin – it continues to assert that the question of sovereignty in this area has not been officially settled (Morris-Suzuki 1998).

(Mason 2012: 39-42). As this chapter's epigraph shows, late 19<sup>th</sup> and early 20<sup>th</sup> century Japanese embraced frontier discourses. Like their Western counterparts, Meiji officials perfectly performed the paradoxical narratives of the frontier, describing the colonization of Hokkaido as "peaceful pursuits" and as "industrial warfare and conquest" in adjacent sentences (Nitobe in Mason 2012: 39-40). Getting such frontier narratives "right" profoundly mattered to 19<sup>th</sup> century Japanese elites. They were not content to simply settle Hokkaido and extract its resources; they wanted to do so in internationally legible ways. Making Hokkaido into a "frontier" was essential to making its colonization comparable to that of Euro-American nations. The desire to create a comparable colonialism is especially evident in the work of Inazo Nitobe, a Japanese diplomat and politician who attended college in Hokkaido. In 1893, Nitobe wrote a pamphlet in English in which he explicitly framed the colonization of Hokkaido using language that echoed that of 19<sup>th</sup> century Western colonialism:

The northern islands of Japan, vaguely called Yezo, were for centuries a terra incognita among the people: all that was told about, and unfortunately most readily accepted by them was that the region was the abode of a barbarian folk known as the Ainu, and that it was a dreary waste of snow and ice, altogether unfit for inhabitation by a race of higher culture. To Yezo, then, at once the northern frontier of the Empire and a land endowed with magnificent natural resources as yet untouched by human hand, the new Imperial Government wisely began to extend its fostering care. (Nitobe 1893: 1-2).

But as important as language is, enactments of "the frontier" are never done by narrative alone. They are also always material practices of landscape making. Just as the Japanese sought to make internationally legible narratives of frontier colonialism, they also sought to create physical landscapes that would appear undeniably "colonized" in the eyes of Western observers. In order to be comprehensible,

Hokkaido's terrain did not need to be rendered identical to that of the already recognized frontiers of Australia or western North America, but it needed to be shaped in such a way that it was clearly of the same kind. To make Hokkaido's landscapes legible, the Japanese government compared Hokkaido to established frontiers, explicitly borrowing their practices of surveying, tilling soil, "civilizing" native people, producing timber, and managing fish. For Meiji era officials, comparison was a material world-making practice. Comparisons with more "advanced" countries compelled Japanese bureaucrats to turn Hokkaido's lands and waters into agricultural acreage and concrete-lined drainage ditches.

Hokkaido's salmon got caught up in these comparisons, as agricultural and industrial development seriously damaged salmon spawning habitat. Hokkaido colonization officials also directly targeted the region's salmon for modernization – remaking both its fishing industry and fish populations to resemble those of the United States' Columbia River basin. In this chapter, I show why Hokkaido's salmon watersheds must be understood as "ecologies of comparison" – as configurations of humans and nonhumans inseparable from practices of transnational comparison (Choy 2011).<sup>29</sup> I begin by tracing the history of how Japanese government officials' comparisons of Hokkaido with the American West led them to adopt agricultural and industrial practices that destroyed salmon habitat. In the second half of the chapter, I turn to the salmon themselves, exploring how encounters with American fisheries experts during the late 19<sup>th</sup> century inspired Hokkaido development officials to

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<sup>29</sup> In his book, *Ecologies of Comparison*, Choy examines ideas of comparison and specificity in the context of environmental activism in Hong Kong (2011).

construct export-oriented salmon canneries and pursue intensive hatchery-based salmon cultivation techniques.

### **Incomparable to Honshu**

When Japanese government officials initially sought to colonize Hokkaido in 1869, they found its landscape rather incomparable to the rest of Japan. Too cold for growing rice, inhabited by indigenous peoples, and covered with frightening wilderness, Hokkaido was unlike the parts of Japan they knew. Japanese officials were perplexed about what to do with what they perceived as an alien landscape. This sense of a chasm they felt between Honshu and Hokkaido was more than discursive. Biologically and climatologically, Hokkaido is indeed a place apart from the rest of the archipelago. The Tsugaru Straits, which separate Hokkaido's Oshima peninsula from northern Honshu are so extraordinarily deep (at least 132 meters) that they have largely blocked the exchange of non-avian animals and non-avian-borne plants between the islands (Kondo 1993: 76). During glacial eras, Hokkaido was regularly connected by a land bridge to Siberia via Sakhalin Island, while Honshu, Kyushu, and Shikoku were intermittently linked to the Korean Peninsula. When sea levels were low, mammoths migrated southward from Siberia to Hokkaido while monkeys moved northward from continental Asia to the other islands. But the Arctic species assemblages that came from Siberia and those from more southerly parts of Asia did not meet and mingle on the Japanese islands. Despite being separated by a mere 20 kilometers, the watery abyss of the Tsugaru Straits kept the non-volant species of

Hokkaido and the other islands apart, fostering distinct ecologies to the channel's north and south.<sup>30</sup>

Hokkaido's climate, too, differs from the rest of Japan. Although Hokkaido's major cities sit at approximately the same latitudes as Portland, Oregon, Toronto, Canada, and Rome, Italy, their weather is much more extreme than their coordinates suggest. In contrast to central Honshu, where most weather comes from the maritime tropics, Hokkaido's weather sweeps down from the cold mountains of Siberia and Manchuria. In the winter, these Arctic winds pick up moisture as they cross the Japan Sea, dumping an average of nearly 6.5 meters of snow on Sapporo.<sup>31</sup> When I lived in Hokkaido, I put on my long underwear in late November and didn't take it off until mid April. Along the northern Hokkaido coasts, where salmon fishing flourishes, sea ice drifts across the Okhotsk and packs against the shore, the ocean groaning as the white ice cracks and shifts. Summer, too, is different in Hokkaido. The 20 degree C summer isotherm, a temperature line that typically marks a boundary between cool temperate regions and warm temperate regions, runs through the Tsugaru Straits

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<sup>30</sup> During the Meiji era, people took note of such differences as they tried to make sense of Hokkaido. Thomas Blakiston, a Brit who lived in Hakodate from 1861-1884, was the first to hypothesize about the biogeographical split between Hokkaido and Honshu. Blakiston was a true 19<sup>th</sup> century polymath: a former soldier, "an entrepreneurial businessman, an active engineer, an adventurous and hardy explorer/traveller and an outstanding ornithologist/zoologist" (Cortazzi 2000: 144). As he traveled widely in Japan, Blakiston was struck by how much the flora and fauna of Honshu differed from that near his Hokkaido home. Based on his natural history observations, he concluded that "Yezo and more northern islands are not Japan, but, zoologically speaking, portions of north-eastern Asia, from which Japan proper is cut off by a decided line of demarcation in the Strait of Tsugaru" (Blakiston 1883 in Cortazzi 2000: 154).

<sup>31</sup> Although some sites in northern Honshu are also quite cold, mainland Japan has significantly less snow. This stat from <http://en.wikipedia.org/wiki/Sapporo#Climate>

(Yabe 1993: 38).<sup>32</sup> In contrast to hot and muggy mainland Japan, Hokkaido summers are blissfully cool and relatively dry, largely free of the monsoon rains that pummel places like Tokyo, Kyoto, and Osaka.

As they tried to figure out how to colonize such strange lands, Japanese government officials looked for models abroad.<sup>33</sup> The Iwakura Mission, a group of Japanese ambassadors and students who took an extended around-the-world study tour in 1871-1873, strongly recommended using England as a general model for Japanese development (Willcock 2000: 979). To the members of the mission, the geography, climate, and culture of the British Isles seemed vaguely similar to Japan, making it an ideal nation to emulate (Willcock 2000: 979). In Honshu, government officials adopted the commission's recommendations, inviting a number of British experts to provide advice on the construction of railroads, telegraph systems, and lighthouses, as well as to establish Komaba Agricultural College, a training school that later became a part of Tokyo University (Russell 2007: 111, Willcock 2000). But in Hokkaido, Kuroda Kiyotaka sought to make a different kind of comparison.

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<sup>32</sup> Yabe describes how lowland peat lands typically form north of this line. Such wetlands are common in Hokkaido, but not elsewhere in Japan.

<sup>33</sup> In 1870, the Japanese government recommended the following countries as models for exchange students interested in specific fields. The list gives a sense of the multiplicity of comparisons that Japanese government officials were making: Britain: machinery, geology and mining, steel making, architecture, shipbuilding, cattle farming, commerce, poor-relief; France: zoology and botany, astronomy, mathematics, physics, chemistry, architecture, law, international relations, promotion of public welfare; Germany: physics, astronomy, geology and mineralogy, chemistry, zoology and botany, medicine, pharmacology, educational system, political science, economics; Holland: irrigation, architecture, shipbuilding, political science, economics, poor-relief; U.S.A.: industrial law, agriculture, cattle farming, mining, communications, commercial law (Nakayama 1989: 34).



Kuroda, a former samurai from Kyushu who had helped to overthrow the Shogunate, was appointed to the *kaitakushi* (also known as the Hokkaido Colonization Commission) in 1870. He had distinguished himself by leading the Imperial military forces against a group of Tokugawa loyalists who fled to southern Hokkaido in 1869 and briefly established an independent state. By subduing these remaining supporters of the Shogun, Kuroda secured Hokkaido for the Meiji government. Once his military career ended, Kuroda turned to diplomatic and political pursuits, including the settlement of Hokkaido. In 1871, at the Japanese government's request, he traveled to the U.S. and Europe a few months ahead of the Iwakura Commission. With Hokkaido on his mind, he was much more intrigued by American development models than were the Honshu-centric Iwakura members who followed in his wake. While England might provide a model for mainland Japan, Kuroda saw American agricultural landscapes as a much better template for Hokkaido development (Harrison 1951: 136, Russell 2007: 6). In contrast to the Brits, the Americans were more experienced in opening new territory, dealing with more severe climates, and cultivating cold-resistant crops. From the vantage point of 1893, Nitobe described Kuroda's decision to compare Hokkaido to the United States:

He saw that the fertile virgin soil could be made to yield its richest treasures only under wise management. But where should he seek wisdom? Japan had long since forgotten the art of breaking up new land; her agricultural system was too intensive to be applied to a newly-opened country; her mining operations were too primitive to be followed on an extensive scale. In General Kuroda's mind there was one source whence he could expect wisdom and knowledge pertaining to new settlements; and that was America. Thither, therefore, he himself proceeded in the fall of 1870. He studied the rapid and wonderful progress of colonization in that country, and thought that the *modus*

*operandi* at work there might well produce similar results in Japan. (Nitobe 1893: 2-3).

Though his prose is embellished to appeal to an American audience, Nitobe's depiction of Kuroda's fascination with the United States seems more or less accurate. During his visit to the U.S., Kuroda was intrigued enough by American settlement practices that he recruited General Horace Capron, the sitting federal Commissioner of Agriculture, to resign his post and travel to northernmost Japan to serve as an advisor to the *kaitakushi* beginning in 1871.

Capron was an established and internationally-minded advocate for "modern" and "scientific" agriculture. After the end of the U.S. Civil War, he gained renown for promoting crop diversification in the American South, especially for encouraging farmers to plant citrus trees in addition to cotton (Russell 2007:81). Even before he headed to Japan, Capron was thinking and acting beyond the boundaries of the United States. He had become a corresponding member of the Society for the Promotion of National Industry of Brazil to become more familiar with South American crops. Learning of the success of seedless oranges through the society's materials, he arranged to have two of the trees shipped to California, an act that sparked the West Coast navel orange industry (Russell 2007:81). Additionally, in 1869, he started an international seed exchange program, inaugurating it by shipping 130 seed packages to the new Meiji state (Russell 2007: 81).

When he arrived in Japan in 1871, Capron did not feel a need to immediately travel to Hokkaido. With his knowledge of American frontiers and information from Japanese officials, he was able to conjure Hokkaido through comparison. Capron

stayed in Tokyo for many months, crafting his recommendations and plans for the island before he ever set foot there. Capron also went to work setting up experimental government farms in central Honshu. First, Capron established farms in Tokyo that were attached to the *kaitakushi*, providing a “way station” for plants and animals en route from the United States to Hokkaido (Fujita 1994: 36). For example, in 1872, the Honshu farms received a thousand cuttings of apple and pear trees from the United States, which they planted, grafted, and prepared for shipment on to Hokkaido (Russell 2007: 129). The Honshu farms, however, served not only as sites for research and acclimatization, but also as places to publically display the *kaitakushi*’s progress to Tokyo-based leaders. In 1873, even the Emperor himself came to inspect the farm’s crops and animals (Walker 2004: 257).

By mid-1872, Capron felt the need to ground-truth what he had already conceptualized through comparison. When he arrived in Hokkaido, Capron was impressed with the island’s potential, but not with its progress to date. After his first visit to Hokkaido, Capron wrote that:

This island is just wonderful. Its true value has not been recognized nor regarded as important. Its mineral resources are abundant. Its fishery resources are inexhaustible. Its woods are superior in quality and abundance and its agricultural productive power is great. (Quoted in Fujita 1994: 38)

But at the same time, Capron was disappointed with the island’s existing experimental farm, started by a German farmer, which was yielding little produce (Russell 2007: 140). He also found the quality of the island’s farm animals to be so dismal that he suggested that the *kaitakushi* order “all native stallions, bulls, and boars be either altered, i.e. deprived of the power of generation, or removed to some

remote part of the island, and by the introduction of foreign animals in their stead for breeding purposes” (Capron cited in Russell 2007: 141).

In the coming two years, Capron would spark a revolution in Hokkaido agriculture and land use by introducing American crops and livestock. The lists of species that made their way across the Pacific by steamship is truly impressive. Some came in the form of cuttings: cherries, nectarines, plums, peaches, apricots, raspberries, currants, black gooseberries, strawberries, rhubarb, quinces, grapes (Russell 2007: 129). Others arrived as seeds: onions, turnips, carrots, cabbage, lettuce, tomatoes, beets, celery, spinach, corn, peas, beans, and potatoes (Russell 2007: 129). Still others arrived on the hoof: Devon and Durham cattle, Berkshire and Suffolk pigs, Cotswold, Merino, and Southdown sheep, and Arabian horses (Russell 2007: 132, 134). Their numbers were not small. For example, by the end of 1873, 32,775 young fruit trees had been shipped to Hokkaido (Russell 2007: 129).<sup>34</sup> In total, 224 varieties of fruits and vegetables made their way to Japan under Capron’s tutelage (Russell 2007: 129).<sup>35</sup>

Capron also recruited additional Americans to assist his efforts to help the *kaitakushi* transform Hokkaido’s landscapes. The cadre of American men that the

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<sup>34</sup> Fruit trees and seeds were also distributed to other parts of the Japanese isles (See Walker 2004: 256)

<sup>35</sup> It is important to note that such transfers of plants and animals were not limited to Hokkaido. They were part of a widespread 19<sup>th</sup> century interest in “acclimatization,” or the introduction of species to new locales. Acclimatization societies facilitated transfers of species between Europe and its colonies, as well as among colonial settlements. See Lien 2004 for a detailed account of efforts to acclimatize Atlantic salmon and trout in Tasmania. See Dunlap 1997 and Lever 1992 for more general information on acclimatization.

Japanese government hired at his recommendation surveyed the island, mapped its geology and rivers, laid out the grid system for its capital city, built mechanized sawmills, fostered the development of mining industries, and helped with road, bridge, and railroad construction (Fujita 1994 and Duke 2009). One of these foreign pioneers was Edwin Dun, an Ohio rancher, whom Capron selected to introduce modern livestock production to northernmost Japan. Tokyo officials understood the symbolism of horses and cattle, and they wanted to improve their nation's animal stocks. Powerful horses connoted military might. European armies had well-mounted cavalries, and their leaders cut commanding figures seated atop their solid steeds. Beef-eating, too, was an act redolent of modernity. The Japanese government began to heavily promote meat consumption, arguing that Europeans had strong, muscular bodies because they regularly dined on animal flesh (Cwierka 2006: 33). In 1872, the Royal household publically announced that the Emperor regularly ate beef and mutton (Cwierka 2006: 24). According to Japanese food studies scholar Katarzyna Cwierka, in the 19<sup>th</sup> century West, meat-eating was perceived as a source of national strength and linked to social Darwinism: "a leading British scientific publicist . . . stated in one of his lectures of 1860 that 'those races who have partaken of animal food are the most vigorous, most moral, and most intellectual races of mankind'." Similarly, an American cookery writer . . . argued that the British dominance of India proved the fact that meat-eaters dominated world politics" (Cwierka 2006: 33). In a moment when such sentiments circulated alongside new Western notions of

nourishment and sanitation, the Japanese government quickly added canned beef to their military menus (Cwiertka 2006: 63-64, Cwiertka 1996 and 2002).<sup>36</sup>

Hokkaido's *kaitakushi* were interested in the economic value of such animals. For the island's colder and more marginal climates, livestock rearing seemed more promising than rice farming. Dun, with years of practical experience in the U.S. Midwest, became their guide. He brought more than 100 cattle and 100 sheep to Japan, including some from his own farm (Hokkaido Prefectural Government 1968: 44-45). But once he arrived in Hokkaido, he faced a serious challenge: the island was no pastoral paradise. Its grasses were poor, its farms lacked fences, and wolves prowled its mountains. Dun and the *kaitakushi* set out to make the landscape safe and hospitable for the animals that symbolized modernity. They introduced Kentucky bluegrass, red top, timothy, and clover; they built miles of split-rail fences; and they exterminated wolves and wild dogs with strychnine, a chemical poison widely used for predator control in the Western U.S. (See Fujita 1994: 60 and Walker 2004, 2005). The practices worked; they helped to build beef, dairy, and military horse industries in Hokkaido, while decimating the island's canid populations. They successfully turned miles of hills and plains into parcels of pasture.

As in the case of the American West, the *kaitakushi* and their American advisors sought to exterminate not only the animals, but also the Ainu culture that impeded their agricultural plans. Capron, who had served as federal Indian agent

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<sup>36</sup> The director of the Tokyo Naval Hospital and the Head of the Bureau of Medical Affairs of the Navy, who – beginning in the mid-1880s – encouraged military beef eating, had studied in London for five years (Cwiertka 2002: 9-10)

earlier in his career, was an advocate of native assimilation policies. Although he decried brutal treatment of Indians, Capron participated in the Indian resettlement, and, as was common during his day, was probably an advocate of programs that promoted Indian farming (See Medak-Saltzman 2008: 100-102). Although Capron's role in Ainu policy is unclear, the *kaitakushi* (and later the Hokkaido prefecture government) adopted strategies that bore many similarities to the assimilation-focused U.S. Indian policies that were in vogue after the U.S. Civil War, but without establishing native reservations. For example, in 1872, the *kaitakushi* pressured 37 members of the Ainu elite to attend a temporary school in Tokyo, where they were taught agriculture and livestock farming with the hope that they would take such skills back to their villages and inspire other Ainu to adopt farming lifeways (See Frey 2007: 69-96). Later, the prefecture created a system of Ainu schools, where children were forbidden to speak their native languages, with the goal of “assimilating” the Ainu. Japanese Ainu policies also seem to have been influenced by the legal maneuverings that the U.S. government used to disenfranchise American Indians. Declaring Hokkaido empty land and instituting a new property rights regime, they stripped Ainu people of their lands. In 1899, as part of the Former Native Protection Law (*kyuudoujin hougouhou*), they created land allotment practices that echo parts of the 1887 Dawes Act, which turned once-communal Indian lands into privately owned farmsteads (See Medak-Saltzman 2008: 103-105). The *kaitakushi* further forced Ainu people into agricultural ways of life by strictly enforcing hunting and fishing bans that deprived the Ainu of access to critical food

supplies. In 1876, the Japanese government outlawed the bows and poison-tipped arrows that Ainu people used to hunt deer. Three years later, the government prohibited the freshwater capture of salmon and trout (Aoyama 2012: 119). (See Chapter 7 for more on Ainu and salmon.)

Although the *kaitakushi* did not toe to American advice and friction with the foreigners was not uncommon, the advisors undoubtedly spurred shifts in the *kaitakushi*'s approaches to Hokkaido development. Prior to the advisors' arrival, the Japanese government primarily thought about Hokkaido settlement as a security project – as an effort to prevent Russian invasion and indisputably claim the island as Japan's own. But the American advisors' suggestions inspired the *kaitakushi* to instead conceptualize the island's settlement as a project of development, particularly of agricultural and natural resources. But although the American advisors clearly sparked significant changes in the *kaitakushi*'s approaches to Hokkaido's social and natural landscapes, they did not stay long enough to see their projects to fruition. The *kaitakushi* hired most of them on one to three year contracts. And in 1882, when the central Japanese government reorganized Hokkaido's administration – replacing the *kaitakushi* with another form of central governmental control – most of the foreigners whom it directly employed were sent home (Hokkaido Prefectural Government 1968: 26).<sup>37</sup> But another institution – the Sapporo Agricultural College – kept the foreign advisors' legacy alive, ensuring that the American-inflected logics of modern scientific agriculture and natural resource management would continue to transform

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<sup>37</sup> Hokkaido remained under direct control of the central government until after World War II, when it finally became a regularized prefecture.



Hokkaido's lands and waters for decades to come. Immediately after joining the *kaitakushi*, Capron began advocating for the development of an agricultural school in Japan. Kuroda and others were easily persuaded. As Nitobe would later write: "The simple adoption of American methods without trained hands to rightly direct them, would merely amount to an apish trick" (Nitobe 1893: 3). In order to really do modernity "right," Japan needed people who could both inhabit modernity's subjectivities and perfect its technical practices. Education, the *kaitakushi* felt, was the answer.

In 1875, Kuroda asked the Japanese ambassador in Washington, D.C., to secure the services of an American educator capable of establishing a first-rate agricultural college in Hokkaido. Several years earlier, the *kaitakushi* had attempted to build a temporary school in Tokyo for the education of modern farmers, but the institution had been disorganized, and it was deemed a failure (Duke 2009: 201). Kuroda wanted American advisors who could turn their floundering school into a full-fledged institute of higher education. The Japanese government managed to recruit a consultant of the highest caliber, William Smith Clark, then-President of the Massachusetts Agricultural College (MAC). MAC was one of the first land-grant colleges founded under the Morrill Act of 1862, which provided funding for schools where "the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts" (U.S. Congress 1862). Clark, one of MAC's founding members, embraced this challenge and sought to create the United

States' first generation of well-trained specialists in scientific agriculture. When he was invited to create a similar college in Japan, Clark jumped at the opportunity, taking a year's leave from MAC to travel to Hokkaido. In a letter to his wife, Clark remarked on this exciting opportunity to "rebuild M.A.C. with variation and possibly some improvements on the other side of the earth" (Cited in Willcock 2000: 987)

In summer 1876, Clark arrived in Hokkaido along with two other MAC professors, William Wheeler (civil engineering and mathematics) and David Penhallow (chemistry, botany, agriculture) (Fujita 1994). Immediately, they began creating Sapporo Agricultural College (SAC). One of Clark's first requests was that the *kaitakushi* build a model farm, then turn its ownership over to SAC for use in agricultural education (Kataoka 2009: 6-1). Per the Americans' suggestions, the new facility included both crop production areas and a dairy barn, which also included spaces for horses and pigs (Kataoka 2009: 6-1). Originally, the new farm facility had a descriptive name, something like "The Delivery Room and the Stable," Clark had it re-named "The Model Barn" to symbolize its intended role as a template for modern agriculture in Japan (Kataoka 2009: 6-2). The curriculum that Clark created for SAC embodied the spirit of the Morrill Act, emphasizing practical education and military training, but not at the expense of more scholarly pursuits.<sup>38</sup> In the school's early years, the courses included geometry, English, German, elocution, and political economy, along with drainage and irrigation, manures and crop rotation, vegetable

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<sup>38</sup> Military drill was a required part of the curriculum, with the goal of cultivating bodies in addition to minds. The Hokkaido colonial government, fearful of Russian incursions, was also interested in ensuring that its population was ready for military mobilization.

pathology, stock farming, and veterinary science. Notably, students also took classes titled “History of Colonization” and “Political History of Europe.” (See Nitobe 1893: 35-42 for complete list of courses). Natural history – and its mode of scientific nature observation – was also a critical part of the curriculum. Faculty took students on scientific expeditions around Hokkaido to collect specimens and to teach the young Japanese to see the world through the lens of natural resources management. During its second year of operation, the school added a natural history museum so that its students could more easily make comparisons by viewing “the natural history of Japan and its productive resources, together with such specimens as may be obtained from abroad by purchase or exchange” (Sapporo Agricultural College 1878: 2, see also Yaguchi 2002: 104).

At SAC, Clark created a school with much more ambitious goals than simple instruction in the cultivation of crops, the proper siting of mines, or the preservation of botanical specimens. Through the study of agricultural practices and natural resource management, he sought to cultivate modern male subjectivities. The goal of the school was to create an improved breed of Japanese men, alongside better breeds of wheat and horses; the school wanted to make men who could become leaders of a modern nation and colonial empire. In the Americans’ eyes the Japanese needed to undergo a societal shape-shifting, an agricultural and industrial revolution in order to become modern. To accomplish such tasks, Japan would need its own legions of “agricultural and industrial exhorters” to “induce” common farmers to accept the “privileges” of modernity, to make them “understand, or to have faith, that their

present condition and that of the country could be made better through such radical innovations” (Sapporo Agricultural College 1878: 19). According to William Wheeler, SAC’s second president, “to furnish men for missions of this nature should be considered one of the first objectives of the Agricultural College” (Sapporo Agricultural College 1878: 20).

Before they could spread the gospel of Western modernity, however, the SAC students needed to inhabit its subjectivities themselves. They needed what the school called “frontier spirit.” Clark and later staff made self-cultivation and moral education core educational goals. Although SAC’s moral education was not reducible to religion, it certainly included sizable doses of it. When Clark ran the school, every morning before lecture, he led the students in a hymn, a scripture reading, and a recitation of the Lord’s Prayer (Czerwien 2011: 29). With Clark’s encouragement, the entire first year class signed his “Covent of the Believers in Jesus,” converting to Christianity. It is important to note that these were not mere “paper” conversions. The SAC students practiced Christian worship on their own even when the Americans were not around:

the boys in [a second year student’s] group took turns as a “pastor” and rotated the meetings among their college dorm rooms. Whoever was the minister for the week brought in an empty flour barrel to serve as a pulpit, which was draped in a blanket. Blankets were laid on the floor for the “congregation” while the appointed minister sat in the sole stool. The meetings themselves consisted of a short prayer, a Bible reading, and a sermon. (Czerwien 2011: 36)

SAC Christianity was eclectic and predominately lay-led. One student wrote that “...it was interesting [to us] because it was a practical religion, unlike that taught by

ordinary missionaries. It was religion without the odor of religion” (Maki 1996: 178). Yet at the same time, SAC Christianity was deeply Protestant in its ability to link self-cultivation to national development and capitalist-oriented Progress. For the Americans in Sapporo, modernizing one’s soul was inseparable from – and critical to – improving one’s country; their Christian-inflected teachings were needed to plant “the will to improve” in the hearts of its young men.<sup>39</sup>

The school also engaged in more “secular” subject-making practices. In a country known for its traditional rote learning, SAC made “independent thinking” a cornerstone of classroom practice. According to the SAC second annual report, instructors embraced the philosophy that:

No student should ever be asked to “*repeat* the rule;” or “what is *the* rule;” etc. A rule or process may be required of him; but too great reverence for, or dependence upon, the one given by an author should be just so far discouraged as the powers of the pupil will enable him to formulate one of his own.” (Sapporo Agricultural College 1878: 6-7)

The SAC instructors, New Englanders steeped in liberal education, believed that the students needed to be inculcated with desire – with yearnings for continual improvement at the scale of both the self and nation.<sup>40</sup> The Japanese heard such messages loud and clear. When Clark was departing Sapporo at the end of his tenure

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<sup>39</sup> I borrow the term “the will to improve” from Li 2007. For more on the specificities of the relations between “pioneer spirit” and Christianity in Hokkaido, see Shirai 2010. Protestant Christianity provided important frameworks for comparison-making in part due to its focus on “improvement.” Comparison provided a critical tool for understanding what “improvement” might be and whether or not one had accomplished it. The subject-making practices of Protestant Christian teaching fostered comparative thinking and desires of improvement that clearly articulated with the overall narrative thrusts of Hokkaido development projects.

<sup>40</sup> My thinking about desire is indebted to Rofel (2007).

at SAC, he reportedly shouted his most important advice to his students as he trotted away on horse: “Boys, be ambitious!” Today, more than a century later, the phrase is famous throughout Japan.

SAC instructors, including Clark, felt that subject formation required far more than “book learning.” They believed strongly in inculcating students with new bodily habits. Students were required to take a course called manual labor, to perform gymnastics and military drills, and to regularly engage in hands-on activities. Adopting the sentiment that “you are what you eat,” SAC also aimed to use school meals to craft students who would be at home with one foot in the East and one in the West. In addition to Japanese-style rice-based meals, the students were introduced to Western-style staples, such as chicken, venison, coffee, bread, butter, and ice cream, served on flat plates.<sup>41</sup>

In total, such practices appear to have had their intended effects, both in the short and long term. By 1898, when a labor activist penned the following words, SAC and its graduates had already begun to draw attention in Japan:

It is the only college in Japan that has the so-called ‘college spirit’ which has been moulding the character of students ever since the distinctive impression made upon the college by the first Pres. W.S. Clark. The college is noted for making men though she has not neglected making scholars. Sons of the college are conspicuous figures everywhere throughout the Empire. (Sen in Willcock 2000: 991)

Although the school was located on the margin of Japan, it was one of the fledgling nation’s most important 19<sup>th</sup> century institutions of higher education, and its early

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<sup>41</sup> This information about food items is from displays at the Sapporo Clock Tower Museum (札幌市時計台).

graduates became Japan's first generation of cosmopolitan gentlemen.<sup>42</sup> As a result of their "Western" educations in Sapporo, they understood how to do comparison and grasped its centrality in performing modernity. They became Japan's translators, making a place for themselves and their new nation in an increasingly "global" world. The SAC students went on to earn advanced degrees in the United States and Europe, at such well-known institutions as Harvard, Cornell, and Johns Hopkins. They became diplomats and statesmen. One of them rose to the position of prime minister, another to that of Under Secretary-General of the League of Nations. With the knowledge they gained in Sapporo, they guided Japan's colonization of Taiwan and Korea, suggesting plans for their agricultural development. One became the Chancellor of Tokyo University, while many others also took up teaching, fulfilling SAC's dream that they would spread new knowledge and a new spirit across Japan (Willcock 2000: 1016). About 40 percent of the students who graduated between 1880 and 1895 became teachers "for a substantial part of their working lives" (Willcock 2000: 1016). Some become prominent Christians, starting a church in Sapporo and a small religious movement in mainland Japan. They introduced Hawthorne to Japan, developed a Shakespearean theater, authored bilingual dictionaries, established a fine arts school, founded English language newspapers, and published a Japanese magazine called "English Youth" (Willcock 2000: 1015).

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<sup>42</sup> The first formal institutes of higher education were not established until the mid-19<sup>th</sup> century. The oldest institutions are Keio University (1858) and Tokyo University (1867). Thus, when SAC was established, higher education in Japan was still in its infancy, and there were only a handful of institutions.

But while they became citizens of the world, the school's graduates did not neglect Hokkaido, enacting their new transnational philosophies on the island's landscapes. During the school's early days, students were required to sign a pledge, committing themselves to serve the *kaitakushi* in its efforts to develop the island: "After graduation I will become a citizen of Hokkaido, and will serve in the Colonial Department for five years upon the same terms as other officers of similar rank. I also promise never to petition of a change of my citizenship" (Sapporo Agricultural College 1878: 94, Dudden 2005: 10-11). Although the public service requirement was soon dropped, more than a third of the school's pre-1900 alumni remained in Hokkaido permanently, becoming the leaders of its businesses and institutions. "The Society of the Advancement of Agriculture, the Fishery Association, the Natural Science Society, a body called the Friends of Learning, the Pomological Society, the Economic Club, the Young Men's Christian Association, the Temperance Society, the Silk Culture Association, and many other minor organizations all count among their most active members and promoters the graduates of the College" (Nitobe 1893: 30). Although the American advisors are often given much of the credit for the island's colonization, the SAC graduates were the ones who did most of the on-the-ground work of civilizing Hokkaido. The logics and practices that they both preached and performed set off a cascade of landscape changes. They drained the marshlands around the Ishikari River, converting them to agricultural land. They cut forests and processed wood products in sawmills and pulp plants. They built coal and gold mines. During the Meiji period from 1868 to 1912, Hokkaido's population increased 34-fold



from about 50,000 to 1.7 million.<sup>43</sup> Once the SAC graduates helped Hokkaido onto the path of Progress, the island's development continued on a surprisingly consistent trajectory of "scientific" natural resource exploitation for decades, one whose practices remained largely unchanged throughout most of Japan's turbulent 20<sup>th</sup> century. It was a trajectory that completely revolutionized – or perhaps one should say modernized – Hokkaido's landscapes.

### **Comparing salmon**

The colonization of Hokkaido, however, was not just an agricultural story. It marked the transformation of rivers, oceans, and fish as much as it did the transformation of lands. Although many of the *kaitakushi*'s projects indeed focused on establishing scientific agriculture in Hokkaido, colonial administrators did not overlook the modernization of its seas. From the beginning, fisheries were considered to be one of Hokkaido's most valuable assets. Hokkaido's fecund fishing grounds were what initially drew ethnic Japanese interest in the island, and, in 1891, after more than two decades of state agrarian encouragement, more than 70 percent of the island's population still worked in fishing-related employment (Irish 2009: 132). Because agriculture was such an essential part of the civilizational narratives that the American advisors brought to Hokkaido, Jeffersonian agrarian ideals came to drive the rhetoric of the island's development. However, regardless of the American focus

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<sup>43</sup> These stats from [http://heartland.geocities.jp/sekakumo/ronbun200702\\_02](http://heartland.geocities.jp/sekakumo/ronbun200702_02)

on land-oriented colonization, Japanese officials were not about to neglect the fisheries that had long been the region's economic mainstay.

For hundreds of years prior to the Meiji Restoration, ethnic Japanese people consumed sizable quantities of Hokkaido's salmon and herring, first by trading with the region's indigenous Ainu people and later by turning the Ainu into forced laborers (See Chapter 7). But during the Meiji period, colonial administrators began to see Hokkaido's seafood as much more than a domestic foodstuff; they began to see the island's fisheries as a potentially lucrative export. By the mid 1870s, Hokkaido bureaucrats clearly knew one kind of commerce they wanted to establish in the new territory: a canned salmon industry. Only a decade earlier, in 1864, two fishermen from Maine, the Hume brothers, became the first people to try to can Pacific salmon. The men had moved to California as 49ers, but when they didn't strike gold, they turned to silvery fish. They established an experimental cannery along the banks of the Sacramento River and began packing salmon into hand-made metal tins.<sup>44</sup> Their first products were such a success that they decided to relocate to a location with larger salmon runs and better possibilities for expansion: the lower Columbia River, along the border of Oregon and Washington states. In 1866, the Hume brothers built a small cannery at Eagle Cliff, Washington, near the mouth of the Columbia. In their first year, they sold only 4,000 cases, but in their second year, their sales more than

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<sup>44</sup> In 1795, the French government, worried that food spoilage and dietary deficiencies were endangering their troops, offered up a prize for anyone who could invent a new method of food preservation (Jarvis 1988: 182-183). In 1809, Frenchman Nicolas Appert claimed the prize by inventing canning technology. For a detailed accounting of canning technology and its use in the seafood industry, see Jarvis 1988.

quadrupled to 18,000 cases (Tetlow and Barbey 1990: 6). Others took note of their success. By 1873, there were eight canneries dotting the banks of the lower Columbia. Only 10 years later, the number had increased to 39 (Tetlow and Barbey 1990: 6). Canning technology revolutionized the region's salmon industry. From the 1830s to the 1850s, the river's immense salmon runs captured the attention of white explorers and businessmen, who tried packing the fish in salt and brine (Tetlow and Barbey 1990: 5). Such methods, however, failed to turn a profit because too much of the salmon spoiled en route to major markets along the U.S. East Coast. Salted salmon could only be successfully transported as far as Hawaii, whose population was too small to support large-scale production (Tetlow and Barbey 1990: 5-6). Canning technology, however, created new trade routes by suspending time (Naylor 2000). With salmon safely preserved in metal vessels, Columbia River fish could now be shipped to markets anywhere in the world. Customs records from 1873 show that Columbia River salmon were already being directly exported to England, China, and Australia (Penner 2005: 10). By 1875, Astoria – a port city at the river's mouth – had become the center of a global canned seafood industry with 24 foreign and domestic ships taking on cargoes of canned salmon (Tetlow and Barbey 1990: 8).

The Columbia River salmon industry created a buzz among entrepreneurs on multiple continents.<sup>45</sup> When Hokkaido administrators heard about the emerging industry, they thought that they might be able to establish something similar in

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<sup>45</sup> Although the Columbia River sparked the salmon boom, its production was quickly eclipsed by that of Alaska. By 1901, Alaska canneries were producing nearly 10 times as many cases of fish, albeit at a much lower quality and price (Martin and Tetlow 1990: 19)

northern Japan. Snippets of correspondence from 1876 and 1877 indicate that the *kaitakushi* were beginning to think about the potential export value of their salmon. Japan needed a favorable balance of trade in order to rapidly acquire foreign currency, something of which it had done little in the centuries prior to Perry's arrival. In addition to developing an export-oriented silk industry, Japanese government officials began to consider the promise of their northern fish. In late 1876, the *kaitakushi* began sending both smoked salmon and a few experimental cases of canned fish to foreign merchants and diplomats for evaluation. One Yokohama-based merchant named J.D. Carroll was optimistic enough about the sample products he received that he sent a reply to the *kaitakushi* in January 1877 reporting that he found their tinned salmon to be "fine" and their smoked salmon to be "excellent" (Carroll 1877). He thought the products might do well if exported to China and offered to do business with the *kaitakushi* in the future. The *kaitakushi*, however, had more high-prestige markets in mind. They sent several samples of smoked salmon to U.S. consular staff along with a letter asking the Americans to report back on "how it suits your American taste" (Yasuda 1876). In addition, they wrote a memo to William Clark asking what part of the United States he thought might provide the most promising market for Hokkaido salmon (Kuroda 1877a). But many Americans and Europeans were less than enthusiastic about how Hokkaido salmon would fare in their stores. The Tokyo-based representative of a London-based trading firm reported mixed reviews of the first batch of Hokkaido salmon. The British thought that the smoked salmon was pretty good, but "continental" tasters found it "mouldy and

greasy” (Ahrens 1877b). No one liked the canned fish: “As to the sample of tinned salmon sent, the reports both from London and the Continent are unsatisfactory. The salmon on arrival were found broken into small pieces and the color had turned bad and it could not be brought into competition with the preserved salmon from America” (Ahrens 1877b).

Undaunted, the *kaitakushi* moved forward with their plans to commercially produce and export canned salmon. In June 1877, Kuroda asked Capron to “employ one practical man well acquainted with the precepts of making canned salmon etc for term of six months” (Kuroda 1877b). Capron secured the services of Ulysses S. Treat, a cannery man from Maine, who arrived in Hokkaido later that same year along with an assistant named T.S. Sweat (Cwierka 2006: 62). When he saw Hokkaido’s fall run of fish, Treat was incredibly enthusiastic about their commercial potential, boasting that “[t]he salmon fishery in the Ishikari River is one of the largest yet known. It is stated that, in some seasons the catch amount is about 1,800,000 fish” (Treat 1878). At the *kaitakushi*’s request, Treat oversaw the construction of a cannery near the mouth of the Ishikari River and provided instruction in canning techniques. Under his direction, the cannery produced 12,092 two-pound cans of salmon in its first year, in addition to a few cans of salmon eggs, some barrels of pickled salmon, and a bit of smoked fish (Treat 1878).<sup>46</sup>

Aiming to impress Europeans and Americans, the Ishikari factory wrapped these first cans in bright red bilingual labels, with directions for use in both English

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<sup>46</sup> In 1877, in addition to salmon, the facility also produced canned venison (9,358 cans), canned oysters (3,226 cans), and canned beef (Treat 1878).

and Japanese. The kanji characters on the label may have added an alluring Oriental mystique for overseas audiences, but they served little practical function. Although Japanese people ate sizeable amounts of fresh and dried fish, Hokkaido canned salmon were never intended for domestic markets. They were too expensive for Japanese consumers and rather unappealing to Japanese palates.<sup>47</sup> Instead, the *kaitakushi* consistently courted European tastes, seeking feedback on their evolving product from white foreigners. A *kaitakushi* official sent some of the 1877 salmon to the Japanese Consulate office in Marseille, France, with a request “to distribute the salmon to some Europeans, who are doing the business with, and give me their opinions as well as your own of its quality and also furnish me the information of its sale in Europe, for we have the intention to promote this enterprise to a great extent” (Yasuda 1878). Yet, this new batch of Hokkaido salmon still failed to match the flavors and textures for which European taste buds yearned. One French trader could find nothing he liked about Hokkaido fish. The salmon “was not a first class fresh” fish, the “boiling was too long,” and the season in which the fish was prepared was likely “not proper” (Freres 1878) In his opinion, even the size and shape of the tins was wrong. The Dutch ambassador to Japan also discouraged the *kaitakushi* from trying to sell their fish in Europe, advising that the fish would be likely to find “a better and more profitable market in British India and Java” (Bauduin 1879). A

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<sup>47</sup> At the time, canned food products were new to Japan. The first foods (sardines in oil) were canned in 1871 in Nagasaki (Cwiertka 2006: 61), and it took decades for them to gain popularity. Even today, canned seafood products don’t seem to be well regarded.

British merchant was impressed by Japanese canning technique, but was disappointed by the flavor, texture, and color of the *kaitakushi*'s product:

The fish prepared with Japanese salt has a peculiar flavor, which is probably due to that kind of salt. We doubt if this flavor would be liked in Europe. . . [T]he fish in all the cans, although perfectly preserved was of a very light colour, and in our judgment too dry and tough in texture to be ranked as equal to the Oregon Salmon. . . . We think that the people of Europe, who have become accustomed to the appearance and taste of the Oregon Salmon, would not consider the Hokkaido fish as equal to it either in quality or value. The Hokkaido Salmon is no doubt very good food, but the Oregon fish would probably be much preferred, and it might be difficult, at least in the beginning, to introduce, or to obtain a fair price for, the Japanese product. . . . We would suggest that you should yourself make a comparison between the Oregon and the Hokkaido fish, remembering that the toughness or firmness (hardness) of fibre which in Japan is considered a merit in fish, is not so considered in foreign countries, though of course the tenderness of fibre which is preferred there must not degenerate into softness or rottenness. . . . We regret not being able to give you a more encouraging report on your samples, the packing of which seems quite faultless (Walsh 1877).<sup>48</sup>

Like this British merchant, most of the foreigners who sampled Hokkaido salmon immediately compared it with the Columbia River fish that were already gaining international popularity. They urged the *kaitakushi* to do the same. A representative from a London trading firm described how salmon were canned in Oregon and recommended that the Japanese obtain “practical experience” in how salmon canning is performed there (Ahrens 1877a).

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<sup>48</sup> The differences in taste and texture that Euro-Americans noticed between Japanese and American canned salmon products can be explained in a variety of ways. The regions used different species of salmon with markedly different flesh consistencies and oil content. In addition, the use of different kinds of salt and different canning technologies also likely produced substantially different tastes. The “made in Japan” labels attached to such products may have also influenced Euro-American taste-testers and may have led Euro-Americans to interpret any differences between American and Japanese salmon products as inferiorities on the part of the Japanese goods.

William Clark also felt that the Hokkaido salmon industry needed to learn from the Columbia River. He wrote letters to the *kaitakushi* about the incredible success of Oregon canneries: “The total amount taken at Astoria and vicinity is estimated at 40,000,000 pounds annually. 25,000,000 cans weighing one pound and a quarter each were sold for about \$3,000,000 in 1876. 7,920,000 cans were sent to England. The demand for the salmon is so active that it is all sold before the fish are caught” (Clark 1877a) Clark felt so strongly that salmon were key to Hokkaido’s development that he convinced the Hokkaido officials to pay him 250 gold yen to travel to Oregon and prepare a report for the *kaitakushi* on the Columbia River salmon industry. In summer 1877, when he returned to the U.S., Clark made a beeline to Astoria, Oregon, where he drafted a 13-page report on the Columbia River salmon industry. He provided a comprehensive overview of an array of topics: gillnet fishing methods, tin can production, practices for killing and bleeding fish, temperatures and diameter of boilers, how to check for defective cans, and how to pack salmon in wood crates. He also wrote about the organization of labor, including the productivity of cannery shift workers and the system through which canneries leased boats and nets to fishermen who lacked the capital to buy them (Clark 1877b). Clark thought that Hokkaido canneries, like those of the Columbia River, would have to seek out British markets: “England takes nearly one third of the [Columbia River] canned salmon and Australia a considerable quantity. Japanese salmon would probably have to seek a market in England or some of her colonies. Only English laborers will buy such



expensive food. There can be little doubt however that a good article can be sold at a remunerative price in some part of the wide world” (Clark 1877b).

Soon, Hokkaido’s canned salmon did indeed successfully compete with salmon from the U.S. West Coast. By 1910, Japan’s salmon industry had taken off – fueled by fish from both Hokkaido and from the new northern territories acquired during the 1904-1905 Russo-Japanese War. Canning companies quickly expanded into Sakhalin, the Kurils and even mainland Kamchatka, where – at the time – Japan had treaty rights to establish salmon fishing colonies. By 1932, there were 10 canneries in Hokkaido itself, and 33 more in Soviet territory (The Canned Foods Association of Japan 1934: 25-27). Approximately 80 percent of Japanese-produced canned salmon was exported, and of this exported fish, about 80 percent was bound for England, with the remainder headed to France, Holland, Belgium, and South Africa (The Canned Foods Association of Japan 1934: 31-32). Throughout the early 20<sup>th</sup> century, the Canned Foods Association of Japan actively marketed canned salmon products, sending its managing director on an extensive promotional tour of Africa, Europe, and the Balkans in 1930 (The Canned Foods Association of Japan 1934: 102). In 1934, the organization was pleased to report steady increases in exports, “indicative of the fact that Japanese canned salmon has maintained its good reputation in foreign lands” (The Canned Foods Association of Japan 1934: 33). The fish had undoubtedly become “the backbone of the canning industry in Japan” (The Canned Foods Association of Japan 1934: 4).

## Hatchery history

Modernizing fish, however, meant more than putting them into cans. It also entailed efforts to rationalize nature and increase its productivity. While at the helm of the Sapporo Agricultural College, William Clark suggested that Hokkaido improve its salmon species in the same manner as its horses and cattle: by replacing the weak Japanese stocks with bigger Western versions. He called for:

the introduction into the Ishikari River of the *Salmo Salar* or large salmon of Europe and America. This species not only grows to a much larger size than the salmon now frequenting Hokkaido, but its flesh is much firmer and better adapted to canning. There would seem to be no special difficulty in bringing the impregnated eggs from the Sacramento River in California and hatching them in the waters of the Ishikari, from which this most valuable fish could then be distributed to all parts of the Empire where the conditions are suitable for its growth. (Clark 1877)

Although they did not follow such advice to its letter, the *kaitakushi* indeed took suggestions about fish culture seriously. In 1877, the same year that Hokkaido officials instructed Ulysses Treat to establish Japan's first salmon cannery, they also authorized him to conduct the island's first salmon hatching experiments. Treat had boasted that fish hatcheries were an integral part of the cannery complex; if hatcheries were properly established, he said, there would "be no doubt of success" for the entire industry. Hatcheries were both the modern way and the American way:

Millions of salmon eggs are thus hatched in America, every year, and the benefits derived from the operation are already making themselves manifest, not only in the increasing numbers of fish to be found in places where salmon were formerly abundant and from which they have been driven by excessive fishing, but in their appearance in places where they have previously been wholly unknown (Treat 1877).

By the late 1870s, Treat was likely already preaching to the choir. Japan had a long history of fish culture efforts, and – in the Meiji moment – hardly needed to be convinced of the benefits of “modernization.” Since the 1750s, samurai had been building spawning channels and altering Honshu rivers in order to boost salmon reproduction (Kobayashi 1980: 96). Members of the Japanese government were also already excited about the possibilities of more active and interventionist approaches to fish cultivation. In 1873, several exhibitions at the Vienna World Exposition caught the eye of a Japanese official in attendance. The first were displays of processed seafood items produced and exported by Norway and Sweden. The second was the Australian delegation’s hatchery exhibit. It explained how, beginning in 1864, salmon and trout eggs had been successfully shipped from England to Tasmania, where they had been hatched and released into Australian rivers that had never before born salmon. This report of successful of salmon propagation piqued the Japanese official’s curiosity, but – from the information provided in the exhibit – he couldn’t quite understand the exact techniques.<sup>49 50</sup> Yet, the Japanese official began to put together the pieces from the two exhibits to dream of a future in which Japan might increase its salmon through hatchery cultivation, process them using Scandinavian techniques, and then export them to Europe.

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<sup>49</sup> This information about the Japanese encounters with hatchery technologies in Vienna comes from a summary of an exhibit at the Saitama Prefectural River Museum (Saitama Kenritsu Hakubutsukan 1998), as well as from the following book (Wada 1994).

<sup>50</sup> Although they initially seemed promising, these Australian attempts to introduce salmon ultimately failed to produce self-sustaining runs of these fish. (See Lien 2005.)

But while fish culture was not conceptually novel in Japan, the American advisors sped its development and molded its shape. The Sapporo Agricultural College played a primary role in the building of the island's modern fisheries, just as it did for its land-based agriculture. From 1878-1887, John Cutter, a Massachusetts doctor, taught a variety of courses at SAC, including zoology, veterinary medicine, and fisheries sciences (Minamoto 1993: 27). Although there was no fisheries department during SAC's first decade, the school still inspired some of its earliest students to think about the scientific management of the seas. Uchimura Kanzo, a member of the second graduating class essentially majored in fisheries and gave a graduation speech titled "Fisheries is One of the Sciences" (Matsuda 2002: 407). The fisheries curriculum grew quickly: courses in ichthyology and fishing gear and methods were added in 1884, a class in aquaculture in 1887, and another in fisheries science in 1889 (Matsuda 2002: 407). In 1906, the school formalized its commitment to training managers of the sea by creating a separate Department of Fisheries. Ultimately, the college dominated fisheries education in Japan for more than a century. Until 1987, Hokkaido University (SAC's successor) offered the only fisheries science doctoral program in Japan (Matsuda 2002: 408)

As was the case with agricultural development, SAC graduates pioneered fish cultivation practices in Hokkaido. Ito Kazutaka, a member of SAC's first graduating class, revolutionized Hokkaido's fisheries by instituting the salmon hatchery system

that remains the backbone of today's salmon industry.<sup>51</sup> Throughout his life, Ito hewed to a path typical of SAC graduates: he converted to Christianity, helped found a church, and became vice-president of the Japan Temperance Union. But, in contrast to most of the other graduates, he sought to ranch Hokkaido's seas rather than till its soils. After his graduation from SAC, Ito accepted a post with the *kaitakushi* to fulfill the school's government service requirement. But Ito, like many of his classmates, turned his mandatory service into a permanent career as a public official. When the *kaitakushi* was converted into a prefectural government, Ito stayed on, becoming the head of Hokkaido's first prefectural fisheries department (*suisan kachou*). In 1886, at the request of the Japanese government, Ito traveled to North America to study U.S. and Canadian fisheries practices, with an eye to improving those of Japan's north. During his 12-month whirlwind tour, Ito traversed the continent, visiting more than 15 states and provinces. He met with U.S. officials in Washington, D.C., toured New York City's Fulton Fish Market, visited fish processing plants in Rhode Island, and made careful observations of New England's cod fishery (which he later used as an inspiration when he founded a similar industry in Hokkaido).<sup>52</sup>

But Ito's most important activities were centered on salmon. He traveled to Bucksport, Maine, to document the practices of a brand new institution: the salmon

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<sup>51</sup> The information on Ito in this section is from the displays and conversations with staff at the *Chitose Sake no Furusato-kan* (Chitose Salmon Aquarium) in Chitose, Hokkaido, as well as from the book 伊藤一隆とつながる人々 (Ichiryu Kai 1987).

<sup>52</sup> The number of places Ito visited and the diversity of fisheries he observed was immense. See his itinerary, reprinted in 伊藤一隆とつながる人々 (Ichiryu Kai 1987).

See also Ito's original report 米国漁業調査復命書 (1890).

hatchery. Fish culture there, like everywhere in the U.S., was still in its infancy. Maine's inaugural salmon hatchery wasn't constructed until 1871, with the Bucksport facility following a year later. Yet, this was one of the few places where Ito could observe these novel practices of producing fish. When Ito was touring the continent in 1886, it would have been impossible for him to visit a Columbia River hatchery for a simple reason: there weren't any. Salmon hatcheries had yet to take root in the Pacific salmon heartland. Although the U.S. Fish Commission had established one small hatchery on Oregon's Clackamas River in 1877, the facility had closed in 1881 due to lack of funding and was not reopened until 1888.<sup>53</sup> But while the East Coast had hatcheries, the West Coast had canneries. After his visit to Maine, Ito traveled by train first to British Columbia's Frazer River, then to the mouth of the Columbia. He timed his trip perfectly, arriving on the West Coast in mid-September when the region's rivers swarmed with salmon. As a guest of an Oregon fishery official, Ito spent a week observing various parts of the main stem Columbia River. In the river's middle reaches, he watched American Indians harvest salmon, while near its mouth, he surveyed commercial fishing techniques and toured a cannery.

By the time Ito returned to Hokkaido, his notebooks were filled with meticulous and detailed line drawings of hatchery incubators, his mind racing with new ideas. Modern fisheries science was still so embryonic in North America that it stood in sharp contrast to agricultural pursuits, where Hokkaido was clearly "behind" the West. Ito's job was less to help Hokkaido "catch up" than it was to help the island

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<sup>53</sup> See <http://www.nwcouncil.org/history/hatcheries.asp>

to join in the mounting wave of late 19<sup>th</sup> century fish culture. In 1888, the same year that the first Columbia River hatchery reopened, Ito established Hokkaido's Chitose Central Salmon Hatchery, modeled after Maine's Bucksport facility (Kaeriyama 1989: 627). As Ito continued to experiment with fish cultivation and expand Hokkaido's hatchery system, he was, if anything, ahead of the curve. With his inspiration, Hokkaido's fish cultivation program grew to a network of 50 hatcheries in 20 years, a pace faster than that found along the U.S. West Coast (Kobayashi 1980: 97).

Ito was clearly not an "imitator" but an innovator. For example, he combined the design of a fish wheel that he saw on the Columbia River with Japanese weir technology to create a new method for harvesting fish hatchery brood stock.<sup>54</sup>



**Figure 1:** A version of Ito's fish wheel remains in use today near Chitose, Hokkaido. (Photo by author)

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<sup>54</sup> For more on the Columbia River fish wheels that Ito saw during his trip, see Seufert 1980.

Ito seems to have strongly felt that such modernization and innovation required comparative thinking. He founded the *hokusui kyoukai* – a fisheries society that shared information about evolving technologies. Upon his return, the group published Ito's report from his North American fisheries study tour, making it widely available to those in the industry. In time, as a result of his technical innovations and dissemination efforts, Ito became hailed as father of modern fisheries in Hokkaido and is widely cited as the man who set Hokkaido's fisheries on a new path.

That “new path,” however, was much more focused on displaying mastery of modern science and managerial control than on actually producing fish. Hatcheries were quite intrusive: hatchery workers would typically build weirs that spanned rivers bank to bank, funneling all migrating salmon into holding pens for hatchery use. The method, which blocked most salmon from swimming upstream and spawning on their own, essentially converted a given river's salmon from natural spawning to an allegedly superior mode of re/production. Salmon hatcheries allowed Hokkaido's salmon managers to feel modern, but they did little to boost salmon populations. Although hatcheries released large numbers of juvenile fish, most of the hatchery smolts seem to have died soon after they reached the ocean, contributing little to overall salmon numbers. Ito's Chitose hatchery and other Hokkaido facilities were diligently researching salmon biology, but they still had much to learn. Not knowing how to nourish growing salmon, they simply didn't feed them; such starving and weakened hatchery youngsters failed to produce many adult salmon and primarily served as easy prey for other aquatic organisms. But while Hokkaido's hatcheries



produced few surviving fish, they were often heralded as a “success story.” In the spring, visitors flocked to the grounds of Chitose Central hatchery to picnic under the cherry trees that had been planted around the salmon ponds while celebrating the triumph of modern applied science. Multiple times, members of the Japanese royal family also inspected the island’s hatcheries, recognizing the facilities’ work as important national service.

Hatcheries were clearly in the service of the nation. They allowed Japan to stake new territorial claims and facilitated watershed destruction in the name of national progress. Across Sakhalin and the Kurils Islands, the Japanese government built salmon hatcheries to mark their ownership of both lands and fish.<sup>55</sup> Salmon that were “made” in these extra-territorial facilities became nonhuman colonists. But while hatcheries were in the service of the Japanese state, they were not in the service of Hokkaido’s salmon. They expanded territorial claims, but did not increase fish populations. From 1879 to 1893, the average catch of Hokkaido salmon was about 7 million fish, with a peak of 11 million fish in 1889 (Kobayashi 1980: 92). Hatcheries seemed like the perfect tool to supplement salmon populations subject to such intense fishing pressures, but they simply couldn’t sustain such catches. Hokkaido’s salmon stocks crashed. Despite increasing hatchery efforts, harvests hovered around 3 million fish per year from 1900-1970, less than a third of their late 19<sup>th</sup> century levels (Kobayashi 1980:92).

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<sup>55</sup> Japanese build first hatcheries in Russia in 1920s (Nash 2011: 88)

The problem was not that the Hokkaido fisheries managers were inept or improperly educated. Their results were no worse with those of U.S. or Canadian fisheries professionals. Across the North Pacific, the hatchery technologies worked well to produce a modern material aesthetic, but poorly to produce fish. Simultaneously, logging and agricultural projects cross-cut efforts to maintain salmon habitat around the Pacific Rim, including in Hokkaido. Dams, water diversions, industrial effluent, and sewage from urban areas rapidly rendered most of Hokkaido's major rivers unsuitable for natural salmon spawning (Kobayashi 1980: 97). Riverbed gravel dredging and pollution from paper mills and starch plants added insult to the other aqueous injuries (Kobayashi 1980: 96). By the early 1900s, Hokkaido's salmon rivers and their fish populations barely resembled those of a century earlier.<sup>56</sup>

### **Agriculture and fisheries, together**

Why has it been necessary to tell the stories of Hokkaido's agricultural development and fisheries transformation together? The answer is two-fold. First, the remaking of Hokkaido's lands and waters were shaped by the same logics of frontier colonization. They were born from similar comparative practices in which American interlocutors and images of the United States played an oversized role. The parallel logics of agriculture and fisheries development are not the stuff of some diffuse, effervescent *milieu*, but of concrete connections. They are the product of classmates who sat in adjacent seats at Sapporo Agricultural College and contemplated the same

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<sup>56</sup> This truncated story of salmon population decline is told in detail in Chapter 6.

lessons before following slightly different career paths. They are part of the same process of making modernist ecologies.

Second, Hokkaido's agricultural revolution had direct impacts on its salmon fisheries. Farm development denuded Hokkaido's watersheds, replacing forests with fields. The types of landscape modification needed to grow Hokkaido's new commercial crops completely altered the ecosystems with which salmon are intertwined. Salmon needed forested stream banks to provide shade to keep the water cool, woody debris to create hiding places, and leaf litter to feed the macroinvertebrates on which young salmon dine. But industrial crop fields required tree removal. Salmon needed riverside wetland areas to slow water flows and make insect-rich feeding grounds, but Hokkaido developers wanted to dike and drain those same places to make more farms. Salmon needed clear clean water, but they got streams increasingly contaminated with dairy cow waste, pesticides, and fertilizer run-off. Salmon needed free-flowing and meandering rivers, but drainage and irrigation systems demanded dams and diversions while valuable farm products called for diked riverbanks to limit flood losses. The changes that intensive modern agriculture brought to Hokkaido's watersheds are one of the primary reasons that the island's rivers and salmon populations are such a mess today. Hokkaido's agriculture development programs produced rivers that cannot support abundant salmon populations, making hatcheries the only viable option.

### **Conclusion: Meiji Legacies**

Hokkaido colonial officials immediately grasped that comparisons were technologies of landscape-making that could be harnessed for imperial projects. They never doubted the materiality of comparative practices, whose enactments required the physical movement of bodies and technologies. Japanese exchange students, American advisors, cattle and plant breeds, and hatchery blueprints traveled in uneven flows between continents. In Hokkaido, comparisons and the movements they produced were never reducible to “copying.” Desires for legibility are not desires for sameness. Simply by referring to Hokkaido as a “frontier,” Japanese officials were intentionally inserting the region into a specific set of comparisons with Western imperial powers whose ranks they yearned to join. Though Japanese officials used the American frontier as an example, they did not mindlessly reproduce its practices. Instead, they wanted to use comparisons with it to generate new configurations of humans and nonhumans in Japan – to use the power of comparison to create forms that would be at once legibly modern and distinctly Japanese.

Although comparisons with the American West mattered greatly in Hokkaido’s Meiji era development, the island was made through triangulation rather than through dyadic comparison. Because they wanted to make the island a symbol of “modern Japan,” officials were simultaneously making material comparisons between Hokkaido and Honshu, as well as between Hokkaido and Euro-America. Hokkaido, thus, must be understood as an ecology of comparisons rather than as the product of a singular, totalizing one. The comparative aesthetic that has developed in Hokkaido –

the mode of making similarity and difference – has not evolved from one binary comparison but through the negotiation of multiple comparisons at once.

The Meiji-era landscapes made through these comparisons have not disappeared. The comparative planning and imagining projects of Hokkaido colonial officials have created enduring and unexpected changes in Hokkaido's salmon and watersheds. The material legacies of 19<sup>th</sup> century comparisons are at once patchy and pervasive in contemporary Hokkaido, found in its fields and cities, as well as its rivers and fish populations. They are visible from multiple scales: From the top of Sapporo tower, one sees that the entire area is a planned city that uses an American-style grid system to form square city blocks with wide boulevards, an uncommon layout in Japan (Maki 2002). In rural areas, the average size of the island's heavily mechanized farms is 10 times that of mainland Japan with outbuildings resembling Wisconsin-style barns and silos, not Edo-era stone storehouses (Iwama 2009: 2-9). For many visitors and residents, Hokkaido feels uncannily "Japanese" and "un-Japanese" at the same time. Sometimes the uncanniness lies in small details like the decorative Japanese-Victorian moldings that linger under the eaves of Hakodate's buildings (Finn 1995). Sometimes, it flashes up on a computer screen, as when one views the website of Hokkaido University, the direct descendent of Sapporo Agricultural College, which continues to cite "frontier spirit" as the first of its four basic educational philosophies. Still other times, the uncanniness is literally concrete, like the so-called "river improvement" structures that line the banks of almost all Hokkaido rivers.



**Figure 2:** A contemporary farm in rural Hokkaido. (Photo by author)



**Figure 3:** Japanese-Victorian architecture in Hakodate, Hokkaido. (Photo by author)



**Figure 4:** A Hokkaido “river improvement” project. Note the channelization, diking, and concrete banks. (Photo by author)

One travel writer tried to explain this common sensation through comparisons with foreign lands:

In many ways, Hokkaido is the least “Japanese” of all the main islands. It’s Texas and Alaska rolled into one. It’s Siberia. Switzerland. The last frontier and the end of Japan. It was not formally colonized until after the Meiji Reformation of 1868, and even then it wasn’t completely opened up by settlers until the 1880s – at about the same time that the American Wild West was at its peak and Doc Holliday was blasting away at the OK Corral. Hokkaido even *looks* like the American West. (Ferguson 1998: 365)

This liminality produced by practices of comparison extends not only to Hokkaido’s material landscapes, but also to its cultural ones. Many mainland Japanese and Hokkaido residents feel that those who live in the north march to the beat of a different drummer. In a newspaper article about Hokkaido, a Honshu man described

northerners as people who live by different social codes: “[W]hen it comes to personal relationships [Hokkaido residents] are too easygoing. They're not interested in all the intricacies of status and hierarchy and just exactly how A relates to B. Without knowing these things, you just can't do business in Japan, and that's why Hokkaidoans lose out to mainlanders all the time” (Oka 1981). Such sentiments are widespread and often directly attributed to the island’s frontier history. According to a paper published in a peer-reviewed research journal, Hokkaido’s “frontier spirit” has made the island’s contemporary inhabitants more “psychologically” similar to Americans than to mainland Japanese (Kitayama et al 2006). As almost everyone in Hokkaido will tell you, the island’s frontier history has created a multi-generational regional culture that continues to shape the subjectivities of its inhabitants. Not only the farming practices, but also the subject-making practices of Clark and the Sapporo Agricultural College still reverberate in Hokkaido’s social worlds. The island is a dynamic place where people are continually making new comparisons within inescapable inheritances of past ones. In the chapters to come, we will explore how, when, and where these histories come to matter.

Whether we are considering physical or cultural landscapes, one of the most important legacies of Hokkaido’s Meiji history has been the particular mode of world-making comparison that it has brought into being. During the Meiji era, new comparative practices rippled across all of Japan as the new state yearned to form the islands into an internationally legible modern nation. When Westerners compared the nations of the world, Japan desperately wanted to come out on the side of the



civilized; to do so, they needed to *articulate* their own comparisons – to both speak them forth and to connect them to other globally circulating categories and technical frameworks. Much of the experimentation with this double articulation occurred in 19<sup>th</sup> century Hokkaido – with lasting consequences. Yet, despite the profound effects of comparisons on Hokkaido’s landscapes, we must remember that directionality of Hokkaido’s comparative practices has been simultaneously inward and outward. Hokkaido has been more than a place to experiment with bits and pieces of models borrowed from “modern” elsewhere. As we glimpsed in the SAC graduates use of Hokkaido as a model for their later work in colonial administration and imperial governance, and as we will see in more detail in the next chapter, the island itself has served as a source from which to make comparisons that reach out and remake other natural and social landscapes.

### **Chapter 3**

#### **Of Dreams and Comparisons: Making Japanese salmon in Chile**

##### **Introduction**

Hokkaido's salmon watersheds are not the only landscapes that have been transformed by the comparisons that began there. The 19<sup>th</sup> century practices of analogy and contrast that remade the island's lands and water did not stay fixed in time or space. Japanese people did not seek to merely situate themselves within frames of preexisting comparisons, but to actively participate in constructing materially engaged modes of transnational comparison. With such desires, they began remaking landscapes in other parts of the world through comparisons with Japan – and in the case of salmon – particularly through comparisons with Hokkaido. This chapter focuses on one such comparative project through which Japanese fisheries biologists spent more than a decade attempting to transplant Hokkaido chum salmon to the rivers of southern Chile. From the late 1960s to the mid 1980s, these fish biologists – working under the auspices of what is now the Japan International Cooperation Agency (JICA)<sup>57</sup> – toiled to establish fish runs in a nation with no native salmon populations. They were motivated by complex multitude of dreams – dreams of empire and commodity extraction, dreams of technology transfer and uplifting of the underdeveloped poor, dreams of spreading the spawn of a fish they loved around the globe. Such dreams were certainly shaped by the legacies of the 19<sup>th</sup> century comparisons that remade Hokkaido. But Meiji era comparisons did not determine

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<sup>57</sup> JICA is roughly the equivalent of the U.S. Agency for International Development (USAID).

how these Japanese salmon biologists compared Hokkaido and southern Chile. As they tinkered across differences in river hydrology, infrastructure, and work rhythms, the salmon biologists worked out not only how to make comparisons between these distant places, but also how comparisons mattered in their practices of world-making. By paying attention to their efforts, we learn not only what specific comparisons they made, but also how they understood and experienced comparison itself. Instead of assuming that “comparison” is stable across time and space, we are able to see, through their eyes, what comparison is and does.

In the coming pages, I focus on the comparative practices of fish biologist Aliaky Nagasawa, who headed the efforts to establish populations of salmon in Chile that would mimic those of northern Japan.<sup>58</sup> He and his colleagues sought to create the piscine equivalent of Rizal’s botanical gardens in the Philippines – a colonial nature that would be haunted by its inevitable echoes of the “center” (See Chapter 1). When they brought Japan and Chile together, Nagasawa-san<sup>59</sup> and his Japanese colleagues made comparisons that on the whole stressed similarities of landscape, but differences in developmental stage. They imagined themselves as creating a site of Chilean production that would literally feed the economic growth of their more developed nation – while fiscally uplifting the Chileans in the process. They saw the

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<sup>58</sup> At Nagasawa-san’s request, I am using his real name. However, the names of the people and places in the remainder of this dissertation are predominantly pseudonyms.

<sup>59</sup> I have deliberately chosen to use the honorific “san” in this text to remind readers that I am always in relation to the people whom I am describing and that my prose is the product of embodied encounters in which all kinds of status (age, education, gender, class, race) are constantly at play.

transfer of salmon stocks to Chile as building a foundation for commodity chain connections that would both funnel cheap fish to salivating Japanese markets and get cash to poor rural Chileans. Although I could tell this story by focusing on institutional logics of comparison (as I did in Chapter 2), I chose here to focus intentionally on Nagasawa-san to stress how particular practices of comparison emerge within biographies, as well as within state-making projects. As the stories of Nagasawa-san and the Japan-Chile salmon project unfold in the coming pages, we will hear how – for the people involved in this endeavor – comparison was, above all, a technique of dreaming – of dreaming new ecological and social relations into being.<sup>60</sup>

Although Nagasawa-san became the leader of the seemingly far-fetched project to introduce Hokkaido salmon to Chile, he was not crazy or ungrounded. He was not someone living in a “dream world.” Instead, he was living in a world of powerful dreams. When I first met Nagasawa-san in early 2010, about a year and a half before his death, he immediately struck me as a person making his way in the world in the midst of multiple dreams of modernity. Although he was in his early 80s, had a stiff leg, and carried a cane, Nagasawa-san had a distinctive walk that he attributed to a training program he had attended in Tokyo before the Japanese government sent him to Chile. The training program taught Japanese men how to

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<sup>60</sup> In this chapter, I base my stories about the JICA-Chile project primarily on interviews with Nagasawa-san, other Hokkaido fisheries scientists who traveled to Chile, Chilean participants in the JICA project, and JICA officials. However, my ability to understand the project and ask questions about it has been greatly enhanced by an excellent Japanese language book about JICA and Chilean salmon titled 南米チリをサケ輸出大国に変えた日本人たち (Hosono 2010).

walk more like Euro-Americans – upright, shoulders back, and with a bit of swagger to project confidence. At the training program, he also learned that it was more “Western” to wear one’s hat slightly tilted to one side, rather than squared stiffly front and center, and every time I met him he wore his felt military-style cap cocked slightly to the left. Unlike most Japanese men, he also wore a mustache, a habit he picked up when he lived South America. When Nagasawa-san spoke, his voice was rough from a lifetime of smoking, but his manner was gentle, and he gave conversations a cosmopolitan flair by peppering his mostly Japanese sentences with words of English and Spanish, languages that he had spoke nearly fluently in his younger days.

Nagasawa-san clearly relished his connections with “Western” culture. After our interviews, we would often go for dinner at an Italian or American restaurant, then spend the late evening listening to French chanson music at a European-styled café while I drank red wine and Nagasawa-san chain-smoked long, slender vanilla-flavored mini-cigars. He had a passion for accordion music, had recently started music lessons, and even made a trip to France a year before he died so that he could soak up *bal-musette* in its native environment. Nagasawa-san was also a Christian, something that he felt connected him to Western modes of being in the world. He converted after he married his wife, a devout Protestant whom he adored and who had sadly passed away about a year before we met. Nagasawa-san’s conversion was clearly not a “paper” one primarily designed to please his wife. He had clearly

accepted the Lord into his heart, and he experienced the world through the lens of the Holy Bible, seeing nature – including salmon – as the work of God’s hand.

Beginning in the late 1960s, Nagasawa-san, a fisheries biologist with several years of experience working at Hokkaido fish hatcheries, was tapped to head an ambitious project. The Japanese government, prompted by a request from a Japanese fishing industry group, was initiating a partnership with the Chilean government to enact a seemingly farfetched development scheme – to introduce Japanese salmon to Chile. Facing dwindling salmon fisheries in the North Seas, Japan was looking for a new and inexpensive source of this pink-fleshed fish. From 1967-1985, the Japan International Cooperation Agency (JICA) sent millions of salmon eggs, tons of equipment, and countless salmon science experts from northern Japan to Patagonia’s coastline with the goal of creating a salmon resource ripe for Japanese exploitation.

In the mid 1960s, a group of Japanese fish processors had begun to worry about their increasingly limited access to North Pacific salmon. For nearly a century, Japanese fishing vessels harvested huge quantities of salmon in the North Pacific Ocean near Russia and Alaska. Between 1906 and 1945, under the terms of surrender negotiated at the end of the Russo-Japanese War, Japanese salmon fishermen ruled the Okhotsk Sea, filling their holds with fish intercepted on their return journeys to spawn in Russian rivers. But at the end of World War II, Japan lost control not only over Sakhalin and the Kuril Islands, but also its access to Russian-bound salmon. Although Occupation forces initially restricted Japanese fishermen to the areas around the nation’s main islands, they soon realized that additional fish resources

were critical to quickly alleviating the food shortages that plagued post-war Japan. With MacArthur's blessing, several fishing companies rapidly developed huge salmon factory ships, which traveled across the North Pacific, harvesting and processing salmon wherever they went. But such factory ships soon raised the ire of American and Canadian salmon fishermen who saw huge Japanese vessels parked near their coasts, stealing what the North American fishermen saw as "their" salmon.

Drawing both international scorn and legislation, Japanese factory ship salmon harvests were clearly not destined to last long. Beginning with the Tri-partite Fisheries Treaty in 1952, continuing with the formal adoption of 200 nautical mile Exclusive Economic Zones in 1982, and ending with the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean in 1993, Japan's access to high-seas salmon fishing gradually disappeared as a new resource nationalism emerged. As fish tagging and tracking methods improved, salmon swimming in the open ocean ceased to be an undifferentiated mass of stateless creatures, a form of "nature's bounty" that was simply there for the taking. Instead, salmon became individuals that originated and belonged to a specific country – a country with specific rights to the salmon because the government had invested in their existence either by making them in hatcheries or by working to conserve salmon spawning rivers. Nations began to feel that they retained rights to "their" salmon even when the fish swam into extraterritorial waters. Under such logics, a U.S. born salmon swimming in Canadian waters was, at least conceptually, property of the United States. As a result of these ideological shifts, new international legal

frameworks limited salmon fishing to coastal waters so that countries were more or less catching only their “own” salmon that were returning to their rivers to spawn.

By the 1960s, it was already clear to Japanese fish processing companies that these kinds of logic and legislation were bound to virtually eliminate their access to high seas salmon fishing, and they began to seek alternatives. Japan’s own salmon stocks – the majority of which were located in Hokkaido – remained depressed from decades of severe habitat degradation and overharvesting. As we saw in Chapter 2, “developing” Hokkaido had meant transforming its forests into farm fields and its rivers to irrigation and drainage ditches. Post-war make-work projects sent hundreds of people to “improve” Hokkaido’s rivers by channelizing them and lining their banks with concrete. The salmon, of course, did not think positively of such “improvements.”

The Japanese government began to heavily invest in intensive and improved hatchery salmon production in Hokkaido. The central government funded extensive research on juvenile salmon nutrition, management of diseases, and optimal hatchery release timings. But Japan’s fish processors and distributors remained uneasy. With Hokkaido’s ability to produce large numbers of salmon as of yet unproved, they did not (quite literally) want to put all of their salmon eggs into Hokkaido’s hatchery baskets.

In the mid to late 1960s, the Dai Nippon Suisan Kai – a trade industry group representing Japan’s major fish processors – began to explore the possibility of creating a new source of salmon beyond the borders of Japan. They dreamed of



creating thriving salmon populations abroad that they could funnel to Japan through carefully crafted supply chains. The group initially envisioned that such a fantasy might play out in New Zealand, the only country where transplanted salmon had taken root. In the early 20<sup>th</sup> century, New Zealand, which had no native salmon populations, received crates of fertilized salmon eggs by steam ship from California. Despite the odds, many of the eggs hatched, and their offspring were released into South Island rivers, where they established small, self-reproducing populations.

Based on such success, the Japanese fish processors thought investment in fish hatcheries in New Zealand could likely produce bumper crops of salmon that Japanese companies could then purchase. They contacted the New Zealand government to test the waters, but their offers of eggs and equipment were rebuffed. New Zealand didn't need anymore salmon, the government said. "They just had no interest in serious commercial fishing or salmon cultivation," a former project member told me about the Kiwis. "They had lots of sheep, so they didn't need salmon, and they just weren't that poor." With strong inheritances from the British sports-angler traditions, the New Zealand government saw the relationship between people and salmon as one of gentlemanly pleasure rather than one of commercial production. Current numbers of salmon were more than adequate to serve as a novelty for the country's fly-fishermen, and they had no need for a new paradigm. As the last part of the quote illustrates, New Zealand was already "rich enough" that it could afford to turn away a potentially messy development project with significant risk, both in terms of environmental consequences and fisheries sovereignty.

After the New Zealand rejection, the Japanese fish processors needed a “Plan B.” They had seen an American report that detailed some early efforts to transplant salmon to Chile. Although these efforts had not created self-reproducing populations of salmon as they had in New Zealand, they had had some modest success. A few juvenile salmon released into Chilean rivers had returned as adult salmon before funding, interest in the project, and the salmon runs themselves ultimately petered out. Based on such favorable information about the possibilities of salmon culture in Chile, the fish processor’s group sent an exploratory party, which they referred to as a “mission,” to Santiago, where their idea of creating a salmon industry was warmly received by the Chilean government. Chilean officials courted the Japanese processors and took them on a study tour of Patagonia, exploring possible sites for a Japan-sponsored salmon hatchery. After the mission, the Japanese processors both prodded the Japanese government to create an official development aid project to establish salmon populations in Chile and coached Chilean officials about how to appeal to the Japanese government for such funds. The Chilean government soon submitted an application for aid, and the Japanese government responded enthusiastically.

### **Japanese desires**

The Japanese government eagerly embraced the idea because it meshed with its own dreams. Since the “opening” of Japan and the Meiji Restoration, resource scarcity has been one of the central concerns of the Japanese state. Government

officials yearned to turn Japan into an industrialized global power, but they worried that their small island nation lacked adequate natural wealth. Inspired by the example of Great Britain, the Japanese government dreamed of an empire supported by resource-rich colonies. Fears of resource scarcity and dreams of imperial authority proved a powerful mix. They became a driving force not only for Hokkaido colonization, but also for 20<sup>th</sup> century Japanese military aggression and territorial expansion.

Although Japan is most well known for its efforts to extract resources from Southeast Asia, both the Japanese government and Japanese businesses have also long had their eye on Latin American resources. For example, as early as 1889, a Japanese company established a joint venture mining business in Peru (Masterson and Funada-Classen 2004:15). But while mineral resources could be immediately put to use in Japan, many of Latin America's other products were not readymade for Japanese extraction. When it came to agricultural products, there was a mismatch between existing Latin American goods and Japanese desires. As political scientist Toake Endoh explains, "The 'banana republics' served and had developed according to the interests of European colonial and U.S. capitalist interests. Latin America's traditional export goods – coffee, sugar, beef, and wheat – were not what Japan wanted. The Japanese preferred rice to bread, green tea to coffee, and seafood to beef" (Endoh 2009: 171). The Japanese government's solution to this problem was to send Japanese emigrants to Latin America to introduce and produce the goods that

Japanese trading firms desired. They sought to create a Japanese diaspora that would produce commodities for a resource poor homeland.

From 1923 to 1970, the Japanese government orchestrated and financed the emigration of its citizens to Latin America. The immigrants were sent, largely to Brazil and Peru, as *kokusaku imin*, as “immigrants under a strategic national policy” (Endoh 2009: 2).<sup>61</sup> With Japanese funding, the *nikkei* immigrants were placed together in settlement colonies located in “undeveloped” frontier regions where the Japanese government urged them to undertake cultivation of the agricultural products most needed in Japan. Before the war, Japan viewed *nikkei* settlements “as an integral part of its colonization enterprise” and directly linked to expansionist policies in Southeast Asia (Endoh 2009: 175). The Japanese Colonial Ministry coordinated activities among Japanese state-owned farms, farms owned by private Japanese companies, and independent *nikkei* farms that had been organized into agricultural cooperatives, and in the space of a few years, Japanese farms in Peru and Brazil began producing impressive amounts of cotton, pepper, and other agricultural commodities for export to Japan (Endoh 2009: 175).

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<sup>61</sup> It is worth noting that Japanese involvement in Chile has always focused more on resource acquisition than on colonial settlement. In contrast to Peru and Brazil, the Japanese government did not seek to send immigrants to Chile nor did the Chilean government solicit Japanese workers. Since the late 19<sup>th</sup> century, Japanese traders have wanted Chilean copper and fish, but the Japanese government did not seek to plant people there. Such efforts have been successful beyond salmon. Today, about 40 percent of the copper used in Japan comes from Chile (See Japan Bank of International Cooperation, [http://www.jbic.go.jp/en/report/jbic-today/2011/201108/index\\_03.html](http://www.jbic.go.jp/en/report/jbic-today/2011/201108/index_03.html)).

Although the end of World War II obviously caused some marked changes to Japanese practices of overseas resource extraction, they did not change as much as one might expect. New dreams of economic domination quickly took forms that echoed earlier dreams of territorial expansion. After World War II, Japanese concerns about inadequate resources only intensified as formal imperialism ended. In the immediate postwar moment, resource demand – of food, oil, and minerals – greatly outstripped domestic supplies, and the Japanese government turned from explicit colonialism to supply chains to move raw materials from extraterritorial hinterlands to the Japanese homeland. Initially, they focused most of their postwar attention on Southeast Asia, where they hoped the creation of overseas firms and joint ventures might do double duty by both supporting a Japanese economic recovery and providing reparations in the form of “development.” Southeast Asian timber exports may be the most famous of these supply chain projects, with Japanese companies partnering with local elites to extract profits from tropical forests (See Dauvergne 1997).

In Latin America, Japanese efforts to maintain a resource diaspora also continued long after World War II.<sup>62</sup> While languages of colonialism gave way to languages of “economic development,” Japanese overseas projects in Latin America remained focused on bolstering Japanese agricultural and economic security. Even

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<sup>62</sup> Experiences do vary markedly among Latin American nations. However, even in the case of Peru, where Japanese settlers were the target of serious discrimination, rioting, and deportation to the United States during World War II, Japanese immigration had resumed by 1958, albeit on a much smaller scale (Takenaka 2004, Gardiner 1981).

after state-sponsored Japanese emigration to Latin America ended in 1970, the Japanese government persisted in its attempts to keep some of the continent's farm fields producing for its own needs. I want to turn briefly to the example of soy production in Brazil, which illustrates these new resource relations. After the U.S. issued a two-month ban on soy exports in 1973, Japan – a country heavily dependent on soy protein and unable to meet demands domestically – sought to increase soy production in Brazil, a country with little history of either soy production or consumption (Endoh 2009: 178). Through a combination of promotion by Nikkei<sup>63</sup> farmers, direct investment by Japanese companies in soy plantations, and support from JICA, which provided funding and technical assistance for research on high-quality soybean varieties and management practices best adapted to Brazil, soybean production has spread across the Latin American nation (Endoh 2009: 178, 232, footnote 23). Almost nonexistent in 1972, soy is now Brazil's top export crop with Japan as one of its most important markets (Endoh 2009: 177). Japanese involvement in the development of the industry – especially through aid projects aimed at technology transfer and infrastructural development – networked the local producers of this new project with Japanese traders and markets. Extending far beyond soy, this coupling of international aid and supply chain capitalism is emblematic of Japanese resource extraction.

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<sup>63</sup> The term “Nikkei” refers to people of ethnic Japanese descent. For example, Japanese Americans born in the United States frequently refer to themselves as Nikkei.

For Japan, imperial expansion and extractive commodity chains have been driven by the same desires: that of securing critical materials for its small, resource-poor, island nation. As in earlier periods, the Japanese state continues to help secure the availability of such resources for Japanese traders – but such support now comes in the form of “development aid” rather than imperial decree. Japanese development projects have indeed emerged directly from the rubble of its imperial ones. In the years after World War II, “[c]onfronted by its own need for recovery and development, Japan invented a distinctive pattern of economic cooperation with the developing world that at its core is intended to contribute to Japan’s own developmental plans.” (Arase 1995: 5).

Japanese supply chain capitalism and the cheap foreign resources that it helped acquire certainly helped drive the mercurial rise in Japanese economic power from the 1960s through the early 1990s. But the foreign aid practices that were entangled with the production of such commodity chains were a symbol of Japanese economic power as well as a method for building it. From the 1960s onward foreign development aid became an important way to enhance Japanese prestige. After two decades as a major recipient of postwar foreign aid (especially from the U.S. and the World Bank), Japan began to transition from receiving development aid to giving it (Takagi 1995). Such a shift was symbolic of a phoenix-like return of Japanese strength, and it was one of the most potent political and strategic tools available to a nation without the ability to express military might. Development assistance in Latin America sent a particularly potent message because it illustrated that Japan’s sphere

of influence was (once again) not limited to Asia, and that Japan was capable of developing a part of the “West” (Endoh 2009: 195). As Endoh points out, in the case of Brazil, the Japanese received far more than a stable soybean supply from its investments:

Another gain was in international clout. Japan’s contribution to Brazil’s economic development in the form of the formation of soy and related industries earned it credit in the international community. This was compatible with the values of postwar, peace-loving Japan in converting its economic power into international status and respect and becoming a superpower in development aid. (Endoh 2009: 179).

Until the Japanese economy collapsed in the mid-1990s, Japanese mental maps of an economically integrated Pacific with Japan at the helm continued to sketch a geography virtually identical to the wartime “Greater East Asia Co-prosperity Sphere” and relationships with Japanese diasporic communities in the Americas. It was just that the vocabulary of superiority had shifted from military to economic registers. Over the last two decades, however, the Japanese government’s ability to conjure its nation as a global economic Godzilla has dramatically declined. New mappings of Asia, in which Japan’s power is overshadowed by a ravenous and rising China, have emerged. Today, images of Japanese total domination – be they colonial or economic – seem more silly than menacing. In everyday conversations in Japan, people no longer yearn for supremacy, citing colonial Britain or the postwar U.S. when they talk about their dreams for Japan’s future; instead, they dream more modestly, hoping that Japan might be able to emulate Finland and the other Scandinavian social welfare states. But while Japanese dreams of world domination have somewhat waned, the supply chains entangled with them have not. Neither has



the need for imports. The Japanese economy remains as dependent as ever on raw materials from abroad, and the Japanese domestic food production still accounts for only 40 percent of the nation's caloric needs.<sup>64</sup> In an important way, ongoing trade in natural resources between Latin America and Japan is not wholly different from the imperial practices that began with the colonization of Hokkaido – efforts to secure cheap Japanese access to raw materials for Japanese economic growth. The Japanese government's interest in salmon in Chile must be understood within the context of unrelenting national dreams of creating strong supply chains to fuel Japanese economic growth and asserting Japanese international power through its foreign aid program.

### **Chilean desires**

It would be a mistake, however, to focus only on Japanese desires. The particular comparative practices of the Japan-Chile salmon project arose not through the *sui generis* imaginings of Japanese people, but through the articulation of Japanese dreams with Chilean ones. In southern Chile, there were also plenty of dreams, including some specifically about salmon. Wealthy sportsmen dreamed of having “home-grown” fly-fishing trophies that rivaled those of Europe. Members of Chilean governments (both socialist and dictatorially-inclined) yearned for stronger trade connections with Asia and a new export product that would help spur Chilean

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<sup>64</sup> See 2011 USDA Fact Sheet  
[http://www.usdajapan.org/en/reports/10%20Reasons%20Why%20Japan%20is%20Important%20for%20US%20AG\\_201107.pdf](http://www.usdajapan.org/en/reports/10%20Reasons%20Why%20Japan%20is%20Important%20for%20US%20AG_201107.pdf)

national development. Regional officials in Patagonia dreamed of a new industry that would make their area something more than an economic backwater.

Like the most of Meiji era Japanese, many 19<sup>th</sup> and early 20<sup>th</sup> century Chileans also found themselves caught up in comparisons with the “West” – in their case, specifically with Europe. Living in a former Spanish colony that officially gained its independence in 1844, elite Chileans in particular yearned for forms of nationhood, symbols of “civilization,” and levels of development that would make them comparable to such powers as England, France, and Spain. Although such desires took many shapes, the oblong silvery bodies of fish were one of them. In northern Europe, salmon had long been considered the “fish of kings” – seen as so valuable that their ownership was specifically mentioned in the Magna Carta (Montgomery 2003: 62). For hundreds of years, catching and eating salmon had been a pastime of the wealthy, and Europeans who moved to Chile sought to bring some of the high-collar civilization that salmon connoted to the New World. In 1865, coal baron Louis Cousino stated that he wanted to bring salmon and trout to Chile in order to create an angling paradise, but he died before he could take action on such desires. But after his death, his wife, Isidora Goyenechea de Cousino, kept his dream alive. In the 1880s, she hired a Scottish fish expert, established Chile’s first fish farm, and strove to introduce trout and salmon to Chile.<sup>65</sup> Successful rainbow, brown, and brook trout

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<sup>65</sup> The success of these early efforts is debated. Some sources say that they did not create lasting runs of fish, while others hail this moment as the beginning of Chilean trout populations. See the Embassy of Chile, Washington, D.C. section on fishing <http://www.chile-usa.org/specialint.htm#fish>, as well as information on the commercial website Fly Fishing Chile Outfitters

introductions soon followed, with both government officials and private citizens going to great lengths to get the new species to Chile. For example, in 1905, the Chilean government ordered 400,000 Atlantic salmon and trout eggs to be purchased in Germany, shipped by boat to Buenos Aires in wooden boxes, sent by train to Mendoza, then carried over the Andes by mule to a Chilean hatchery on the Blanco River (Urrutia 2007: 457). Although many eggs died en route, Chileans did not give up on their efforts to make civilized landscapes that resembled those of Europe. By the mid-20<sup>th</sup> century, their perseverance had partially paid off. Although salmon had failed to take root, multiple species of trout could be found in most of Chile's lakes and rivers.

Yet, at the same time that Chileans looked towards Europe, they also wanted to establish their own identity distinct from the motherland – as well as real economic independence. Part of this process entailed looking East. Despite its colonial connections to Europe – or perhaps, more properly because of them – Chile, perched on the Pacific, has long been interested in fostering connections with Asia. They dreamed that links to the East would help them develop independence from the core regions of the so-called “West.” In the late 19<sup>th</sup> century, the Chilean government made an important gesture of diplomatic friendship to Japan by giving the newly “open” country a warship, which Japan later used in the Russo-Japanese war.<sup>66</sup> By

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[http://www.chileoutfitters.cl/web\\_pecadores\\_final\\_ingles/patagonia/pesca.htm](http://www.chileoutfitters.cl/web_pecadores_final_ingles/patagonia/pesca.htm) (both accessed May 21, 2013). For academic sources, which tend to be more skeptical of 19<sup>th</sup> century successes, see Mendez 1982, Borie 1981, and Urrutia 2007.

<sup>66</sup> The Japanese members of the JICA-Chile salmon project all cited this historical event as one of the reasons that Japan and Chile have good relations.

1890, Chile established a consulate in Tokyo, and in 1899, Chile opened its first Asia-Pacific embassy in Japan (Saavedra-Rivano 1993:192). From the start, the Chilean government hoped that transpacific trade would boost their nation's fortunes. Although exports to East Asia (metal and nitrates), were initially small, the Chilean government did not turn its back on the potential of such markets. During Japan's postwar economic boom – and after Pinochet's rise to power – Chile began aggressively marketing its exports across island Asia. ProChile – the Chilean government's trade promotion arm – quickly established branches in Tokyo, Hong Kong, Bangkok, and Singapore (Saavedra-Rivano 1993: 195). Such courting worked: Chilean minerals and chemicals quickly became a part of the expanding Japanese economy, and with the addition of a growing trade in forestry, agricultural, and fisheries products in the 1980s, Japan became Chile's largest trading partner in the 1990s (Saavedra-Rivano 1993: 194).

These late 20<sup>th</sup> century desires to court Japan were part of broader Chilean governmental dreams of export-led development. A seeming imperative to develop has been palpable in Chile over the past several decades. In nearly every interview I conducted in Chile in 2011, people expressed a feeling that Chile was still “behind” and they yearned for Chile to become something they called a “fully developed country” within the next five to ten years. Although actual development policies have changed along with Chilean governments, desires for this thing called “development” have remained rather constant. Salmon, however, have proved flexible enough to fit with nearly every Chilean administration's political aspirations and developmental

dreams. In the beginning, the project was alluring to Frei and the Christian Democrats as a possible way to assuage the demands of fishermen who were protesting declines in fish harvests that they attributed to the increasing number of international vessels fishing off the coast of Chile. Next, the salmon project fit with the goals of Allende and the socialists, who focused on rural development and sought to establish new regional industries. In the early 1970s, the Allende government imagined that the salmon project would create populations of high-value fish that could be harvested by indigenous people in rural Patagonia. Such a vision of the salmon project fit well with these administrations' foci on increased employment opportunities for the poor and redistribution of natural resources and agricultural lands from the elite to the masses (Winn and Kay 1974). The fish could be made to match their broader plans for "rural development."

For entirely different reasons, Pinochet's dictatorship was equally excited about salmon. Drawing on the expertise of the "Chicago Boys" – a group of Chilean economists who trained at the University of Chicago – the dictatorship sought to experiment with neoliberal policies that called for privatization as the answer to struggles for modernization. The dictatorship saw salmon as a potential model for key neoliberal goals, such as the expansion of non-traditional exports and the introduction of external capital for development of private industry (Urrutia 2007, 464). Salmon promised to be an exemplary tool for Chilean integration into international markets of goods, services, and capital (Urrutia 2007, 464). In its early years of rule in 1973-74, the military dictatorship enacted changes in Chilean law that were designed to help

the kinds of industries that it imagined salmon might one day become, especially changes in export laws and tax laws that allowed for better competition in international markets, and in 1974, Pinochet's government established ProChile, a government program to promote the export of non-traditional products. The idea of salmon production also fit well with the military dictatorship's focus on the liberalization and privatization of Chile's natural resources. During the late 1970s and 1980s, while other Latin American nations moved towards resource nationalism and sought to limit the extraction of trees and minerals by international firms, "Chile went against the grain in Latin America by allowing foreign exploitation of its natural resources with few restrictions" (Saavedra-Rivano 1993: 202).

Salmon also meshed with elite Chileans' long-standing interests in species introductions in the name of economic development – and their deafness to such practices' ecological risks. Beginning in the mid-20<sup>th</sup> century, Chilean businessmen – sometimes with government support – imported both animal and tree species that they thought might bring them a profit. With high hopes of creating a fur industry in Patagonia, South Americans imported Canadian beavers to Argentina in 1946 and American mink to Chile from 1930-1970 (Forero 2011 and Jaksic et al 2002). As one might expect, such projects have gone wild. The animals either escaped or were released into forests and, today, feral beavers are destroying Chilean and Argentinian forests and mink are gobbling up native species of rodents, terrestrial and aquatic birds, crustaceans, and insects (Choi 2008 and Jaksic et al 2002). Dreams of a lucrative forest products industry inspired Chileans to introduce radiata pine (*Pinus*

*radiata*) to their country beginning in the 1950s. A scrubby tree in its native California, radiata pine grow rapidly when transplanted to other locales. With straight trunks and small widely spaced branches, radiata pine seemed a perfect “commercial” species for Chile’s timber industry, easy to grow and easy to process. The radiata pine produced higher value timber much more quickly than did native forests. After the Pinochet dictatorship initiated subsidized planting programs in 1974, the trees became the backbone of the private timber plantation system that blossomed in Chile (UNECE/FAO 2002). Today, non-native tree plantations make up approximately 13.5 percent of Chile’s forests (UNECE/FAO 2002). But despite winning the praise of regional economists, these privately-held monocrop forests have reduced species diversity and fragmented Chile’s native temperate forest habitats (Echeverria 2006).

In this same spirit, elite Chileans – both in and outside of the state – dreamed of salmon. Perhaps salmon could be Chile’s *pinus radiata* of the sea, a species designed to augment or even replace those of lower commercial value, in this case, the coastal shellfish harvested by poor and indigenous people. Salmon populations, however, had already shown themselves to be more difficult to establish than beavers or mink or pine trees. Between 1870 and 1875, two Chileans, an entrepreneur and a scientist, partnered in the first attempt to bring chinook salmon to their country, but their efforts ended in failure. In 1885, the Chilean government requested that a French veterinarian oversee another series of attempts to transplant salmon to South America, but the difficulties of transporting the fragile eggs across long distances again thwarted the project. But even after shipping improved, salmon introductions

remained largely unsuccessful due to the complexities of their life cycle. Salmon needed to be released into the ocean, but after transplantation projects released their precious progeny, they almost never saw them again. The salmon simply disappeared into the ocean and did not make a return migration. Such was the fate of the salmon who hatched from the more than 200,000 chinook eggs, 114,000 sockeye eggs, and 225,000 coho eggs brought to Chile in the 1920s and 1930s from Alaska and the continental United States (Mendez 1982 and Bluth 2003: 20).

In the late 1960s, around the same time that they began working with the Japanese, the Chileans also formed cooperative salmon introduction programs with the U.S. government as well as with a private American company with ties to Union Carbide and Campbell's Soup (Mendez 1982, Borie 1981, Hosono 2010). Clearly, the Chileans, like the Japanese, weren't counting on a single approach to solve their salmon problems. By the time the Japanese mission showed up in 1967 looking to bring salmon to Chile, there was a lot already going on. Indeed, throughout the JICA project, making salmon in Chile was a messy, multi-national, multi-continent, multi-species affair in which Chilean agencies and business groups continually courted many parties.<sup>67</sup> Investments in the early Chilean salmon industry were not limited to JICA. For example, Fundacion Chile, a nonprofit created through a partnership

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<sup>67</sup> An exact accounting of how the industry came to be eludes even those who try directly to study it. The author of one historical article who explicitly set out to identify the main actors and factors that brought about the Chilean salmon industry ultimately concluded that due to the large number of intertwined people – government groups, private businesses, and individuals – the precise origins of the sector could not be determined (Urrutia: 2007: 463). The best the author could do, he said, was to allude to the “grand diversity” and “heterogeneity” out of which the industry was born (Urrutia 2007: 463).



between the Chilean government and the US-based ITT Corporation, used its own funds to spur salmon industry development in parallel to (but in conversation with) the Japan-Chile project. When, in one of their publications about the JICA project, the Japanese claimed that “[t]he Chileans have long dreamed of salmon of their own,” they did not do so simply to justify their own quasi-colonial desires to construct a salmon industry in Chile.<sup>68</sup> Instead, the Japanese comment reflects how the JICA project came into being through the non-identical, but intersecting dreams of people from both Japan and Chile.

### **Making salmon in a world of dreams**

When he became the head of the Chile-Japan salmon project, Nagasawa-san found himself comparing within a multifaceted field of dreams – a complex web of Japanese and Chilean desires. But for him, dreams of Japanese imperialism and economic development were not only something that he encountered through the salmon project. They were also the stuff of his own life – and without which he would never have come to be a part of the salmon project in the first place. When Nagasawa-san was recruited to work on the JICA project, he was also no newcomer to Japanese dreams of overseas expansion. Nagasawa-san was a child of the colonies

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<sup>68</sup> The Japanese did not see Chile as a salmon *tabula rasa*. Instead of erasing past efforts at salmon introduction to make their own work seem more novel and important, Japanese salmon experts played up the legacies of fish introductions in Chile. Histories of sincere Chilean interest in salmon bolstered their project, and data about almost successful transplants of fish made it easier to conjure the specter of salmon swimming in Chilean waters. Stories of trout introductions made Chilean salmon seem possible – maybe even realistic.

himself. Although he had been born in Hokkaido, he was taken to Manchuria as an infant, not to return to Japan proper until the end of the war, by which time he was already a first-year high school student. According to Nagasawa-san, the experience of growing up along one margin of Japan was what led him to work along another. For all of its hardships, life in Manchuria was oddly cosmopolitan when compared to intense wartime nationalism of mainland Japan. Although English language study was banned in Japan, Manchurian children were required to learn foreign languages (choosing among Chinese, Russian, or English). When he entered middle school, Nagasawa-san decided to focus on English. During his first year of high school, Nagasawa-san's life was interrupted by the end of the war. Like many Manchurian families who managed to survive the war and subsequent repatriation, the Nagasawa family decided to resettle near kin, in this case a sibling of Nagasawa-san's father who lived in the Hokkaido coal-mining town of Yubari. When Nagasawa-san reenrolled in high school, he found himself with a surprising educational advantage that would ultimately pull him into the salmon project and shape his entire life trajectory. Under the U.S. occupation, Japanese high schools were just beginning to require English language study, and although the tongue was entirely new to his peers, Nagasawa-san already had three years of instruction under his belt. With this head start, Nagasawa-san earned top honors in English throughout high school.

When it came time to apply for college, Nagasawa-san found the university entrance exams to be manageable, and he earned a seat in the Hokkaido University fisheries department. Fisheries science was a seemingly odd vocational choice for a

man who had spent his life in inland China and a mountain coal town. But during Nagasawa-san's final year of high school, he had heard a lecture given by an older Yubari student who was attending a fisheries university in Tokyo. The student passionately claimed that someday the coal in Yubari's mountains was going to run out, and he implored the students to turn their eyes toward the renewable bounty of the ocean. Nagasawa-san, who already sensed that there was no future in the coalmines, was so moved by the speech that he decided to become a fisheries scientist. But coming from a working-class family, Nagasawa-san found it difficult to pay the bills for his studies. Fortunately, Nagasawa-san found that he was able to parley his relatively advanced English language skills into a part-time job at a nearby American military base. "It was pretty dirty English, all slang," he said of his time working on the base. "But it was English nonetheless. I got used to native pronunciation." Those language skills would become unexpectedly critical to his future.

After college graduation, Nagasawa-san found work as a fish hatchery technician and researcher for the National Fisheries Service, and in his first few years of employment, he was stationed at several different Hokkaido hatcheries. Yet even when his rank in the fisheries agency was relatively low, he played an important role because he spoke the best English of any fisheries personnel. From his first year on the job, he was consistently selected to be the guide and translator for international guests to Hokkaido's hatcheries. When, as part of the initial phase of the Japan-Chile salmon project, the Japanese government extended an offer to provide technical training in salmon hatchery production to a Chilean, they immediately contacted

Nagasawa-san. At the time, there were no Chilean fish biologists who spoke Japanese, and no Japanese fish biologists who spoke Spanish. But Alejandro Marquez, a young Chilean fisheries biologist who had guided the Japanese mission during their visit to southern Chile, was eager to learn to learn Japanese fish cultivation methods – and he spoke some English. He was paired with Nagasawa-san, the fisheries person best able to communicate with him in that language, so that he could become Chile’s first salmon expert.

When Nagasawa-san – by then the director of a small hatchery in rural northeast Hokkaido – was told that he was going to be assigned a Chilean trainee to mentor, he was surprised, but not shocked, to hear of a plan to introduce salmon to Chile. Several years before, he had served as an official monitor and observer on a large North Seas mother ship salmon vessel, ensuring that the private company that owned the vessel observed fishing treaties and regulations. In the evenings, he often dined and conversed with the boat’s captain and other high-ranking staff, who were concerned that the increasing regulations, which Nagasawa-san was there to enforce, were likely going to put them out of business in the region. “The people there knew I was in hatchery work,” Nagasawa-san explained, “and they asked if it would be possible to make salmon somewhere else in the world. It was like a dream. But I said that it wasn’t impossible, if you release fish somewhere in the South Pacific, there are lots of krill there, so if you let salmon go there, the same kind of resources might develop there as what you have in the North Pacific. It was talk about dreams (*yume no hanashi*).”

But they were apparently rather serious dreams for people in the fishing industry, which is why – only a few years later – Nagasawa-san found himself tasked with teaching hatchery techniques to an earnest young Chilean. Marquez, the Chilean, was even more surprised by the turn of events than was Nagasawa-san. Despite the historical interest in salmonids, when the Japanese mission arrived in Chile, “no one was thinking about salmon at all,” Marquez said. He had worked on some freshwater fish culture to stock lakes for recreational fishing, but no one had thought about either commercial culture or salt-water-based production until the Japanese started searching for hatchery sites. Rather suddenly, Marquez found himself entangled with the project and on a plane to Tokyo to spend a half-year studying Japanese fish culture techniques. He was 25 years old, and although he had been over the border to Argentina and Bolivia, his experiences of international travel were limited. He left Patagonia in the middle of the austral winter, arriving in Japan in the middle of the hot summer. At first, some Japanese officials wanted to send him to study at a prestigious fisheries research institute in Osaka, but Marquez knew that there were no salmon that far south in Japan. He insisted that he wanted to go north to Hokkaido, the heartland for Japan’s salmon hatcheries. “But they say, no, Hokkaido is too cold, you are from South America,” Marquez recalls. Fortunately, he had some photos of Patagonia with him. “When I showed them to the Japanese, they said ‘oh, you have snow!’ So then I was sent to Hokkaido.”

After a stop in Sapporo to learn about the general structure of the Hokkaido hatchery system, Marquez was assigned to study at a cluster of five rural hatcheries

for which Nagasawa-san was the regional manager. “ I was sent into his hands,” Marquez recalls. Somehow, despite their mutually imperfect English, the men worked together well. The kind of hands-on collaboration they enacted later became a hallmark of Japanese technical assistance programs that have emphasized the face-to-face transmission of “practitioner knowledge” rather than of “policy knowledge” (King and McGrath 2004:169). Although Nagasawa-san’s English was much better than that of most Japanese, their linguistic struggles also foreshadowed a classic problem that has come to shape the approaches of Japanese aid projects and led to some condescending comments from aid workers of other nationalities. As two scholars focusing on international aid explain, “The joke about the Japanese expert being called ‘Mister Like This’ points out the frequency with which Japanese experts might not be able to explain in excellent English but could show how something should be done by actually doing it, ‘Like this!’” (King and McGrath 2004: 169).

This method seems to have been effective for Nagasawa-san and Marquez, as well as for several more Chileans who received technical training in Hokkaido in future years. Marquez learned about the differences among chum, pink, and sockeye salmon – how the chum preferred the locations in the river where spring water bubbled up through the gravel beds, how pink salmon populations fluctuate dramatically between even and odd years, and how sockeye salmon made long-distance migrations. He learned the procedures necessary for running a salmon hatchery – taking eggs, fertilizing them, hatching them, managing disease problems, feeding fry and timing fish releases into rivers.

Perhaps most importantly, Marquez also learned things about work ethic and scale that would serve him long after his formal participation in the JICA project ended. He took note of how dedicated the Japanese were to their jobs, that they worked long hours seven days a week. He was also impressed by how the Japanese focused on efficient care of fish, not on human comfort. “Americans wanted to heat hatcheries, but the Japanese did not heat buildings,” Marquez observed. “Who is the heat for? It is for the people not the fish.” The scale of Japanese facilities also left a lasting impression on Marquez. It made him realize the possibilities of large-scale fish cultivation. In the 1970s, most global fish production facilities were small-scale experiments with one or two ponds, but in Japan, fish hatchery technicians had already pioneered processes for rearing millions of fish in one location. Marquez was able to learn first-hand the technical details of managing fish production on a large scale, particularly how to rear high densities of salmon in small amounts of water by carefully managing distribution of water so as to deliver oxygen to growing fish in the right moment in the right way. All of these ideas would later become critical to the Chilean salmon industry.

When Marquez finished his first round of studies in Japan in 1969, the Japanese government saw Nagasawa-san as a natural choice to send to Chile for the next phase of the project. Together, Marquez, Japanese fisheries experts, and local Chilean workers were to construct a hatchery, rear chum salmon eggs shipped to Chile from Japan, and release the first chum salmon into Patagonian waters. Because Nagasawa-san had already worked with Marquez, the Japanese government

dispatched him to Chile as its representative and salmon fisheries expert. According to Nagasawa-san, this is where the real story begins: *The Adventures of Salmon in Chile*. “It’s like a novel (*roman mitai*),” Nagasawa-san said of the salmon stories. “Like tales of dreams (*yume monogatari*).” Nagasawa-san was a born storyteller, and as passionate as he was about salmon, I think he loved the stories of Chilean salmon even more than the fish themselves. “It’s really a dramatic story,” he emphasized. “You know, there actually was a movement to make a TV drama about it at one point – a drama with real actors, not with me in it.” Salmon, with their flashy silver sides, large leaps, and reliable returns to their natal streams, seem to court storytellers. The fish almost seem to hook people with their unique lives, reel them in with their stunning beauty, and refuse to let them go. “Salmon have a connection to the human heart,” he told me. “They are fish that inspire feeling – the dream of these little fish going out and coming back big.”

But for Nagasawa-san, the ways these classic fishy stories intersected with heavenly signs and human drama was what made Chilean salmon stories so epic. The project was about the unknown. At the time, the business of international aid seemed as much like *terra incognita* as rural southern Chile. The salmon project began not only before there was a JICA office in Chile, but also before JICA even formally existed. The salmon project was not the product of a pre-existing Japanese aid agency with agendas and plans, but was instead one of the sites where the Japanese government experimented with what a formal international aid program might be and how it might work. Nagasawa-san said he felt like “007, James Bond. I was handed a



slip of paper with a mission on it and that was it.” In 1972, the Japanese government gave him three months pay in cash and just sent him off. Beyond the flight number and departure time of the airplane, he received virtually no instructions, no sense of how to proceed, and no inkling about conditions along the way. Perhaps he would receive such information once he arrived in Chile, he thought. When he disembarked from his plane, he was met by officials from the Japanese Embassy in Chile who immediately took him to a Chilean government fisheries official. The Japanese Embassy man presented Nagasawa-san to the Chilean and said “here is the expert you requested” and “that was it.”

The Chileans gave Nagasawa-san no more direction than the Japanese. “I thought they would have requests or plans, but there was nothing,” Nagasawa-san said. He thought he was coming to play a part in a grand Chilean plan, but the Chileans were expecting him to make the plan. The day after Nagasawa-san arrived in Chile, a group of government officials convened a conference at which they began to grill Nagasawa-san about his plans for the joint project. At the time, he was caught completely off-guard. “It seemed really rude to ask questions like ‘What are you going to do for us? Why are you here?’ to someone whom you’d requested.” But the Chileans said that they couldn’t make any plans because they didn’t have a single salmon fisheries expert in the entire country. The whole situation shocked Nagasawa-san: “In Japan, everything is always so top-down. People always give you a plan to follow, but here there was nothing. In Japan, the only people who make plans are the upper-level people in Tokyo, and maybe the Hokkaido prefecture officials, but the

concept of asking a technician like me to make a plan in Japan, it is just totally unthinkable.”

Despite his status as a mere technician, he was the entire Japanese aid program in Chile, and he had to do something. Beginning in July 1972, he and Marquez hastily drafted a plan with the knowledge they had, arranging for the construction of a fish hatchery and scheduling deliveries of equipment and salmon eggs from Japan for October through December. Because some Americans had already established a small experimental hatchery in the Los Lagos region, the Chilean government had asked the original Japanese mission to select a site further to the south. Based on their ideas about what made for a good salmon river in Japan – cool, clean, well-oxygenated waters – they selected a location on the Claro River, near Coyhaique, a small mountain town in the Aysen region.

Nagasawa-san described the area as “Hokkaido, a hundred years ago.” There were a few buildings with unreliable electricity, some radios, and a handful of cars, but otherwise not much. “Flying from Santiago to Coyhaique was like a time slip,” he said. There was no phone system. If he needed to send a message to Japan, he had to go Coyhaique’s central phone office where it would take at least 30 minutes to get a connection to Japan. Due to long lines at the phone office, transmitting a short message to Tokyo could take all day. Although he was working with Marquez, whom he knew from Japan, living and working in rural Chile was exhausting and lonely for a man who initially spoke no Spanish and who was worried about how to manage a major overseas project. “I didn’t know any Spanish at all then, only *que sera sera!*”

Nagasawa-san explained. Local residents seemed to have friendly feelings toward the Japanese, and people would ask stop him on the street to ask him to write their names in *kanji*, the Japanese script.

By November, the future was beginning to look brighter for Nagasawa-san and the project. The hatchery was mostly built, the egg shipments from Hokkaido were in transit, and Shiraishi-san, another Japanese fisheries biologist, had come to Coyhaique to partner with the project. But then, just as it seemed the project was on track, tragedy struck. On the same day that the first Japanese salmon hatched in Chile, Shiraishi-san's heart began to beat irregularly. Although they called in a plane to transport him to a hospital in Santiago, he died en route of a heart attack. Nagasawa-san tried to express both his grief about Shiraishi-san's death and his optimism about the salmon eggs in the short and simple telegraph he sent to Japan: "One side gone, Other side born."<sup>69</sup>

In the wake of his partner's death, Nagasawa-san formed even closer relationships with Marquez and the other Chileans who began working at the hatchery and lost himself in the technical dramas of making salmon in Chile. In their Coyhaique hatchery, Nagasawa-san and Marquez began the difficult work of turning desires and dreams into fish flesh. Everything was trial and error, and Nagasawa-san said he felt more like an engineer than a teacher or expert. He was trying to come up with practical, ad hoc solutions without any advance knowledge or guiding theories. Nagasawa-san was not applying well-formed knowledges to a new locale. In the

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<sup>69</sup> Marquez and Nagasawa-san also named the hatchery in Shiraishi-san's honor, and the facility is still called the Piscicultura Shiraishi (See Hosono 2010: 27 and 36).

1970s, people in Hokkaido and in the United States were still experimenting with salmon feeding practices and disease control methods themselves. And the applicability of even the scanty knowledge that did exist was questionable. “It was all knowledge from the northern hemisphere,” Nagasawa-san said. “Really, all of it was useless.”

First, they had to deal with the difficulties of transporting salmon eggs from one out-of-the-way place (rural Hokkaido) to another (rural Chile). Logistically, purchasing chinook or coho eggs from the United States would have been easier and cheaper than transporting chum eggs all the way from Japan, but the option of using American eggs was never seriously considered. “Politically, especially then, we had to use Japanese technology and materials,” Nagasawa-san explained. “It was about nationalism in those days.” But chum were not only about nationalist dreams of creating Japanese salmon abroad, they were also about the specific migration pattern that they hoped the salmon would take. In contrast to chinook and coho, which stay relatively close to shore, chum make long-distance migrations in the open ocean. This life cycle quirk allowed salmon project staff and boosters to dream of Japanese chum salmon filling their bellies with krill while circum-migrating around Antarctica rather than munching on small fish in Chilean coastal waters.

But due to the specificities of the salmon life cycle and the structures of international shipping, the margins for error for getting chum salmon to Japan were rather small as both recently hatched fish and young eggs are fragile and difficult to move. To maximize survival, the eggs had to be shipped as close to their hatching

time as possible, but with enough leeway that the eggs would not accidentally hatch during transport. Ideally, the eggs would spend three days in transit and hatch 2-3 days after they arrived. In general, sending the eggs to Santiago via Vancouver on Canadian Pacific Airlines worked acceptably. Once the eggs landed in Santiago, the Chilean Air force would speed the eggs to Coyhaique, one of the benefits of working under a military dictatorship that supported the project. But once, when the Japanese government decided to ship some eggs via Frankfurt on Lufthansa, about half of the eggs died when they got stuck on the tarmac during a second transfer in San Paulo, Brazil. Even under the best of conditions, things often went awry. On one occasion, Nagasawa-san opened a box of eggs only to find a mess. Some of the eggs had hatched in transit, so there were live, dead, and dying eggs and alevins all jumbled together in what Nagasawa-san described as a grotesque “jam.”

Tinkering with transportation schedules was only the beginning of their trials and tribulations. One of their major problems was the seasons – winter in Japan was summer in Chile. Salmon are only in egg form during the Japanese winter, which meant that shipments of salmon invariably arrived during the Chilean summer. Already stressed from their transoceanic and trans-equatorial journey, the young salmon – a cold-water-loving fish adapted to short wintery days – were thrust into a world of long photoperiods and warm summer waters that they could barely tolerate. Normally, salmon would hatch in the winter and migrate to the ocean during the late spring, when creeks would fill with run-off from snowmelt. But a few months after their birth, the Chilean salmon faced a dry fall instead of spring floods. Nagasawa-san

and Marquez didn't know what to expect. They released the juvenile fish that they had reared in the austral fall, but the fish just stayed in the river. As the fish grew larger and larger in the river, salmon project staff vacillated between hope and despair. They were relieved that the salmon were finding adequate food in the foreign river, but they worried that the fish might completely fail to migrate to the ocean. But, at last, in the austral spring – six months later than their counterparts in Japan – the large, well-fed young salmon swam to the sea. “With such big fingerlings, we thought that we would have a high return percentage,” Nagasawa hypothesized. “But we waited four years and no fish came back.”

Salmon, a species known for their homing ability, were not following plans. At first, the salmon project staff thought that if they just raised the fish to a larger size before releasing them that they would be more likely to return, as larger, older fish tend to make shorter migrations. But although they kept releasing larger and larger fish, they still didn't return. Then, salmon project staff realized that brown trout, a species introduced from Europe, were gobbling up many of the salmon as they tried to run down the rivers. When they examined at the stomach contents of brown trout, they were filled with their carefully raised juvenile salmon. "We wanted to cry," Nagasawa-san says. "We wondered what we were doing. It felt like we were just releasing food for the brown trout." To address that problem, they began releasing juvenile salmon directly into the ocean, where they would not have to swim through a gauntlet of hungry brown trout in the lower reaches of the river.

But adult salmon still failed to return to the river. They tried different species

of salmon, different diets, and different rearing strategies without results. Soon, they began to worry about the future of their project due to their dependence on imported eggs. At the time, salmon eggs were in rather short supply in Hokkaido, and shipments of eggs to Chile were in danger of being terminated. So the Chile salmon project staff decided that they had to make their own salmon brood stock in Aysen to ensure that their program had a stable supply of eggs. "It's kind of odd for a Japanese to say this, but I could hardly wait to be independent from Japan," Nagasawa-san said. He also wanted his fish to be more "Chilean" than "Japanese." He felt that they had been doing it all wrong, trying to transplant highly developed eggs. Drawing on conceptions of citizenship based in natal location rather than blood, he felt that fish fully "born" in Chile would be better suited to that place than those that began their lives in Japan. He wanted to make juvenile salmon that were of Chile. He thought that they would do better in the new land if they hadn't known the scent of any other waters. In addition, eggs fertilized in Chile would also be on the right season cycle for the southern hemisphere, a significant advantage.

But Nagasawa-san had no expert advice to offer about raising adult bloodstock. Such a practice simply wasn't a part of Hokkaido hatcheries because it wasn't necessary. Each year, hatchery workers obtained bloodstock from among the many fish who reliably returned to the island's rivers. JICA officials thought that pen culture was a bad idea. "Why are you trying to teach things that aren't done in Japan?" they questioned. But after Nagasawa-san insisted, JICA sent the net appropriate for ocean fish culture that Chile project staff wanted. The plan was this: Although they

would continue to release most of their fish to migrate to the ocean, they would keep some in captivity and raise them to maturity so that they would always have a ready supply of eggs that could not swim away. Because adult salmon crave saltwater, they placed the pen for adults in a nearby fjord. Every aspect of the pen culture was novel for the team, but they somehow made it work.<sup>70</sup>

Yet, even a steady supply of local eggs did not solve their problems. Chilean-born salmon still didn't return to the river of their birth. The team considered still more alternate explanations for their problems. Perhaps the salmon were surviving to spawn, but they were spawning in other rivers rather than returning to their home stream. Maybe the timing of the currents wasn't right, and they didn't have time to get all the way back north to lay eggs, and so chose to do so in remote rivers further to the south. "Or maybe we just didn't have enough eggs, and we just didn't release enough fish," Nagasawa-san thought. "In that environment, if you get a one percent return you'd be lucky." Finding the handful of surviving fish along the vast Chilean coast would be like searching for a needle in a haystack. As technological solutions failed, Nagasawa-san drew on his faith in salmon and God. "If you think about it, it's really hard on the eggs and fry to transport them all the way to the tip of southern Chile. All you can do is leave it to the fish, to release them in this place and pray to God that they come back somewhere, anywhere. It just isn't about technological issues after that point. Just prayers for divine intervention (*kamidanomi*)."

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<sup>70</sup> The exact date when these efforts began is unclear, but in 1982, they succeeded in harvesting the first eggs and milt from salmon reared to reproductive adulthood in Chile (Hosono 2010: 46).



Although the salmon project team were frustrated by the lack of returning adult salmon, they never doubted their goals. They firmly believed that salmon were good for both the economy and the soul. Nagasawa-san saw salmon as a fish of the global north, a literal embodiment of civilization (*bunmei*). And as a Christian, multiplying the fishes to help the poor fit perfectly with his cosmologies, even if those fishes were ultimately destined to be exported to Japan. No one involved in the salmon project worried about introducing a non-native species. "The idea that this was an non-native species that might damage the environment, nobody ever said anything about that," Nagasawa-san recalled. "Rather, everyone was interested in how the economy might become more active. . . . If you look at geological time, species have always been moving around." He felt he was creating a new ecology, a new salmon constellation, but he saw this as exciting rather than as problematic. "In Hokkaido, it's bears and salmon, right. In Chile, it was flamingos and salmon." For his own part, Nagasawa-san also firmly believed that the southern hemisphere was at a lower stage of development, environmentally and culturally, and that this not only justified salmon introductions, but made them a virtual necessity. He perceived extra room in the incomplete ecosystems of the southern hemisphere, and he believed that such space would allow new species to coexist, rather than displace, older species. Bringing salmon to Chile was part of finishing God's work: "Why did God not put salmon in the southern hemisphere? I guess He left that for humans to do."

At the same time that Nagasawa-san was very committed to the scientific method, he also believed that the final phase of the salmon project could best be

understood through languages of faith. As year after year, salmon failed to return to Coyhaique, the project came under criticism from the Japanese government as a pie-in-the-sky project – a waste of money and time. But Nagasawa-san refused to abandon his faith. He believed, despite the lack of confirmed returns, that salmon were indeed swimming in the South Pacific. Like Christians, the salmon needed time to grow in their faith, in their case their faithfulness to a single river. They needed to go through a process of evolution and adaption. Nagasawa-san likened the salmon to the Israelites; they were living in diaspora, and struggling to make their way in a new land. Nagasawa-san believed that God was testing his faith, much as He did to Job. In that context, to give up on the salmon would be to give up on God.

During the eleventh hour of the salmon project, after the Japanese government had already decided to cancel in the following fiscal year, God finally spoke to Nagasawa-san through the salmon. In 1986, seven adult chum salmon were found in a river near Punta Arenas, far south of the project area (See Shimura et al 1986: 17). The fish were healthy, mature, and robust, the size of 5-year-old salmon in Hokkaido. For Nagasawa-san, the signs were unmistakable. Seven is the divine number of the Bible, he told me. Seven is the number of perfection and completion: the seven days of creation, the seven churches in Revelations, and the seven angels in the Gospel of Luke. Nagasawa-san saw the name of the river to which the fish returned as yet another mark of God's hand on the salmon project. The river was called *Rio Ultima Esperanza* – Last Hope River (*saigo no kibo*) – and the salmon's appearance there

both brought a final sense of hope to the salmon project and reminded Nagasawa-san of the ultimate hope provided by God through the story of Jesus.

Even in the final year of his life, as Nagasawa-san faced seemingly endless suffering – hospitalization for gastrointestinal problems, a son’s suicide, and a cancer diagnosis – he continued to believe in God and salmon, or perhaps God through salmon. He believed that the project would have been a huge success with bigger numbers of fish. "I really think it was possible. If we tried it again, I do think it would work. I would have liked to have tried it again, but the Japanese government was tired of it, and then the bubble burst and all." He also fervently believed that the project had not been a complete failure, and that in some remote small river in southern Chile there was an as-of-yet undiscovered population of chum salmon. For Nagasawa-san, the story wasn’t over, the final chapter of the novel not yet written. The fish were still out there because they had to be.

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Nagasawa-san built webs of dreams through knots of comparison. It was a practice of multidirectional weaving: his dreams pulled him into comparisons, while his comparisons compelled his dreams. Throughout, dreaming practices of the JICA salmon project he led were not the stuff of the clouds. They were rooted in embodied comparisons of landscape and fish genes and discourses of development in which biography and geography, ecology and economy, all mattered. Nagasawa-san, as we saw, did not “dream up” his dreams on his own. As they turned fuzzy project plans into actions on-the-ground, the JICA project participants patched together – and

ultimately reworked – a multiplicity of circulating dreams. In doing so, they brought the Japan-Chile salmon project into being by making a plethora of cross-cutting comparisons – between things as diverse as rivers and relations to “the West” – hold together as they simultaneously fell apart.

**Chapter 4**  
**Of dreams and shadows:**  
**The co-evolution of salmon in Hokkaido and southern Chile**

**Introduction: Success or failure?**

In March 2011, I stood on the metal deck of a salmon farm a couple hundred meters off the coast of Chiloe Island. Wearing a bright orange life jacket and swaddled in a plastic gown, I had been required to disinfect my rubber boots and hands twice before I was allowed onto the floating platform. Without the JICA project, this farm would almost certainly not exist and, without my connection to Nagasawa-san, I would not have been allowed to visit it. During my travels in Chile, fisheries professionals had repeatedly warned me that I would likely never be allowed to visit a salmon farm because most facilities – paranoid about disease transmission in the aftermath of a huge outbreak of a fish virus – had barred visitors. Furthermore, as a young white woman, I faced the added burden of fitting the “Greenpeace” profile and was likely to be mistaken for an undercover radical environmentalist. Yet here I was, standing next to farm manager Roberto Garcia, on a scaffold of gently rocking walkways that surround a series of square net pens filled with approximately 3-inch juvenile coho salmon. Garcia is a former JICA project member, and any friend of the project was clearly a friend of his. Garcia was deeply grateful to the JICA project, which he credited with transforming both the economies of southern Chile and his own life. “Everything I know about salmon I learned from the JICA project,” he said. “It has shaped everything for me.”

But for along time, JICA’s reviews of the salmon project were lukewarm. Quite a few JICA officials saw the salmon project as an embarrassment – as a project that completely failed to achieve its technical goals of transplanting Japanese chum salmon to Chile. According to Nagasawa-san, “the people who authorized the funding for the project said ‘you spent that much money and don’t have any results? It’s over.’” On one hand, the JICA project and its most important comparisons did fail. The rivers of Chile and the water currents of the southern Pacific Ocean weren’t similar enough for Hokkaido chum salmon. The kind of transplantation program that had successfully introduced chinook salmon to New Zealand had proved unsuccessful here. But on the other hand, the JICA project turned out to be wildly productive – just not in the ways anticipated. While it did not directly reproduce Hokkaido salmon in Chile, the JICA-Chile project helped spawn the farmed salmon industry in its southern coastal regions – an industry whose annual sales were worth about \$3 billion in 2011 (Esposito 2011).<sup>71</sup>

In the mid-1980s, the Chileans who trained under the JICA scientists put the fish-rearing skills that they had acquired through the project to use in new ways. They combined what they had learned in Japan with techniques they picked up from Norwegians to develop their own version of fully-captive, pen-based farmed-salmon aquaculture. Instead of releasing fish into the ocean and waiting for them to return, the new farmed-salmon systems kept the salmon enclosed in pens throughout their

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<sup>71</sup> In 2007 and 2008, the value of Chilean farmed salmon plummeted when infectious salmon anemia (ISA) crippled the nation’s farms. In recent years, the industry has rebounded, and it is expected to continue to grow (Esposito 2011).

lives so that they could not slip away into the vastness of the southern seas. Around the same time, the Chileans also made an important discovery: that coho salmon, a species found in the U.S. and Canada, and Atlantic salmon, a species common in northern Europe, could be much more easily raised there than Japanese chum. With such modifications, the Chileans began – at last – to produce marketable numbers of adult salmon. Because so many of the initial Chilean salmon farmers had connections to the JICA project, they found it easy to market their aquatic crops to Japanese buyers. Thus, throughout the 1980s and 1990s, as Chilean fish production expanded at an astonishing rate, these South American-produced fish became a staple for Japanese families and sushi businesses.<sup>72</sup> The JICA project’s failed comparisons – those that sought to transplant Hokkaido chum to Chile – had clearly sparked something more than simple failure.

This chapter examines that “something more” by tracing the afterlives of the allegedly “failed” JICA project. While the JICA salmon project did not produce the exact fish of its dreams, many of the agency’s dreams did indeed come true. Although the project did not achieve its technical goals of hatchery-based salmon ranching, it successfully met its most important aims: securing a reliable source of cheap salmon for Japanese markets and aiding Chilean “development.” It did so by articulating dreams, much in the manner we saw in Chapter 3. But such dreams – as they have come into being – have not produced pure sweetness and light. They have also

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<sup>72</sup> Initially, this expansion was largely financed by Japanese, Chilean, and American investors. Although Norwegian capital now plays a large role in the Chilean salmon industry, Norwegian investment did not begin until 2000 (Welle-Strand and Toje 2009: 22).

produced countless shadows – patches of seriously dark effects. The salmon industry that has arisen in the wake of the JICA project has turned the bays and fjords of southern Chile into a Japanese resource hinterland with deleterious environmental and social consequences for a portion of Chilean people and nonhuman organisms. Just as the coupling of Japanese consumption and Southeast Asian crony capitalism has fueled wildly unsustainable forms of tropical timber harvest, mangrove shrimp farming, and palm oil production in Indonesia and Malaysia, the articulation of Japanese desires for salmon with Chilean elites’ dreams of economic success have caused problems within the lands and waters of southern Chile. This chapter tracks these shadows.

However, the story does not stop there. This chapter attends not only to the “shadows” that the salmon industry produces in Chile, but also to what one might call the “shadows of the shadows” that the Chilean salmon industry casts back onto Japan proper. The Japan-Chile farmed salmon trade has not unidirectionally “impacted” the ecologies of Chile; rather, it has yoked the salmon worlds of Japan and Chile together in unexpected ways that have reconfigured human and nonhuman lives on both sides of the Pacific. As cheap Chilean salmon have flooded Japanese markets, the price of domestic salmon has plummeted and sent Hokkaido fishing communities into a panic, disrupting existing economic patterns and endangering livelihoods. Still, the shadow of a shadow is not always more darkness. Although the large imports of Chilean fish have put salmon prices into a tailspin, they have also opened up spaces for a variety of new salmon-human encounters in Hokkaido. With a global glut of farmed fish,



Japanese salmon are no longer viewed as a critical resource for food security that must be strictly managed by the state. While the resulting decentralization and privatization of salmon management has not been entirely “good,” it has indeed allowed for the development of important new forms of ecological conservation and watershed restoration in Hokkaido.

Recent scholarship in political ecology and environmentally-inflected world systems theory has drawn much needed attention to the ecological degradation and social upheaval that unequal relations of exchange often produce in peripheral areas. It has also highlighted how core areas’ imports of natural resources from peripheral regions fuel the accumulation of surplus economic value, as well as how core areas’ exports of pollution to peripheral areas transfer environmental vulnerabilities. But while such research has powerfully illustrated how production and consumption in core regions radically alters the landscapes of peripheral areas, it has rarely questioned how the environments of so-called core regions are also remade through such transnational exchanges. This chapter directly engages that gap by exploring how the trade in farmed salmon between Chile and Japan is simultaneously producing not only the “expected” environmental damage in southern Chile but also unexpected practices of environmental conservation in northern Japan. In doing so, it shows how geographically distant ecosystems can play critical roles in each others’ on-going formation in ways that call us to better integrate political economy with landscape ecology.

### **Dreams come true for JICA project Chileans**

In contrast to the initial Japanese assessments of the JICA project, which deemed the endeavor a failure, both Nagasawa-san and the Chileans involved in the project always saw it as a success. One day, as we sat in a smoky Sapporo café, Nagasawa-san showed me a Spanish-language magazine circa 2007 with an article that profiled the “Top 12” most influential people in Chilean salmon aquaculture. Among the portraits, Nagasawa-san pointed out the faces of six JICA project members who had received training at Hokkaido hatcheries.<sup>73</sup> As the JICA project wound down in 1985-1986, Alejandro Marquez, Roberto Garcia, and the other Chileans involved with JICA did not give up on the silvery fish. Instead, they founded their own salmon enterprises, hired each other, and began building what would become a revolutionary farmed fish industry. The JICA project, they say, was of great importance to both their own success and that of the larger industry. Through its technical training efforts, the JICA project indirectly provided a foundation for the larger Chilean salmon industry.<sup>74</sup> Before JICA, Chile had no native salmon populations and, thus, no salmon scientists or salmon-focused fisheries education programs. As a result, there was a complete lack of expert knowledge about salmon in Chile. Although the JICA project did not turn out as expected, the knowledges that

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<sup>73</sup> For an image of the magazine and more info, see Hosono (2010: 149-150).

<sup>74</sup> After the mid-1980s and the end of the JICA project, Norwegian companies began to have an increasingly strong influence on the Chilean salmon industry. Until 1987, only Pacific salmon were reared in Chile (Phyne and Mansilla 2003: 112), and it was not until the early 1990s that Norwegian capital and practices became significant in Chile (See Katz 2006 on this point. I must note, however, that I strongly disagree with the history of the Chilean salmon industry as recounted in this article.)

the Chileans gained provided what they needed. “Salmon ranching did not work economically, but it transferred knowledge,” explained Alejandro Marquez, a JICA-Chile participant who went on to co-found one of the nation’s largest farmed salmon companies. “We could take parts of that [knowledge] and apply it to farming. And it *worked.*”

In order to succeed, the Chilean salmon industry needed to be able to produce healthy juvenile salmon that would thrive once they were put into the saltwater net pens. The freshwater production techniques that they needed to accomplish this were nearly identical to those that they learned under JICA’s Japanese-style ranching system. At the JICA hatchery – as at all Japanese hatcheries – technicians must produce exceptionally strong juveniles if they are to have even a modest chance of surviving in the open ocean. “When you’re making a smolt, you’re making a fish that will live one year or more in another environment,” explained Marquez, “so the quality of the fish has to be very good so [it] can perform very well in those other conditions.” Such knowledge about how to produce optimally healthy smolts was a major asset for Marquez and others as they began producing juvenile fish for their pens. Much of the trick to producing robust juvenile fish, they knew, had to do with proper nutrition. Marquez had extensively experimented with fish diets at JICA, and one of his most important insights was the importance of micro-blending. Early fish foods were unsuccessful in large part because ingredients were not well mixed. When tiny salmon took a bite of a fish pellet, they might be getting all fat or all protein depending on the part of the pellet that they munched. The grinding and mixing

techniques were not evenly distributing the component parts of the feed, and as a result, the small fish were not getting the balance of nutrients that they needed to grow and thrive. By pioneering improved feed grinding and mixing techniques, the JICA project helped pave the way for improved fish health. With such experiences under his belt, Marquez co-founded a specialized feed production plant along with his fish farms when he entered the private salmon sector.

From the JICA project, Marquez also knew how to raise adult salmon to sexual maturity and how to produce his own ova for the next generation of farm-raised fish. While other early Chilean salmon farms were dependent on salmon eggs that they imported from Europe or North America, Marquez's company could make their own ova. By using Japan-based techniques, such as adding chemicals to the water to prevent fungus and other diseases, they ensured a ready supply of quality ova without the costs of egg importation. Based on these kinds of Japanese-inspired hatchery practices, Marquez and other former JICA project staff were able to make the most robust juvenile salmon of anyone in the fledgling salmon farm industry. Their production was so good that they began selling their extra smolts to other ocean-based salmon farms, which lacked the expertise to produce vigorous young fish in freshwater environments. Of course, such opportunities were a financial boon, but the benefits of their Japanese training went beyond their business balance sheets. "We developed self-confidence," Marquez said.

Today, the practices that Marquez's company uses no longer closely resemble those of Japanese hatcheries. The farmed salmon industry now rears Atlantic salmon,

as well as coho and steelhead, and the Atlantic salmon – much more delicate and easily frightened – have very different behaviors from their Pacific salmon relatives.

As Marquez explains,

If you have coho in a pen, you take the feed and scatter it like you would with a chicken, and they jump out of the water to get the food. You do that with Atlantic, and they all run away over to the far side of the pen. When you have Atlantic, you have to have special automatic feeders. They have to be European automatic feeders, quiet, not noisy. You can use that technique with the coho, but the Pacific technique you can't do with the Atlantic. So we mainly use the Atlantic system and put any kind of fish inside of it.

As a consequence of the mixed species production and the finickiness of the Atlantic salmon, Marquez's company has almost completely replaced Japanese technologies with Norwegian-based equipment and methods. But although the traces of Japanese influence on the industry have become increasingly hard to see, Marquez continues to stress the critical role that the JICA project played. Without the JICA project, the salmon industry probably would have eventually developed in Chile anyway, he thinks, "but not with the strength that it did. [The JICA project] was very, very important. It was in the right moment."

The JICA project also gave the Chileans a ready-made market. After their travels in Japan, the Chileans already had connections with fisheries professionals in Tokyo and Hokkaido, understandings of Japanese business practices, and a real respect for Japanese demands for high-quality products. According to Marquez,

The Japanese were confident that Chilean products would be good because the Chilean technicians had been trained in Japan and were using Japanese technologies. But more than that, this is something personal, something human, we had spent time in Japan. There had been a change in our minds, and we could see that [the Japanese] were very honest. It was impressive for us – to see the honesty. We could understand what they want. When the

Japanese [buyers] came to Chile to deal, to begin buying salmon, the [other] Chileans complained, ‘Oh the Japanese they always want something different, they always want something more.’ Well, we *knew* that they are perfectionists. If you go to Japan and you buy something, it is good, it’s perfect. . . I took my wife to Japan three years ago. I wanted to show her the Japan that I knew. We went to hatcheries in Hokkaido. . . My wife knew a lot of the Japanese experts that had worked here – more than 20. And sometimes they complained about the quality of things [in Chile, saying] ‘Oh nothing is good.’ Then she went to Japan, and said ‘Oh, now I understand. Everything *is* perfect [there]!’

Because Marquez had been trained within the Japanese salmon system, his sense of an ideal salmon and of ideal salmon farm practices largely matched those of the Japanese. “That made it easier for us to understand and be with the Japanese,” Marquez explained. “We thought that these are the right things. [For example] we thought that the fish has to have this color.” For example, his company began importing rainbow trout from Sweden and Norway because those fish have the most silver-colored skin, a trait that is especially important to the Japanese. “The Japanese want fish that have that silver, which signals to them that it's not *hochare*.<sup>75</sup> You can have the best meat, but if the skin is discolored, it is second class. Because it is custom.” Knowing this, Marquez was able to improvise with the occasional batches of fish that had slightly darkened skin. “So if we have very good quality of flesh, but discolored skin, we take off the skin [and sell it to the Japanese that way].” In the early days of the salmon industry, when Japan was by far the most important market, Japanese traders looked favorably on Marquez’s company because it “followed their

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<sup>75</sup> *Hochare* is the Japanese word for a fish that has already spawned and who is either approaching death or has recently died. In Marquez’s words, the flesh of a *hochare* “has no color and no taste and it disintegrates.” I agree with this assessment, but I would add that the low oil content of *hochare* makes them very valuable to Ainu people who preserve fish by drying them. (See Chapter 7 for more information).

instructions.” Even Marquez himself saw the profound role that cultural encounters played in allowing his business to thrive, commenting that his stories were likely “interesting for anthropology.”

The JICA project was not only a building block for the salmon industry as such. It was also the stuff of dreams for the individual Chileans involved in the project. With the exception of Marquez, who had a prior university fisheries degree, the project gave skills to people who had little access to education, so the training had dramatic effects on their lives. In the early days of the salmon industry, people who had worked on the JICA project had such rare knowledge that farms allegedly paid them double the salary of other so-called experts. Although some of them are now retired, the majority of the JICA participants rose to high-level positions, becoming presidents of companies or heads of company divisions. For better or worse, the JICA project did not just produce a new industry whose profits were captured by existing elites; it actually produced new elites.

Roberto Garcia, who we met briefly at the beginning of this chapter, is one of these new elites whose entire life was remade by the JICA project. He was a Coyhaique local with a low-level position in the town’s branch office of the agricultural ministry, no post-high school education, and not a lot of prospects for career advancement when he was recruited to work on the salmon project. “The JICA project was my university,” he said, and he managed to turn that training into wealth beyond his wildest dreams. When Garcia first heard about the JICA project, he didn’t really know what to think about it because he didn’t know anything about salmon at

all. On one hand, he thought the project sounded *loco*, but he also thought that if the Japanese were interested in it, then it was probably an idea with merit. He had faith in the Japanese.

When Marquez invited him to join the JICA team, Garcia had no idea how much the project would transform his life. Almost immediately, his respect for both Marquez and Nagasawa-san deepened. “The JICA project was tremendously brave,” Garcia explained. It was so ambitious, and everyone approached it with so much dedication. The project twice sent him to study in Japan, an experience that was both professionally and personally transformational. Garcia, a man whose informal, slang-filled speech style betrayed his humble background, became a world traveler, a sushi aficionado, a small-plane pilot, and a valued salmon expert.

As the JICA project began to wind down in the mid-1980s, Garcia, like the others, began to contemplate what he might do with his skills. He debated whether he should remain a civil servant. For him, the public sector offered stability, but limited chances for advancement. “In the public sector, you can’t really climb the ranks without a university education, but the private sector is more about skills,” he thought. He had a good skill set for growing the emerging salmon industry, but new salmon ventures also entailed risk. Start-up businesses failed and companies merged, often leaving people suddenly without jobs. “In the public sector, they can’t really fire you,” he reasoned. But ultimately, the possibility of earning big money was too much of an allure. Drawing on the technical skills he learned at JICA, he partnered with a group of Chileans to start their own commercial salmon farm. Like Marquez,



Garcia felt that he had a leg up on many of the other business people who were also experimenting with commercial salmon farming in Chile at that time because he actually knew something about salmon from his years working with them at JICA. Although their commercial endeavor focused on coho salmon instead of chum, Garcia found that “the basics are all the same, regardless of species.” When Garcia’s farm began to produce marketable fish, they were able to build strong connections with Japanese buyers. Garcia’s pidgin Japanese, his familiarity with Japan, and the certificates of merit from JICA that adorn his office walls all likely inspired a sense of trust and ease on the part of the Japanese traders who began purchasing Garcia’s fish by the ton. Several years later, Garcia’s company was bought out by the larger salmon farm owned and managed by Marquez and two other JICA project participants. Fortunately, Garcia’s fears of losing his job in the middle of a corporate merger were not fulfilled, and Marquez made Garcia one of his company’s regional managers.

Today, the five Chiloe Island farms that Garcia manages remain well known for their high quality salmon (mostly coho), which they continue to sell to a predominately Japanese clientele. I sit in the back of his SUV as he drives at what seem like a maniacal speed down progressively smaller roads. As we head away from Castro, one of the main cities on Chiloe Island, the road is a paved thoroughfare, but by the time we near one of the five fish farms, the road is a pot-hole-ridden dirt track that seems like it might be impassable with a bit of rain. I am surprised by the poor road, imagining that a large salmon farm would require truck access for delivering juvenile salmon and hauling grown fish off to processing plants. But, as Garcia

explains, only farmworkers and occasional visitors use the road; all other materials arrive and depart by boat. When they harvest the salmon, they suck up the adult fish with a giant vacuum-like tube and take them alive by boat to one of their company's processing plants.

After passing through a metal gate, we arrive at an old European-style farmhouse on a hillock next to a tidal bay. The building with its chipping blue paint has been converted into an office, which is filled with a couple of computers, life jackets, and rubber boots. About 15 people work at the farm, but most of them are out on the platform rather than in the office. After getting outfitted with life jackets (for our safety) and plastic gowns (ostensibly as a sanitary measure) we tromp across the muddy tide flat where we stand and gaze out at the large metal grid that is the salmon farm. A small open motorboat suddenly speeds away from the salmon farm to meet us. When we hop aboard, we are instructed to step directly into a disinfecting footbath and to cleanse our hands with waterless alcohol sanitizer. In a few minutes, when we set foot on the platform itself, we are required to repeat the same hygienic procedure.

Garcia comes here often to simply "hang-out" with the fish for an hour or so. He has an office in Castro from which he takes care of record-keeping, accounting, and other statistical management, but he spends much of his time on the move among the five farms he manages. "You can't grow a salmon sitting at your computer all day," he says. "You have to actually go out and look at the fish. The newer generation of salmon industry people just sits at their desks all day, and if something goes wrong with the fish, they just blame the computer." Through his JICA experience, he learned

the value of “hands-on knowledge” that can only be gained from direct encounters with the salmon. When he spends time with the salmon, he can draw on his instincts to detect problems with feeding regimes or disease long before they begin to affect fish growth statistics. When I ask him exactly what traits he looks for when judging fish health, he can’t explain it verbally. He just senses it, he says.

At the moment, Garcia is checking out his 290-gram fish, which are set to be harvested in six months in November at a weight between 2 and 5 kilos. The fish have come from the company’s freshwater hatcheries in the Los Lagos region, where they were reared in metal troughs and net pens along the edges of freshwater lakes. Garcia throws the salmon a scoopful of food pellets made from small fish, such as anchovies, at a plant a few miles down the road in which his company has a part ownership. Thanks to careful management of the fish, he will ensure that most of them are between 2.5 and 2.7 kilos because that is precisely the size that Japanese chefs and housewives prefer. We stare at the clouds of fish in the mesh pens, 10 meters square 12 meters deep, each containing 24,000 to 25,000 fish. As the fish grow, Garcia will move some of them into 30-meter by 30-meter pens and reduce their densities.

Although they are still the size of anchovies, the fate of these fish has already been decided. They will be headed, gutted, and frozen at a local processing plant, then transported across the Pacific to the Japanese buyers who signed a purchase contract for them about a month ago. Japan is Garcia’s top client and his top priority because they pay very good prices for high-quality products. But Japanese buyers are no easy

sell, he says. “Dedication and hard work” are required to produce fish for them because the Japanese have “very exquisite tastes.” Japanese buyers are “very attentive to *everything*,” he says. In contrast to buyers of other nationalities, who often transact business by Internet or in big city offices, the Japanese typically come to the site to see their fish in production. Japanese feet have probably preceded mine in the white boots that now cover my feet. When the Japanese are onsite, they look closely at the color of the skin, the color of the meat, and what kinds of medications the salmon farm is using, expressing clear preferences based on what sells in Japan. Japanese consumer preferences have indeed shaped Garcia’s production practices. For example, Garcia eschews the 24-hour artificial grow lights that are commonplace on salmon farms that produce for U.S. or Brazilian markets. Although the artificial light speeds up fish growth, it also makes fishes’ skin turn darker. While such a practice makes economic sense for salmon that will be filleted and skinned before they reach U.S. restaurants and supermarkets, such a move doesn’t pay off in Japan, where consumers gravitate toward bright, silvery fish with their skin still on.

Every time he receives a paycheck or sends off another load of fish to Japan, Garcia is grateful to the JICA salmon project to which he feels he owes his personal financial success. He also praises the effects that the JICA project has had on both regional and national economies. Before salmon, there were few jobs in southern Chile, and many people had to migrate to Argentina in search of work. Now, they can stay here, finding jobs at salmon farms, processing plants, fish feed factories, and other related industries. Salmon have also brought roads, airports, and improved

water supplies to rural areas, including the island of Chiloé, where Garcia lives. They have also led to the dramatic growth and modernization of cities like Puerto Montt, where the population nearly doubled between 1992 and 2012<sup>76</sup>. On a larger scale, he says, salmon have helped diversify a nation that was too focused on mining and forestry. Garcia sees the JICA salmon project as a critical part of Chile's economic progress. The JICA project, he says, was "a huge wake-up call" to people in Chile who were working on development at the time. Chileans knew that there were possibilities in seafood, but not in this way. They were not thinking about cultivation at all until the Japanese began promoting the idea. From Garcia's perspective, JICA's vision of salmon culture coupled with its investment in Chileans like him has left a powerful and positive legacy – both in his own life and across the landscapes of southern Chile.

### **Japanese dreams come true**

Over time, JICA officials themselves began to view the Chile salmon project as a true foreign aid triumph. In an about-face, they reversed their initial assessment of the project and declared it one of JICA's most illustrious achievements. After all, the JICA salmon project had incited real changes in Chile's economy and developed a solid new source from which the Japanese could obtain desired seafood products.

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<sup>76</sup> At the time of writing, Chile's 2012 census is under review due to concerns about inaccuracies. While the website of the Instituto Nacional de Estadísticas Chile lists information from the 1992 and 2002 censuses, it has taken down all data related to the 2012 census. The 2012 data for Puerto Montt was obtained through another website, <http://www.citypopulation.de>, which continues to list the disputed population numbers.

Instead of interpreting the Chilean salmon industry as a fortuitous unintended consequence of a failed project, JICA officials began to herald it as an outcome of smart project design. By emphasizing human capital development, technology transfer, and the formation of transnational business connections, the JICA project had allegedly built flexibility into its plans so that even if its original tack failed, its larger goals would succeed. Indeed, the JICA project did a superb job of meeting the goal initially identified by the Japanese fish processors who prompted government aid investment in Chile: Creating supply chains that would feed Japan with reliable and cheap imported salmon. Today, Chile – a nation with no native salmon populations – is the world’s second largest salmon-producing nation, and Japan is one of its most important markets.<sup>77</sup> In 2008, over 80 percent of the salmon consumed in Japan came from Chile (eFeedLink 2009). Such supplies of Chilean salmon have been the stuff of dreams for many Japanese consumers. The price of salmon, once so high as to make it a New Year’s delicacy, has dropped so much that the tasty fish is now a staple in convenience store *obento* box lunches. In 2010, salmon bested mackerel to claim the title of most commonly consumed seafood in Japan – a major accomplishment for a kind of fish that did not even make the top 5 in 1965 (IntraFish 2010). Without the flood of Chilean fish, such salmon abundance would never have been possible.

Regardless of its inability to directly produce fish, the JICA project linked Japanese and Chilean salmon worlds in a profound way. By fostering human connections, the JICA project ultimately played a significant part in linking Japanese

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<sup>77</sup> In 2011, approximately 39 percent of Chile's salmon exports went to Japan, 24 percent to the U.S., 10 percent to Brazil and 4 percent to Europe (Esposito 2011).

markets with Chilean salmon producers. As we saw in the previous section, such connections were a boon for people like Marquez and Garcia. But they were also important for the Japanese. The JICA project not only increased Chileans' familiarity with Japanese salmon markets; it also increased overall Japanese familiarity with landscapes of salmon production in Chile. JICA's involvement simultaneously made Chile seem less risky and more accessible to Japanese companies and made Japanese involvements in Chilean fisheries seem less threatening to people in Chile. In short, JICA paved the way for both Japanese trading firms and corporate investment in Chile. For example, thanks to the good rapport established by the JICA project, Nichiro – a Japanese seafood giant – seamlessly created a Chile subsidiary that established one of the first commercial salmon farms in 1981. Today, Japanese companies continue to dabble in Chilean salmon farm ownership with little friction. In 2011, after the Fukushima nuclear disaster and the contamination of Japanese fisheries, the powerful Mitsubishi conglomerate purchased a Chilean salmon farm and announced its plans to expand its holdings in that area (Nihon Keizai Shinbun 2011).<sup>78</sup>

As Chilean salmon have slipped their way into nearly every Japanese supermarket fish counter, the Japanese government has increasingly trumpeted its role in such successes. JICA has published a Japanese-language book that celebrates the salmon project as a model endeavor, and more than one person described the JICA-trained Chileans who are still working in the salmon industry as JICA's

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<sup>78</sup> In 2013, additional Japanese companies expressed interest in investing in Chilean salmon farming (Undercurrent News 2013).

“crowning achievement” (*gyouseki*). In 2011, the Emperor awarded Alejandro Marquez with a prestigious honor – The Order of the Rising Sun, Gold Rays with Rosette – for his contributions “to the promotion of the technical cooperation of Japan in Chile and the stabilization of food supply to Japan” both in his capacity as a JICA project member and as the CEO of a major private salmon company.<sup>79</sup> But seeing the JICA project and the private salmon farms that it helped to produce as unqualified “successes” requires willful ignorance of some of the outcomes of the salmon industry. Salmon dreams, it must be noted, have also produced fishy shadows.

### **Shadows in Chile**

*A dream itself is but a shadow. – Hamlet*

Dreams rarely make for a just world. As the quote from Hamlet reminds us, dreams and shadows come into being together. One person’s dream often produces shadows for others, both human and nonhuman. Neither the Japanese nor the Chilean JICA project members were bad people. The Japanese were sincerely motivated to help lift up impoverished Chileans. Nagasawa-san, for example, believed that poor Chilean fishermen’s lives would be better if they had salmon that they could catch and export to Japan. He really thought that the JICA project was giving the huddled masses of southern Chile both a means of economic production and a meaningful food source – the Chileans would eat some of the salmon, then export the surplus to Tokyo. Nagasawa-san sincerely saw himself as doing God’s work of multiplying the

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<sup>79</sup> See announcement at [http://www.mofa.go.jp/announce/info/conferment/pdfs/2011\\_au.pdf](http://www.mofa.go.jp/announce/info/conferment/pdfs/2011_au.pdf)



fishes – and salmon in particular were a fish that symbolized prosperity, civilization, and bountiful middleclass-ness. There was a certain egalitarian spirit in Nagasawan’s dreams of giving Chileans salmon of their own.

The JICA project Chileans were similarly driven by admirable desires: nationalistic ones to help Chile modernize and to lift themselves up in the process. They worked hard to make from scratch the new export industry for which their country yearned. They were the noble pioneers. As Marquez describes it, as the first generation of salmon farmers, they were more driven by challenges, dreams, and curiosities about what might be possible than by sheer profit. “First generation people had to know everything – nutrition, fish pathology, everything. Second generation are more specialized and they are more businessmen. We were more technicians; they are more businessmen.” But in their passion to develop a new industry, people like Marquez did not dwell on the environmental and social costs that they externalized. These early salmon farmers were not “bad” people. They were “good” people, but people whose forms of goodness did not work out very well for some of the humans and nonhumans around them. For all kinds of reasons, including thorough training in JICA models of hatchery production that had themselves been tools for Hokkaido watershed destruction and Ainu disenfranchisement, they did not take seriously issues of ecosystem change and social justice.

What are the shadows of this industry in Chile? How did they appear? Paradoxically, as Chile’s salmon farming industry has brought salmon and people under its control, it has increasingly spun out of control. Salmon are now subject to

intensive feeding programs, their growth rates are checked daily, and their movements are tracked by underwater cameras. Surveillance and bodily discipline have also been implemented for salmon processing plant workers who are now subject to the time clocks and to the health checks required by HACCP sanitary certification programs.<sup>80</sup> Yet at the same time that its fish (and laborers) are increasingly monitored and contained, salmon farming – in the eyes of many of its participants – has gone completely wild. As bizarre as the original JICA dream may have been, the Chilean salmon industry has only become crazier. Intensive management of bodies has produced an industry that seems unmanageable. Disease outbreaks sweep through salmon stocks, fish bandits steal salmon from farm pens, and fish prices are, in the words of one trader, “just as volatile as stocks on Wall Street.” Everything is on the move, and rumors rule. “One person says that a sickness is appearing and the market goes crazy,” a broker told me.

But the wildness of farmed salmon at once produces unpredictability and inevitability. As one Japanese fish trader told me,

For me the past and future are all stuck together. When I came to Chile, I thought that the industry would grow, but I never thought that it would become this big. I’ve also been to Asia and seen a lot of aquaculture there – shrimp, *unagi*. The final destination for all of these is always the same, I tell you. Increase the size of the industry, make a lot of money, there’s an illness, and then everyone runs away [from the mess] and the cycle starts over again. Unless we fix it, it is just going to be the same thing.

That “same thing” is a landscape in ruins, a place made wild in the way Deborah Bird Rose uses the term in the context of Australian colonization. For Rose, “wild” does

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<sup>80</sup> HACCP is an acronym for “hazard analysis and critical control points,” a method for preventing and identifying unsafe food production practices.

not refer to pristine nature; it is not the wildness of Thoreau or Muir. Instead, her “wild” is that of craziness – of things gone wild. It is a wildness of uncontrolled proliferation – a combination of hope, fear, and imperialism gone critical (see also Tsing 2005). As Rose writes, “wild people (colonizers) make wild country (degraded, failing). Colonization and the wild form a matrix: settler societies and their violence” (2004: 4). When Rose and an aboriginal looked out over the landscape of inland Australia, they “were looking at a wilderness, man-made and cattle-made. This ‘wild’ was a place where the life of the country was falling down into the gullies and washing away with the rains” (Rose 2004:4).

But coastal southern Chilean landscapes are made wilder by the fact that nothing is washing away. The problems of salmon farming arise from inappropriate accumulation. In the stagnant water areas where salmon farms must be located, their refuse piles up around the net-pens like the debris of modernity in front of Walter Benjamin’s angel of history. Salmon farming cages cannot be located in the open ocean where wastes would disperse over a larger area. The constant wave action would destroy the net pens. Thus, in order to preserve their equipment, salmon farmers must locate their net pens in fjords, small bays, or other protected waters. Yet the sites that protect nets are the same sites that exacerbate water pollution. Calmer and shallower waters have fewer currents and waves to sweep away fish wastes. At the same time, they are home to diverse collections of estuarine and intertidal organisms that are particularly sensitive to water quality changes. Chemicals applied to nets to prevent algae growth, uneaten fish food, sea lice, and the virus that causes

infectious salmon anemia all accumulate in the waters surrounding salmon farms.<sup>81</sup> Because the high-density pens used to grow salmon often breed diseases as fast as they grow fish, workers dose the salmon with antibiotics that contaminate the surrounding waters. With so many fish crowded into a small area, even something seemingly “natural,” such as fish excrement, can become a major pollution problem, killing nearby aquatic organisms and creating a “dead zone” on the ocean floor.<sup>82</sup> While some of these problems are inherent to the business of salmon farming, they are made much more acute by the specifics of southern Chile – particularly its relatively shallow bays and weak environmental laws. One can see the toxic conjunctures of geology and neoliberal economic policies in statistics about antibiotic use on salmon farms: Despite its smaller total fish production, the Chilean salmon industry used almost 600 times more antibiotics in 2007 and almost 350 times more in 2008 than did the Norwegian salmon industry, which is located in a region of deep fjords, strong tidal flushing, and stricter government oversight (Barrionuevo 2009).

The pollution from salmon farming has even begun to affect the salmon industry itself. In the immediate area around Puerto Montt, water quality has become

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<sup>81</sup> Since 2007, the Chilean salmon farming industry has been struggling to control a series of outbreaks of infectious salmon anemia (ISA). Although ISA does not pose a direct risk to human health if ingested, it causes widespread death in infected salmon. Because it spreads like wildfire when fish are in close proximity, it presents a serious risk to the economic success of fish farms. Pacific salmon seem relatively resistant to ISA, and to date, outbreaks are common only among farmed Atlantic salmon (Rolland and Winton 2003). However, there is a fear that the virus may mutate, and the disease may spread to wild Pacific salmon populations. For more on ISA and the Chilean salmon industry, see Asche et al 2009.

<sup>82</sup> See Buschmann et al 2006 for an overview of the ecological impacts of salmon farming in southern Chile.

so poor that some salmon farms have elected to close their operations there, unable to produce decent fish in degraded waters. A trader described the nearly inedible salmon from a now-closed facility in a heavily polluted area: “[It] was close to the packing plants in Puerto Montt, so the fish should have been really fresh, but they were like ‘zombie’ fish. It was like you had let them sit around for a day [before processing them].” Until about five years ago, one could see fish farms and processing plants out the windows of Puerto Montt’s hotels, but more and more companies are moving their operations further south in search of cleaner water as they exploit these poorly regulated (and literally fluid) resource frontiers.

Unfortunately, the effects of salmon farms have not been limited to ocean waters. Hatchery operations that use lakes to produce juvenile salmon have generated another set of pollution problems in inland waters. Rivers, too, have been altered by the industry. They are now filled with escaped farm salmon that have begun spawning in their gravels. When the salmon die after reproducing, their decomposing bodies release large quantities of marine nitrogen and phosphorous into watersheds, changing both riverine and riparian nutrient cycling patterns (Helfield and Naiman 2001, Hocking and Reimchen 2002, Naiman et al 2002). In addition, upon hatching, juvenile salmon feed on stream macroinvertebrates and small fish, altering food webs and potentially displacing other species.<sup>83</sup>

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<sup>83</sup> For conservation biologists’ take on the effects of Pacific salmon on the watershed ecologies of southern Chile, see Correa and Gross 2008, Soto et al 2001, Soto et al 2007, and Pascual and Ciancio 2007.

The shadow that salmon farming has cast over southern Chile extends not only across its waters, but also across the lives of its people. Although the industry has undoubtedly brought more cash to coastal communities, it has also taken some things away. Prior to the introduction of salmon, the residents of the communities where salmon farms are located – many of who (not coincidentally) are indigenous peoples – harvested a variety of fish and shellfish. But pollution from salmon farms has led to a sharp decline in artisanal fish harvests, and the property rights schemes that grant concessions to salmon farms have resulted in an enclosure of seashore commons that has limited shellfish collection. Without such resources, residents have little choice but to competitively scramble for wage employment in the salmon industry, where pay is low and anti-union activities are common.

Men typically find work on salmon farms, while women commonly labor in processing plants, but this is not a hard-and-fast rule. In a place where enforcement of labor laws is scant, men's work on salmon platforms can be particularly unsafe. By far the most dangerous job in the salmon industry is that of the divers who inspect and repair the below-water portions of net-pens. The diving depths are not too deep – approximately 30 meters – but the divers are often poorly trained and outfitted with out-of-date equipment. Salmon farms often subcontract divers through small local companies, who, according to one person, sometimes “recruit” divers by driving around town in a truck (picking up any available men) and “train” them by giving a

few instructions on the way to a salmon farm. As a result, divers die far more often than they should.<sup>84</sup>

Processing plants are far less hazardous. Because salmon factories must meet strict hygiene standards in order to export their products to Japan, Europe, and the United States, Chilean salmon processing plants are like high-tech cleanrooms. They are not horrible, dirty places like the slaughterhouses depicted in Upton Sinclair's *The Jungle* (Sinclair 1906). But neither are they pleasant or worker-friendly. On the salmon "dis-assembly" line, employees have to debone fillets at the rhythm of a machine that spits out 2.5 slabs of salmon per minute.<sup>85</sup> The height of the working tables is typically not adjustable, putting extra strain on short people who have to reach up and tall people who have to bend down to do their work. Due to the cold and damp conditions, some workers have problems with respiratory and fungal skin infections. Urinary tract infections, too, are a common problem for women who work in the plants because – regardless of labor laws – they do not feel free to use the bathroom regularly, lest they get labeled as "a problem employee." Workers also often hide health problems because they fear being seen as sickly. As one former worker put it, "to become ill is to be fired." In addition, long working hours and lengthy travel times to and from plants often cause hardships for female employees

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<sup>84</sup> According to Ecoceanos, a Chilean NGO, more than 50 salmon farm workers died between 2005-2007 alone. These deaths included many divers.

<sup>85</sup> The information in this paragraph is based on interviews conducted in Puerto Montt and Santiago in 2011.

who struggle to make childcare arrangements. Women often report that the new ways that factory time structures their days has dramatically disrupted their families.<sup>86</sup>

But salmon industry employers know that southern Chilean residents who seek salmon industry employment have few other job prospects and are in no position to bargain for higher wages or demand better working conditions. By hiring people on short-term contracts, salmon processing plants create constant instability and maintain what one union activist called “an army of unemployed people” whom it is easy to get to do undesirable jobs. When people are preoccupied with keeping their job or finding their next one, there is little space for them to make demands on their employer. To do so is to risk becoming labeled a *conflictivo*, a person who makes trouble, a status that means one will not be hired for another contract. Union activists have tried to organize salmon industry workers, but they have not had the success that they would like. According to one union organizer, the salmon industry’s pay and working conditions have improved somewhat in recent years, “but we still haven’t arrived at something that we consider decent.” Some companies, the organizer says, are relatively responsive to union demands, but others – particularly Norwegian-owned firms – try to put on a good show without actually addressing workers’ concerns. “[Corporate responsibility] is just make-up,” he stresses. “Giving computers to rural schools isn’t solving the problems.”<sup>87</sup>

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<sup>86</sup> The information in this paragraph and the following one is based on several interviews that I conducted in Chile in March 2011 with NGO groups, a worker’s union, and several salmon farm workers.

<sup>87</sup> For more information on salmon farming labor issues and health-related impacts, see Aguayo 2008 and Latta and Aguayo 2012.



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Although he remained a staunch supporter of Chilean salmon, at times even Nagasawa-san gave a mixed appraisal of what might be seen as the products of his work. He was deeply proud that he had helped to empower some Chileans to start their own businesses. When we shared meals, he enjoyed showing me recent pictures of the well-built streets, tidy sidewalks, and new buildings of the Chilean salmon industry towns, a process of modernization that he saw as both valuable and a result of his contributions. But Nagasawa-san also had some regrets. He regretted that larger numbers of poor rural Chileans didn't benefit more from salmon. He was dismayed that Chileans have increasingly ended up becoming paid laborers for salmon companies that are not even owned by Chileans but by Norway-based multi-national companies. He was frustrated, too, that, in the midst of the farmed salmon boom salmon do not circulate well in Chile. The high-quality fish are exported, and Chileans are left with the dregs. Several Chilean salmon traders told me that much of the salmon for sale within Chile has high levels of antibiotic residue that would render it unfit for export, a process with strict controls and mandatory health certificates. In the end, the salmon industry has neither empowered the majority of rural Chileans nor brought them high-quality salmon to eat. Rather, it has reinforced global hierarchies in which rural Chileans are still "lesser than" the distant consumers who eat the best fish they produce. Nagasawa-san had envisioned a more just salmon world. But as is so often the case for yearnings entangled with the oxymorons of liberatory imperialism and empowering extraction, his dreams remained only partially

fulfilled and marred by shadows.

### **Shadow of the shadow in Hokkaido**

*For light . . . is the shadow's shadow.* – Somtow Sucharitkul (1983)<sup>88</sup>

It would be wrong to assume that the effects of the Chilean salmon industry lay exclusively, or even primarily, in Chile. Over the past two decades, Chilean farmed salmon have come to substantially reconfigure salmon management practices in Hokkaido, despite being located half a world away. In Japan, Chilean fish have remade salmon worlds at multiple scales – from taste buds to landscapes – in ways that make us rethink scale itself. In this final section, I want to bring the “shadow” of the industry in Chile into conversation with what I call the “shadow of the shadow” in Japan. As Chilean salmon have first trickled then flooded into Japan, they have effected changes in sites far beyond the fish counter, the kitchen, and the dinner table. They have remade Japanese salmon ecologies in tandem with Japanese salmon supply chains. This ricocheting of effects between Chile and Japan, however, is not a mimetic process; it has not just produced more of the same in another locale. To be sure, the glut of Chilean farmed salmon has caused some “shadowy” effects in Japan: it has so severely depressed fish prices that Japanese salmon fishermen have been left struggling to reinvent their own industry in order to stay financially afloat. But this “shadow of the shadow” has also generated other diverse, and more ostensibly positive, changes in Hokkaido’s salmon industry. By decreasing Japanese dependence

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<sup>88</sup> I borrow this quote from Tsing (2009: 40).

on domestic chum, farmed salmon have shifted the focus of Hokkaido salmon management from food security to ecological conservation, altering watershed management practices in some parts of Hokkaido, incentivizing fishermen to pursue certified sustainable fisheries, and creating new spaces for salmon-based indigenous politics.

Examining these effects of Chilean salmon in Japan forces us to reconsider the units through which we think about ecological change and environmental politics. Scholarship in political ecology and world systems theory has trained us to look for the accumulation of wealth in “core” areas and the accumulation of environmental degradation in “peripheral” regions. Although such ways of seeing the world provide potent critiques of structural inequalities, they miss the complexities of the landscape changes that accompany transnational trade. Not only Chile’s landscapes are remade in the entanglements of farmed salmon; so too are those of Hokkaido. The changes in Hokkaido’s salmon landscapes, which are deeply linked to the farmed Chilean industry, show us that we must look at the environmental effects of natural resource industries beyond their immediate sites of production. Salmon trading binds these faraway landscapes into unexpected relations of co-evolution – not only of “discourse” or “theory,” but also of flesh. Just as we cannot understand the Chilean farmed salmon industry without careful attention to histories of Japanese comparisons, so too can we not understand Hokkaido salmon conservation projects separate from Chilean salmon production. What we need here, above all, is a patchy geographic approach in which landscapes at a distance are recognized as partially connected.

Even without proximity, southern Chile and northern Japan are mutually remaking each others' multi-species relationships in ways that matter.

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At first, it didn't look like Chilean salmon were going to have much impact on Japanese salmon worlds. In 1986, the first year when sizable amounts of Chilean salmon reached international markets, there were so many salmon from Alaska that the Chilean fish seemed unnecessary. Although the JICA project had conjured a Japanese market thirsting for South American salmon, that moment had passed. By the time Chilean salmon producers began making commercial quantities of fish, there was no longer a critical need for such salmon in Japan. Improved hatchery techniques had boosted domestic salmon harvests, and the booming Japanese economy meant that average Japanese families had no trouble paying top dollar for expensive sockeye salmon imported from Alaska. As a result, there was no readymade market into which they could effortlessly slip. Chilean salmon farmers thus had to cultivate desire for their product as much as they had to cultivate salmon.

During that first season, only a tiny handful of Japanese traders had any interest in Chilean salmon products. But Chile's salmon farmers and government officials were optimistic. ProChile, the government's trade promotion arm, hired Enrique Castañeda to expand the potentially lucrative, but seemingly difficult salmon trade with Japan. Convincing Japanese traders to buy Chilean salmon seemed complicated, mysterious, and downright difficult. Castañeda's job was to be a modern day Perry – to open up the “black box” of Japan to the Chilean salmon trade.

Although his background was in fisheries science rather than in business, Castañeda soon found himself in the role of promoter and cross-cultural negotiator. On the surface, selling fish to the Japanese would seem as easy as selling umbrellas in the middle of a sudden rain shower, since per capita Japanese fish consumption is the highest in the world. But when Castañeda went to Tokyo to spread the word about Chilean salmon the unfamiliar product received a lukewarm reception. His fish were not only unneeded but also illegible. “[N]obody understood about the salmon in Chile,” Castañeda said. He encountered all kinds of confusing category problems. Before farmed salmon began to make their mark in Japan, *sake*, the Japanese word for “salmon,” typically referred only to chum (*shirozake*), sockeye (*benizake*), and coho (*ginzake*), while other species such as pink (*Karafuto masu*) and chinook (*masu nosuke*) are grouped as “trout.” Castañeda was marketing multiple species from Chile (including coho, Atlantic salmon, and steelhead), all of which he saw as falling into a single generic category of “salmon,” but he quickly found that category much less solid in Japan. Could farm-raised Atlantic salmon be sold as *sake* or should it just be called *saamon*, a Japanized version of its English name? Were steelhead *sake* or trout? “And the most difficult part,” Castañeda said, “was explaining how we were producing ‘Atlantic’ salmon in the Pacific Ocean. No, no, no . . . it is just a fantasy name [I explained]. It is the same species, it is the same fish.” How could he make sushi shops comfortable with the idea of buying Atlantic *salmon* at the fish market while selling it to their customers as *sake*?

When he arrived at the ProChile office in Tokyo, Castañeda didn't speak any Japanese, didn't have any connections, and didn't know what to do. So he began by phoning the Japanese Seafood Importers Association, which gave him a book with the names of all of the members of the association. Castañeda combed through the book and made a careful list of all of the companies, big and small, that were dealing in salmon. Then he went to visit them in person, one by one. Although all of the companies received him politely with a cup of green tea, only about four or five out of approximately 200 companies showed any interest in Chilean salmon. But it was a start. Castañeda then began working with the ProChile office to organize salmon trade tours to Chile. "We paid for the tickets, and selected and invited people. That started working," he said. Lured by a free international trip, more and more Japanese importers visited Chile, learned about its salmon, and became acquainted with Chilean salmon farmers.

But generating interest in Chilean salmon among Japanese salmon traders was only the beginning. The Japanese traders had to negotiate a market for the new Chilean products, which were noticeably different from other salmon at Japanese stores and restaurants. As we sit at his desk in Puerto Montt, Shinji Aoki, a Chile-based Japanese salmon trader, pulled out his salmon color fan and pointed at a very pale pink color. "At the beginning, it was like this," he said of the flesh color of Chilean salmon. "We were like 'that's enough already.' We don't need [such poor quality salmon]." Based on their experiences with Norwegian salmon, Japanese traders also had prejudices against farm-raised fish. "The first Atlantic salmon that

entered Japan was from Norway, and the food pellets they use are different, I think. When you eat [that farm-raised salmon], it really stinks [of fish food] (*Kusai n desu yo*). It tastes bad, you know (*mazui n jya nai desu ka*).” But in the late 1980s, Chilean salmon was so cheap that Aoki-san decided to take a gamble: “The first offer of Chilean salmon sold for a little less than \$3 a kilo. At the time, Alaska salmon was selling for 2000 yen per kilo [roughly \$14].<sup>89</sup> When we looked at the color we were like, we don’t need it, but if it’s only \$3 well, I guess let’s buy some.”

To his pleasant surprise, in his opinion, the Chilean fish didn’t stink of fish food like those of Norway, something he attributes to Chile’s high quality fishmeal. (“It just smells like *furikake*!<sup>90</sup> Also, if you chew on the pellets, they aren’t stinky or bad tasting.”) But he had to figure out who might buy these new salmon, each species with its own traits. Coho flesh was so soft that it didn’t make good sashimi because it was, in Aoki-san’s words, *gucha-gucha* or mushy. Coho didn’t work especially well in Japanized “Western” cuisine either, because when chefs took the skin off and the bones out to make fish easier to eat with a knife and fork, the coho meat would fall apart. But when grilled in the context of *katei ryouri* (Japanese homestyle cuisine) – the bones and skin left on and the flesh firmed up by salting – the rich fatty flavor of the coho made it an appealing salmon choice. In contrast, both Atlantic salmon and trout-salmon are firm when raw, retaining their shape when sliced into sashimi and sushi and making them perfect for uncooked preparations. When he began importing

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<sup>89</sup> I estimated this dollar amount using historical exchange rates from <http://research.stlouisfed.org/fred2/data/EXJPUS.txt>

<sup>90</sup> *Furikake* are tasty fish flakes that are sprinkled atop rice.

Chilean salmon, Aoki-san was working for a Sapporo-based importer, and they quickly found that Japanese willingness to eat Chilean salmon varied geographically across Japan. For example, Aoki-san discovered that Hokkaido residents were willing to purchase Chilean-produced *trout-salmon*, but they wanted nothing to do with the softer coho. “People in Hokkaido aren’t afraid of new things,” Aoki-san told me. “But they do know a lot about [seafood] quality.” Because Aoki-san couldn’t sell coho locally, his company began sending it to the Kanto and Tohoku regions of northern Honshu, where people liked the rich flavor so much that they didn’t care about the soft texture.

Over time, fish farmers, exporters, and importers all kept tinkering with words and equivalences in their attempts to build desires for Chilean farmed fish. While Chilean salmon might not be essential to Japanese fisheries markets in the sense that there were plenty of fish in the global market, Chilean salmon producers and Japanese importers worked hard to make their fish seem necessary. They needed to convince Japanese housewives and restaurant chefs that Chilean salmon matched perfectly with their emerging needs for cheap, healthy, and easy-to-prepare seafood. When it came to the allure of their low prices, Chilean fish had a stroke of good luck. In the early 1990s, the Japanese economy crashed. As the need to cut household expenses rapidly displaced desires for opulence, the charms of cheap, farmed salmon began to draw consumers’ eyes away from top-dollar Alaskan fish. But farmed salmon promoters did not just count on historical conjunctures to create a market for them. Piggybacking on state-sponsored nutrition and diet programs, farmed salmon



producers and traders have promoted their fish as *kenkou ni ii* (good for health). In recent years, the Japanese government has encouraged increased consumption of omega-3 fatty acids, found in abundance in salmon flesh, and reduced intake of sodium. Japanese salmon, which have relatively soft, mild flesh, were typically firmed up and flavored through heavy salting. But the firmer and more flavorful farmed salmon were attractive even without salt.

But most importantly, farm-raised salmon boosters have promoted their product as *benri*, or convenient, for everyone. They are *benri* for wholesalers and supermarkets because they are available year-round rather than in a seasonal pulse. They are *benri* for convenience store *obento* lunch box makers because farmed salmon can be made-to-order so that their fillet size fits perfectly into standard plastic trays. And above all, farmed salmon are equally *benri* in the kitchen. Traditionally, housewives bought and filleted whole salted salmon as they prepared elaborate meals for their families. But as an increasing number of women work outside the home and as family life becomes more hectic, fewer people are interested in cooking labor-intensive food. In this context, many people feel that whole salmon are *mendokusai*, a bother or annoyance. Enter farmed salmon. To make dinner, a wife need simply pick up a package of pre-cut Chilean *trout-saamon* sashimi from the grocery store and set it on the table next to the rice that she prepared using an automated cooker. Farmed salmon give her all the benefits of this fish without the hassle. They offer more culinary versatility than their highly salted Japanese cousins, whose sodium levels would over-power most dishes. Added to curries, made into burgers, tossed into

soups or chowders, breaded and fried, or simply grilled, farmed salmon can be served for breakfast, lunch, or dinner within the wide range of *washoku* (Japanese), *yoshoku* (Western) and category-bending recipes that are common in Japanese kitchens. It can be put in the center of an *onigiri* rice ball, served beneath a delicate French sauce, or boiled in salt broth at an Ainu festival. Farmed salmon are also *benri* in that nearly everyone seems to like their taste. Due to their species, diet, and moment of harvest, they are generally oilier and richer in flavor than Japanese chum. This higher oil content makes them fatty enough to appeal to young people raised on a diet rich in foods such as meat and mayonnaise, while remaining tasty to older people who prefer simple grilled fish and vegetables.

As a result of such conjunctures, farm-raised salmon have become so common in Japan that they have come to define normative salmon. While people once yearned for the delicate taste and light pink flesh color of Hokkaido salmon, most Japanese now describe domestic salmon as dry and tasteless, preferring the fatty, bright red flesh of pellet-fed and additive-dyed farmed fish. For the most part, Japanese consumers have literally swallowed such changes in salmon species and culinary practices matter-of-factly and without a second thought. "Frankly, Hokkaido salmon just isn't that good," I once heard a Tokyo resident off-handedly comment. "The taste of farm-raised salmon is just better."

At the same time that Chilean fish captured Japanese taste buds, they – along with other farmed salmon from Europe – flooded markets and depressed global

salmon prices.<sup>91</sup> Yet in Hokkaido, such widespread price declines were compounded by a concurrent increase in regional salmon harvests. Since World War II, Hokkaido salmon had been a scarce commodity, and the Japanese state had carefully managed salmon hatchery production in the name of “food security.” But almost overnight, management practices centered on salmon shortage no longer made sense. Chilean salmon were displacing Hokkaido fish from store shelves as regional fishermen were recording record catches. In the 1990s, Hokkaido’s lower-grade male salmon – fish without any roe – were worth so little that they were sometimes left to rot on the docks. To deal with this emergency, the Hokkaido Federation of Fishermen’s Cooperatives used their financial reserves to buy the unsold salmon and process them into fishmeal. With Chilean salmon on the scene, it seemed as if Hokkaido salmon worlds were being turned upside-down.

As Chilean salmon contributed to tightened markets and depressed salmon prices, they have helped to generate a complex reimagining of what salmon are and how they should be done in Japan. By flooding the fish markets, Chilean salmon have helped to create spaces for conversations about Hokkaido salmon to focus on something other than food security. As one retired Japanese fish hatchery technician explained, until the last two decades – with their concomitant rise in both Chilean salmon and Hokkaido hatchery fish – salmon were "only food" for the Japanese.

Salmon were not “ecological” or even "biological" at all. “It was just ‘let's increase,

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<sup>91</sup>In Alaska, for example, between 1984 and 2002, “real (inflation-adjusted) ex-vessel prices for most . . . species had fallen to about one-third of average prices during the 1980s” (Knapp 2007a: 240-241). For information on the effects of farmed salmon on Japanese markets, see the work of Ikutaro Shimizu (2005)

let's increase the salmon' (*fuyasou*)," the technician explained. "From today's perspective, it's hard to understand the concerns about food resources then. Now there's lots to eat, so salmon can be more than just food." Such abundance is creating new modes of conceptualizing salmon, he said. "Society is changing and salmon are becoming more biological (*seibutsugakuteki*)." In short, salmon are being biologized.

In response to increasing salmon abundance, the Japanese state has also changed its relationship with salmon. From the end of World War II until the 1980s, when Hokkaido salmon were considered a critical national food resource, the region's hatcheries were under the direct control of the central government. During that time, the government literally inserted itself, in the form of metal weirs, into as many of Hokkaido's rivers as it could. The weirs blocked salmon from migrating upstream so that they could be funneled into hatchery production. But as Japanese food systems have changed, the Japanese government has withdrawn from the work of making salmon, leaving it to the fishermen to fund hatcheries and produce their own hatchery fish. All of Hokkaido's hatcheries have now been privatized, and salmon production has been reconceptualized as a business venture rather than as an essential state project.<sup>92</sup> Today, while some rivers still have weirs so that the private hatcheries can acquire their fish, many more rivers now flow outside the hatchery system, with salmon straying into their waters and spawning in their gravels. Increasingly, Japanese government entities are engaging salmon as biological beings rather than as

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<sup>92</sup> Until 2010, the Japanese government continued to operate several research-oriented hatcheries. These facilities have been converted into nonprofit research institutions rather than commercial entities, and they continue to receive government funds.

units of food, and this has changed which salmon and which parts of salmon are of interest to them. Instead of focusing on pounds of hatchery salmon flesh, government agencies, working in conservation idioms, are increasingly interested in the genes of salmon spawning in rivers.

In addition to being biologized and partially privatized, Japanese salmon have also been regionalized. As foodstuff, Hokkaido salmon were a national issue, but as biological beings, they are a regional environmental concern. Although the central government continues to fund research on salmon in Hokkaido, it does so as a part of regional development rather than as a project of national importance. While remaking Hokkaido salmon as biological beings has been deeply intertwined with international salmon markets and global environmental discourses, such processes have resulted in the localization of domestic salmon, a movement from Tokyo offices to Hokkaido riverbanks. Chilean salmon have been instrumental in producing new geographies of salmon not only in terms of international trade; they have also remade domestic maps of salmon worlds.

In the midst of all of this, how are salmon-human relationships changing in Hokkaido? This question forms one of the foundations for the chapters that follow, each of which explores human-salmon relations in a world radically changed by farmed salmon. Chilean farmed salmon, of course, do not in anyway predetermine Hokkaido salmon practices. However, they are an essential part of the landscapes within which contemporary forms of Hokkaido salmon management are coming into being. Although I do not focus explicitly on Chilean salmon in any of the following

chapters, they are a key part of the stories I trace in each. Chapter 5, which focuses on a Hokkaido fisherman's cooperative, draws our attention to how salmon price declines have played an important role in reformulations of work practices and salmon markets. Chapter 6, which focuses on the emergence of the category of "wild salmon" in Japan, reveals how conservation projects that focus on salmon watershed projects are made possible in part by a surplus of salmon. Similarly, Chapter 7, highlights salmon-focused Ainu indigenous rights projects facilitated by the Japanese state's retreat from actively managing salmon as an object of "food security."

Overall, the recent changes in the Hokkaido salmon industry seem to be headed towards more ecologically sound forms of watershed management and towards more equitable forms of salmon distribution. But we cannot ignore that such ostensible "positive" transformations are coming into being through their partial connections with Chile. Although it is largely overlooked, advances toward recognition of Ainu rights and improved salmon conservation are happening, in part, through the destruction of watershed ecologies and indigenous livelihoods in Chile. Perversely, the indigenous rights and conservation movements in Hokkaido have been aided by the same Chile-Japan salmon trade that has polluted waters and damaged indigenous fisheries in that nation's southern regions. This is a point that is not mere "background," and it cannot be ignored. It must always be held in tension with the exploration of Hokkaido salmon worlds that I undertake in the following chapters.

## **Conclusion**

One evening, after a group interview with several salmon professionals, I went out to dinner with Nagasawa-san, a second person involved in salmon conservation, and a third closely aligned with the Hokkaido fishing industry. Among other dishes, we ordered a sashimi platter, which arrived with what was almost certainly farmed Chilean salmon. Nagasawa-san grasped a piece between his chopsticks with pride. "This is what we made," he said, beaming. I turned first to the fishing industry professional, who refused to eat the farmed fish, because, as I later learned, he objects to its adverse affects on the price of Hokkaido fish. He passed the plate to the conservationist, who I know has recently organized a series of community workshops on the environmental evils of farmed salmon production, including its water pollution and antibiotic use. At first, he, too, didn't eat any of the perfectly pink rectangles of raw salmon, but then he reluctantly took a slice and dipped it in soy sauce, so that the fish wouldn't go to waste. "Well," the conservationist sighs loudly, "it's so full of antibiotics, I guess it will be good for my cold."

None of their simplistic positions, however, captures the complexities of the connections between the salmon landscapes of Chile and Japan. Although the conservationist and Hokkaido salmon professional understand how Chilean fish have had negative consequences, they miss how Chilean salmon are productive as well as destructive. Indeed, in the case of Hokkaido, conservation practices and indigenous rights movements are occurring not in spite of destructive shadows abroad but because of them. The same Chilean salmon farming practices that have produced

patches of unsustainable and unjust ecologies in southern Chile are also integral to producing increasingly sustainable and increasingly just salmon practices in Hokkaido. As the epigraph for the Hokkaido section of this chapter states: Light is the shadow of the shadow. The shadow of farmed salmon production in Chile does not simply produce more darkness in the form of ecosystem destruction and social marginalization when its effects ricochet back to Japan proper; it also produces forms of “light”: increased spaces for conservation projects and possibilities for indigenous rights. But, of course, tracing such shadows also shows us how “light” is not made only of purity and goodness. Even the most stellar conservation projects in Hokkaido are made possible by changes in the salmon industry brought about by Chilean salmon. Lightness, it turns out, is dependent on shadows.

Where does this leave us? What kinds of ecological politics and practices might we need when the projects that bring us hope are fundamentally intertwined with those that make us despair? As a start, we need to recognize connections between sites of conservation and sites of displaced extraction, and we need to bring these places together into the same analytical frame. Specifically in the case of salmon in Japan, we need new maps and conversations in which Chilean salmon are within rather than outside the politics of Hokkaido restoration and conservation. Such work is a necessary part of stitching transnational patchworks of possibility within geographies of ruination.



## **Chapter 5**

### **Stuck with salmon: Making modern comparisons at the Kitahama Fisheries Cooperative**

There is no shortage of stereotypes about fishermen in Japan. In popular imaginations, they are older, salty men who speak with *hama-ben*, a non-standard coastal dialect. They are assumed to have left school after 9<sup>th</sup> grade, being more comfortable working with their hands than learning from books. They are imagined as hard drinkers who live in weathered houses that dot the shoreline and who are intimately tied to parochial villages, themselves depicted as aging, even “vanishing” locales largely out-of-step with modern life (Ivy 1995). And perhaps most of all, fishermen are often described as *arai* – rough around the edges. I was living with Motozumi-san, a salmon harvester in the Hokkaido city of Kitahama, when his daughter’s boyfriend was about to make his first visit. “I hear that her boyfriend is even more worried than normal because I’m a fisherman,” laughed Motozumi-san.

Motozumi-san was laughing because he fits none of these fisherman stereotypes.

Motozumi-san is in his early 50s, but thanks to the hair dye that camouflages his gray, he could easily pass as younger. Typically dressed in sweater vests, collared shirts, and khaki slacks, he looks professorial rather than rough. He has two college degrees – one in business and second in literature from a prestigious university. In his spare time, he reads Tolstoy and academic texts about the Roman Empire. Motozumi-san drives an expensive SUV that has not yet lost its new car smell, and his dinner table is a mix of imported Italian pasta and French jam alongside Hokkaido-grown

white rice and whole milk from Japan's first certified organic dairy. In line with the fisherman stereotype, he does drink – but he prefers glasses of expensive Bordeaux over cheap beer. And he prides himself on his international travels. When I e-mailed him to check in after the March 2011 earthquake, he reported that he had missed it because he had been vacationing in Australia.

When Motozumi-san talks about fishing, his words also defy stereotypes. He refuses the label of *ryoushi* (fishermen), instead referring to himself as a *gyogyoshya* (a fishing industry person) because he sees himself and his fisheries cooperative as producing a globally exported product rather than as engaged in a craft of harvesting fish. Motozumi-san refers to his work as “business,” using the English word, to connote its international legibility. In addition, he fluently speaks transnational languages of macroeconomics and microbiology, describing how the price of the fish he harvests a few miles from his home are depressed by the production of farm-raised salmon in Chile, and he routinely uses concepts such as genetic diversity, nutrient cycling, water quality, and watershed conservation in a sophisticated way that is not out of place at scientific conferences, which he sometimes attends.

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As we seek to understand salmon-human relations in Hokkaido, we must pay attention to fishing cooperative members like Motozumi-san because they are the people who most directly manage the region's salmon populations. In many other parts of the world, including the United States, bureaucrats, scientists, and politicians exercise extensive control over the fisheries policies that shape day-to-day practices

of hatching and harvesting salmon. Although U.S. fishermen lobby for certain policies over others, their power to make their own management decisions is relatively circumscribed. State and federal agencies, not fishermen, do most of the work of monitoring fish stocks, restricting fish harvests, and implementing hatchery programs. Fishing in Japan, in contrast, is a largely self-regulated affair, with fishermen – not government officials – making the bulk of salmon management decisions. When I first began my research in Hokkaido, I went searching for the top-down national or prefectural salmon management plans (*gyogyo kanri seisaku*), that I thought must exist. But when I called up countless offices asking if they had any such policies, everyone seemed confused. “Fisheries plans?” they asked in puzzled voices. A couple of people gave me glossy promotional brochures with generic information about Japan’s fisheries. Then finally, one official kindly explained to me that my search was in vain – that Japan didn’t have the kind of fisheries management policies that I was seeking. Here, managing fish, he told me, was the job of the fishermen. “It’s self-management (*jishuteki kanri*). We give them advice, but there are no rules.” In the case of salmon, the Hokkaido prefectural government grants fishing rights to individuals and small groups and establishes a generous season during which salmon fishing is acceptable. Beyond that, however, most management activities – including decisions about when to fish, how many fish to catch, how many fish to produce in hatcheries, and how to operate hatcheries – are the province of the fishermen themselves. Hokkaido salmon fishermen, of course, do not make such decisions in an abstract space, divorced from the rest of their lives. Rather, their understandings of

themselves and their worlds – their desires and fears, knowledges and lacunae – profoundly shape their management practices, as well as the structure of salmon populations themselves. Thus, in this chapter, I explore the lives of salmon fishers<sup>93</sup> in Kitahama, a city in northernmost Hokkaido, showing how their biographies and fisheries management approaches are intimately intertwined.

Comparison matters here, too. For the Kitahama fishers, their practices of comparison-making are key to how they imagine themselves and others – including fish. As the opening anecdote about Motozumi-san illustrates, Kitahama fishers are deeply passionate about cultivating cosmopolitan identities in which one’s ability to “compare well” (to measure up favorably to others) is incumbent on one’s ability to “compare well” (to make worldly comparisons). When I began fieldwork in Kitahama, I was thoroughly perplexed that the town’s fishing industry professionals had almost nothing to say about fish. Instead, they wanted to talk for hours about their *kangaekata*, the “way of thinking” that they have used to build their lucrative fish-based business and worldly selves. As they described it, their *kangaekata* – their mode of knowing and acting – is at the core of both their “modern” identities and their “evolved” fish management practices; how they think makes them who they are and shapes what they do.

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<sup>93</sup> Although the people with whom I worked prefer to be called “fishing industry people” to distinguish themselves from “fishermen,” the term is wordy and cumbersome in English. Thus, I have chosen to refer to them as “fishers,” a word that has no equivalent in Japanese, but that avoids the connotations of “fisherman” without being overly verbose.

Their *kangaekata* are a powerful practice of comparison where what matters most is one's very ability to compare. For the Kitahama fishers, one's ability to inhabit the world as a modern subject is incumbent on one's ability to make worldly comparisons. As we will see in the coming pages, these fishers understand the world as composed of two kinds of people: those who can make such comparisons and those who cannot. As they seek to demonstrate the importance of comparison and make distinctions about who compares well, the fishers enact specific comparisons: between their fathers' generation and their own, between the *jidaiokure* (out-of-date) and the *kindaiteki* (modern), between the small-mindedness of the *inaka* (rural) and the *kokusaiteki* (international-mindedness) of the urban or foreign. In their everyday lives, the Kitahama fishers link one's ability to compare well to one's ability to move. People who are worldly and "on the move" can make cosmopolitan comparisons, while those who are "stuck" in place are parochial, traditional, and unable to compare. Mobility and travel, they posit, allow one to see multiple perspectives and bring comparative subjectivities into being. Literal flights equip them with the ability to perform flights of mind. Knowledge and freedom are the fruits of such flexible comparisons.

In previous chapters of this dissertation, we saw how comparative practices "trickled down" from above – from Japanese government officials and foreign experts. I am tempted, in contrast, to claim that this chapter takes a more "grounded" approach to comparison. But the Kitahama fishers resolutely refuse to be "grounded" or fixed in place. The geographies through which the Kitahama fishers imagine

themselves are not the landscapes of Kitahama, but the networks of the “world.” This chapter, then, might be better described as my attempt at a situated approach to examining how these fishers do the work of trying to become un-situated – of how they use comparisons to inhabit cosmopolitan identities.

In doing so, I allow myself to be pulled into their categories, their ways of connecting and cutting their worlds. I explore how these fishers’ practices of comparison are tied to their constant yearnings to enact what they see as a mobile modernity in an “out-of-the-way” place. As I do so, I explore how these fishers’ modes of comparison bring them into certain kinds of subjectivities vis-à-vis salmon – subjectivities that compel them to “rationalize” the salmon industry through particular notions of rationalization that they develop comparatively. In the midst of their comparative practices, the Kitahama fishers reconfigure their relation to salmon – converting the fish from an emblem of local place-making into a transnational commodity. As the Kitahama fishers perform “modernity” as a comparative practice, the specificities of how they make comparisons has huge consequences for their relations with both humans and fish.

### **Marginal town, traditional fishing**

Despite Meiji era attempts to “modernize” Hokkaido, the island’s rural areas have become more of a “constitutive outside” than a “center” for contemporary Japan modernity. Since the mid-20<sup>th</sup> century, “modern Japan” has become synonymous with central Honshu’s cosmopolitan urban metropolises – with their bustling bodies, neon

lights, and high-rise offices. In the postwar era, these industrial centers created economic opportunities that drew young Japanese to the cities, creating massive internal migration, urbanization, and rural depopulation. As cities bloomed vibrant, the countryside became cast as its Other; urban areas came to embody “modern” futures, while rural areas were depicted as “traditional” and “disappearing” (See Ivy 1995). But since the mid-1990s burst of the economic bubble, depictions of rural Japan’s temporality have been more ambivalent. Although still “out of synch” with the nation’s urban centers, rural Japan is now depicted as both “behind the times” (*jidaiokure*) and on the leading edge of a post-modern apocalypse of declining birth rates, economic collapse, and social disintegration. At once, it is nostalgic memory and foreboding omen.

Although such narratives of Japanese rurality certainly matter in Hokkaido, the northern island’s rural communities have always been more tenuously “traditional” than those to the south. Because the island wasn’t formally settled by the Japanese until after 1869 and was deeply entangled in Meiji era development projects, the nostalgia that Hokkaido’s rural towns provoke is less a nostalgia for “traditional” Japan than a nostalgia for failed dreams of Japanese modernity. Beyond the Sapporo metropolitan area, Hokkaido’s rural regions have had to cope with varying degrees of decline for much of the past half century. Beginning in the 1960s, the island’s rural communities began to struggle as mine closures and agricultural mechanization decreased the number of local jobs. When they came of age, rural Hokkaido youth – faced with bleak employment prospects – headed either for

Sapporo or central Honshu. In the wake of such changes, a few of Hokkaido's Meiji era ruins have been awkwardly recoded as valued traditional sites. But Hokkaido – with its lack of “deep” Japanese history, just doesn't do “tradition” well. As Hokkaido's “modern” future has failed to materialize, the bits and pieces of its speculative frontier have been understood in terms of anachronistic decay and mismanagement rather than as a valued vanishing past.

Although located in the center of Hokkaido's most productive salmon fishing region, the city of Kitahama is typically seen more as the discomfiting debris of modern Japan rather than as its vaunted heritage. It is a place repeatedly made marginal and “out-of-the-way” – both narratively and economically – in relation to central Honshu. Part of a “hinterland” region of Hokkaido that faces north toward Russia and the Okhotsk Sea, Kitahama is literally at the end of the line, about six hours by train from Sapporo. In Japan, train service conveys much about a place's ranking along the sliding scale of central to peripheral. In contrast to the epitomical bullet trains of central Honshu's busy commuter corridors, the train to the Okhotsk Sea Coast lumbers over mountain passes at speeds less than 35 miles per hour. Because there is only a single track, the train must stop at a designated pull-off spot to allow the lone train travelling in the opposite direction to pass. Inside the compartments, the seats are worn and the windows rattle. In all of my travels through Japan, the trains to Kitahama were the only ones I ever experienced in which there were no sit-down “Western-style” toilets, only “Japanese-style” squat ones. Unlike the Tokyo metro, trains to Kitahama are rarely crowded. Countless times, during the



last hour of the ride to Kitahama, I have had the eerie experience of being the only person remaining in my train compartment, wondering how long the rail company can continue to operate this seemingly unprofitable run. Although most families in rural Hokkaido most frequently travel by car, the presence or absence of train service still carries much symbolic value: it helps keep a town literally “on the map” and connected to the rest of the nation. Kitahama residents often told me with pride that – unlike several other Okhotsk Sea fishing towns – they had not lost their rail service yet.

Although the county-like zone of Kitahama has a population of about 40,000, the city itself feels much smaller. Near the train station, there’s a Kentucky Fried Chicken and a Pizza Hut, combined into a single store, and a 10-minute walk down the road, there’s a small strip of *izakayas* (pubs), a few sushi bars, and some *yakiniku* (grilled meat) joints. When I first went to Kitahama for preliminary summer research in 2007, there was a department store, but by the time I returned for fieldwork in 2009, it had closed. As one might expect, the town – economically sustained by a mix of fishing, farming, and tourism – is clearly not thriving. But neither is it in its death throes. At the same time that its downtown has nearly as many empty storefronts as it does stores, it also has a couple of new chain hotels and a sparkling hospital. Thanks to public works monies, which also make up a substantial part of the “local economy,” Kitahama has a classy library, a community center, a concert hall, and two recently remodeled museums. But it also has plenty of boarded-up buildings and peeling paint, including the remnants of a bankrupt Russian-themed roadside restaurant and gift

shop that was designed to welcome busloads of tourists, but that now fails to draw even the attention of debt collectors. I always felt confused when I walked through the streets of Kitahama, unable to make sense of a landscape in which classic signs of rural decay and new construction sit side by side. Kitahama struck me as a Janus-faced town, too ambivalent to be captured by the traditional/modern and urban/rural dichotomies so common in popular Japanese parlance.

More than once, Tokyoites questioned my desire to spend time in Kitahama, a city that, for them, is synonymous with cold. Temperatures begin dipping below freezing in November and snow lingers as late as April. Kitahama's climate – and that of Hokkaido more generally – makes it seem temporally out of step with metropolitan Japan. In Tokyo and Kyoto, the cherry blossoms that mark the arrival of spring flower in late March, while Kitahama's buds do not open until May. As a result, many important community events from elementary school sports meets to shrine festivals are held on a different schedule from the rest of the nation to accommodate the weather. All of this accentuates the feeling that northern Hokkaido is a zone of exception, a place that is undeniably Japanese, but where life deviates from normative experiences of "Japaneseness." Geographically and symbolically, Kitahama is made "out of the way."

Kitahama's fishing orientation only adds to its marginality. Since the Meiji period, Japanese fishermen have consistently found themselves ensconced in an industry widely viewed as on the margins of "modern Japan." Japan's fisheries, rooted in collective sea tenure and hereditary rights transfer, are often seen as a

“feudal remnant” – as a holdover from “pre-modern” Tokugawa times.<sup>94</sup> While urban development and corporate innovation are seen as having brought Japan into the present, fishermen – who are seen as craftsmen – are understood as linking the nation to its past. Some Hokkaido fishermen do not attempt to buck such narratives that define them as “traditional.” A group of southern Hokkaido fishermen with whom I conducted participant-observation liked to think of themselves as men of the sea who celebrate practical knowledge over book learning. Many of the Yamakawa fishermen started working in fisheries right out of middle school, while others entered the industry immediately after high school (often one of the local fisheries-oriented technical high schools). When I ask them what they think is the most important trait for a fisherman, they almost all cite intuition (*kan*). They repeatedly proudly describe themselves as *wagamama* – egotistical, willful, and selfish. In concert with classic images of fishermen, they see themselves as strong-headed, set in their ways and beliefs.

The Yamakawa fishermen want to be “local.” They sell the majority of their catch on contract to a single processing company just up the road, whose buyer shows up every morning with a medium-sized truck to haul the fish away. The fishermen also proudly peddle directly to sushi restaurants, bars, and acquaintances, while their

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<sup>94</sup> In the postwar era, American occupation officials encouraged such interpretations. In their reports, they described pre-war fisheries as something “handed down from the feudal era” (Hutchinson 1951: 174). Overall, the U.S. played a significant role in postwar fisheries policies and cooperative organizational structures, even directing radio announcers to produce a series of broadcasts on how to enact properly democratic fishermen’s cooperatives and collaboratively producing informational leaflets with Japanese officials (GHQ/SCAP 1950).

wives sell salmon – along with handmade seafood items – at a dockside stand. Their office also exudes informality. The floor is filthy, and the tables, covered with scattered car magazines, haven't been wiped clean. An old yellow fly-strip dotted with black insect bodies hangs down from the ceiling, and a large nudie calendar featuring a big-breasted Japanese woman is tacked to the back wall. Overall, the Yamakawa salmon fishermen feel driven to maintain “community” and a “sense of place,” but are not compelled by notions of “professionalization,” “standardization,” or “internationalization.” Financially, they scraped by, supplementing their fishing income with odd jobs, such as snow removal, during the winter off-season. Although the Yamakawa fishermen often wished for more money, they never expressed desires to be anywhere or anyone else.

The Kitahama fishing industry professionals, however, desperately wanted to be different. They constantly chafed against assumptions about what kind of people fishermen are – against the stereotypical fishermen identities that the Yamakawa people embraced and embodied. Consider the following example. One morning, in between the first and second waves of boat unloading, Motozumi-san and several of the other set-net group members decided that they wanted to switch their newspaper subscription to stay better abreast of current events. The office was receiving daily deliveries of the *Hokkaido Shinbun*, the major regional newspaper, but the fishers gathered in the office all took that paper at home and wanted something different – and more focused on transnational political and economic issues – to read during downtime at work. They decided that they wanted the *Nikkei* economic newspaper,

the Japanese equivalent of *The Wall Street Journal* or *The New York Times*, which is usually read by businessmen and other college-educated professionals. Motozumi-san dialed the number of the newspaper distribution office to change their subscription. Although I could only hear Motozumi-san's side of the conversation, things initially seemed to go smoothly. He introduced himself as "Motozumi from the salmon set-net fishing group," and the newspaper distributor seemed happy to make a simple change from one paper to another. But a problem arose when Motozumi-san tried to explain which newspaper they wanted. "We'd like to switch to the *Nikkei*," he politely said. "No, not the *Nikkan*, the *Nikkei*," he clarified. But the newspaper distributor continued to assume that he wanted the *Nikkan*, a publication roughly equivalent to *Sports Illustrated*.<sup>95</sup> After a pause, he continued: "No, no, we *don't* want a sports newspaper, we want the *Nikkei*." Exasperated, he had to repeat his request several more times before the person on the other end of the line finally grasped his request. After hanging up, Motozumi-san turned to the rest of the office and commented about how the simple order change had proved rather difficult despite his clear pronunciation. "Even Heather-san, understood me clearly, right? But that person just couldn't imagine that fishermen (*ryoushi*) would be reading the *Nikkei*!"

Again and again, the Kitahama fishing industry professionals refused to hew to popular expectations of them. For them, stereotypical "fishermen" formed both spectre and constitutive outside. Haunted by fears of becoming parochial "fishermen,"

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<sup>95</sup> The reading skills required for the two publications are also very different. For example, my 11-year-old Japanese friend could already read the *Nikkan*, but could not yet make much sense of the *Nikkei*.

the Kitahama people resolutely asserted that they were cosmopolitan subjects. Although they caught fish in rural Japan, the Kitahama people yearned to be something other than “fishermen.”

### **Getting “out”**

How did Kitahama fishers come to have such desires? Until recently, the lives and identities of people in Kitahama closely resembled those of Yamakawa fishermen. When Motozumi-san was a child, his father was a quintessential fisherman. His father, Michio-san was born in Hokkaido and moved to Kitahama before the onset of war, harvesting salmon as a laborer, but not as a rights holder. During post-war “sea reform,” a process similar to changes in agricultural land tenure, Michio-san obtained his own fishing rights when he joined with a group of men to form the Shiretoko set-net workers collective. But although the rights were symbolically important, they did not immediately lead to great wealth. During Motozumi-san’s childhood, Michio-san’s earnings weren’t enough to make ends meet, and he proved unable to provide for his wife and two sons. As a result, Motozumi-san’s mother began operating a small *snack bar*, a men’s drinking club, to make enough money to keep the family afloat. With his parents often *in absentia*, Motozumi-san was largely raised by a grandmotherly neighbor.

Motozumi-san and others of his generation, however, didn’t want this kind of world. They didn’t want to be fishermen, and they didn’t want to live in Kitahama. Growing up in an exciting postwar moment of increasing educational and economic

opportunities in urban areas, they didn't want to be confined to a lifetime of salmon fishing in Kitahama – a position they saw as both geographically and occupationally marginal to a rising modern Japan. They didn't want to be entangled in what they saw as suffocating structures of hierocracy, family legacy, and too much community. Instead, this group of young Kitahama residents wanted to be on the move.

Motozumi-san and a number of other young people from salmon families (mostly men but also a few women) managed to succeed in school, and make their way to good universities in Honshu. Some were the relatively privileged children of Meiji era pioneer families who, in addition to their salmon rights, had significant wealth from other business ventures; others, like Motozumi-san, had only their own determination. Motozumi-san and others of his generation left town yearning to become “modern” by joining the massive urbanization movement occurring throughout Japan. They desired mobility – both economic and geographic – that would allow them to fashion new ways of being in the world. They dreamed of “making it” in life by making it out of Kitahama. Returning to the town was nowhere on their agendas.

Initially, their lives went as they hoped. Motozumi-san, for example, lived in Tokyo, earned two college degrees, worked as a journalist, and wrote a novel. Other people became salary men, working for large corporations in a number of different cities. Still others found jobs through fish-related connections as buyers and sellers at Tokyo's famous Tsukiji fish market. One lived for years in England, while another worked in the office of a politician who later became a prime minister. Such

experiences and travels changed them. As they shifted locations – and moved away from Kitahama – the “world” opened up for them, and they became able to see and think in new ways. They were living their middle-class cosmopolitan dreams.

### **Getting stuck**

But although they seemingly “made it” in Honshu, one by one, they felt forced to return to Kitahama. They were mostly called home to deal with family matters, usually ill parents or siblings in trouble. A few were lured home by ailing fathers who wanted them to take over their fishing rights, and who promised that since more and more fish were returning to the bay, lots of money was bound to follow. The fathers told their sons that they’d make enough money in half a year of fishing to take the rest of the year off. A couple of young men kept their apartments in Tokyo, planning to spend only one salmon season in Kitahama, before returning to their more cosmopolitan lives. But, of course, things did not go as planned. One year stretched into several, older brothers who seemed poised to inherit rights turned out to be unreliable alcoholics, and the promised “good money” from fishing ended up being so bad that the alleged “off-season” was spent driving taxis or plowing snow.

But once the young men took over their fathers’ fishing rights, they felt they couldn’t quit. Because salmon fishing rights are hereditary, they couldn’t just sell them off to someone else. In addition, once a family member gives up his rights, it is



extraordinarily difficult to try to reclaim them.<sup>96</sup> Once fishing rights are gone, they are essentially gone for good. Even though the fishing was far from spectacular, many of the sons who returned to Kitahama felt reluctant to let their rights lapse because they were part of their family inheritance. They felt less that they had been “honored” with fishing rights, than that they had been “burdened” with them – burdened with maintaining their families’ fishing legacies until they could pass them off to another family member. There was also a lot of social pressure in Kitahama to be a “good” child rather than one who made his or her family abrogate their rights. Gossip was prevalent, and young men and women who fled Kitahama after only a short time in the fisheries were criticized as “running away” (*nigeru*) from hard work, family, and community.

But after their time in Honshu or overseas, the now “worldly” young men and women found Kitahama to be intolerably traditional, remote, and behind. They saw going back to Kitahama from Tokyo as just that: going backwards. In the midst of their most modern of dreams, they suddenly found themselves entangled in classic filial stories of obligation and hereditary succession. While they yearned for routes, they got stuck with roots. Some of the fishing rights successors felt duped by relatives

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<sup>96</sup> Salmon fishing rights are universally hereditary in Japan, but each cooperative independently decides what kinds of inheritance patterns are acceptable. Until the last decade or so, rights were typically passed from fathers to firstborn sons. But as interest in fishing has declined, inheritance rules have become more lax. In Kitahama, for example, widows, sons-in-law, grandsons, nephews, and daughters have also inherited rights. There have also been several cases of fishers who have gained their rights through “adult adoption,” a practice in which an adult becomes the legal child of an older person, taking that person’s last name, caring for that person, and then inheriting his or her fishing rights.

who dramatically overstated the rise in profits that was allegedly going to come from a increased number of hatchery fish. As one fisher told me, “Of course, I didn't want to return to Kitahama at first. I actually kept an apartment in Tokyo at first. My mother enticed me to come back in part by telling me that I'd make enough money in six months to live on for an entire year.” Their hearts could stay in Tokyo; Kitahama would just be their resource frontier. But, of course, it didn't turn out like that. They didn't make much money, and they had to give up their apartments down south. They ended up working multiple jobs – often driving local taxis in circles around the town – when fishing earnings didn't pay even their local bills.

Once they took over their fathers' fishing rights, the feelings of stuckness only deepened. Salmon fishing rights chained them to both an industry and place they wanted to flee. Under Hokkaido regulations, in order to maintain their families' rights, they had to make Kitahama their home – at least legally. Under postwar fishing reforms, salmon fishermen must maintain a permanent residence in the area where their net is located. As with Japanese land reform, the goal was to block the formation of a system in which absentee landlords – or in this case, absentee “sea lords” – owned net-rights that local residents could only work as hired crew. If they had enough money, Kitahama fishers could have owned a second home in another city, but with few funds, they couldn't get out of Kitahama.

Everything seemed fixed and immobile from the set-nets that they used to harvest salmon to their lives themselves. They were stuck in fishing jobs. They were stuck under their relatives' observation. More than anything, they experienced

powerful desires for travel and movement – desires that continue today. As one

Kitahama fisher told me:

You know sometimes I think I really screwed up. I could have stayed in the city, found myself a cute OL [office lady] to marry . . . I make several times as much money as I would have as a salary man, but still I would rather have done that. I would have liked to work in the airline industry – I nearly took a job at JAS [Japan Air Services, a domestic company that merged with Japan Airlines] once. . . . Or I would have liked to work in the tourist industry, for a company like JTB. Even with all the uncertainty in that industry, I'd rather have done that.

Motozumi-san shares this fisherman's yearning for work that would have led him towards movement rather than fixity or stuckness. He worked on his college newspaper and he planned on being a reporter, traveling in search of stories. When I ask him what he would want to do with his life if he could live it over again, he answers that he would want to be like me – traveling around and researching.

### **Making modernity in Kitahama**

Through their experiences in Honshu and beyond, the Kitahama fishers had become certain about one thing. They now knew what “modernity” was supposed to be. Their work and travels – along with their almost realized dreams of becoming pilots or journalists – had led them to envision ideal modern lives as cosmopolitan ones full of motion, travel, and a certain kind of worldly vision. Initially, their understandings of modernity simply heightened their depression about being stuck in Kitahama's fishing industry. But as they came to terms with the fact that they were not likely to leave Kitahama any time soon, they began to ask themselves about how they might create their own cosmopolitan identities in this out-of-the-way place.

Their ideals of modernity that they had developed during their travels became their blueprints for what they had to approximate in Kitahama. They had to build themselves worldly lives here. They had to create movement in the midst of stuckness. To do so, they drew on their apparatuses of comparison.

In the early 1990s, a core group of men, including Motozumi-san, decided that if they were stuck in Kitahama – and stuck with salmon – they were going to make the best of the situation. In the spirit of 19<sup>th</sup> century foreign advisor William Clark, they would “be ambitious.” The younger college-educated Honshu returnees joined forces with a couple of established yet progressive fishers and started a conversation over beers and *shochu*. If they were going to be stuck here, what could they do to improve their lot? Instead of running away, they formed what they called the “Salmon Club,” a coalition of fishers and local fish processing company leaders, none of whom were thriving. Although they would not describe it as such, the Salmon Club was in many ways a piscatorial version of a feminist consciousness-raising group, a gathering designed to develop what the fishers called *mondai ishiki* (problem awareness). The group was part of the men’s attempt to see their financial problems as more than the inevitable fate of those dependent on a boom-and-bust-type natural resource and their low social station as more than the inescapable consequence of having been born into a fishing family.

First, they began by assessing what they had: namely, too many fishing rights holders and – oddly enough – too many salmon. After World War II, fisheries throughout Japan – including Hokkaido salmon fishing – underwent phenomenal

changes that aimed to “modernize” them through democratization. Although post-war land reform practices have drawn the most attention from scholars, the changes in sea tenure authored through collaborations between American occupation leaders and Japanese officials were no less dramatic. In a report about their fisheries reform efforts, American occupation officials wrote that they sought to take actions to “encourage the development within Japan of economic methods and institutions of a type that would contribute to the growth of peaceful and democratic forces," and that they sought "to favor policies which would permit wide distribution of income and ownership of the means of production and trade" (Hutchinson 1951: 6). Fishing was earmarked as one of the key sites where reforms were needed:

The fishermen – those men who actually went to sea and caught fish – were virtually enslaved by the owners of ancient fishing rights which entitled them to the exclusive exploitation and benefits of the fisheries potentials within the area of the rights. Fisheries associations, dominated by government and/or local bosses, controlled the sale and distribution of the catch. The man who did the actual fishing was practically excluded from the benefits of his labor and was at the mercy of the controlling authorities without any chance of escaping from their grip or bettering his position. Far-reaching reforms of this antiquated structure were necessary to lead the industry into the ways of democratic organizations. (Hutchinson 1951: 6)

Immediately after the war, Japanese officials (under American influence) played the role of aquatic Robin Hood, taking fishing rights from powerful, wealthy – and largely absentee – rights holders and redistributing them to the laborers who were actually doing the work of catching fish. New laws established a fish cooperative system focused on developing principles of democratic self-governance. Cooperatives managed the resources within their assigned area, selected their own members, distributed fishing rights to those members, and crafted their own harvest regulations

and rules for environmental protection. Most importantly, the cooperatives also developed fair credit and banking systems of their own, which allowed people of modest means to acquire the capital to enter fisheries. Such structures prevented powerful merchants from using exploitative interest rates to wield power over poor fishermen, essentially forcing them into debt peonage. Under the new postwar arrangements, almost all fishermen owned their own gear and received the profits from their own harvests. Within such structures, many more people – not just the powerful and well-financed – were able to gain access to and control over fishing resources.

Although the logics behind Hokkaido salmon rights redistribution were largely the same, the actual process was quite different. Instead of granting salmon net rights to cooperatives to disburse to their members as they saw fit, Hokkaido Prefecture retained direct control over salmon and trout. In addition to joining their local fisheries cooperative, people who sought salmon rights had to apply through the prefectural government for the right to construct a net on a specific patch of sea floor. In contrast to other forms of fishing, which are usually undertaken with mobile gear such as nets, seines, or hook and line trolls, Japanese salmon are caught almost exclusively with *teichi ami*, or fixed set-nets. In Japanese fishing communities, salmon harvesting is often referred to as *matsu gyogyou* or “waiting” fishing, rather than as *toru gyogyou* or “taking” fishing.<sup>97</sup> At the beginning of each salmon fishing

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<sup>97</sup> Sometimes, salmon fishermen are derided as “not real fishermen” because they do not chase after their catch. They just set up and wait without having to know anything about their prey. The fact that the Kitahama fishers are set-net fishermen who do not

season, usually in August, salmon fishermen build set-net traps out of heavy nylon mesh, steel cables, and foam floats.



**Figure 5:** Salmon *teichi ami*, or set net, off the coast of Hokkaido. Below the surface, the net forms a series of chambers that direct the fish into a holding pen where they remain captive until they are removed by the fishermen. (Photo by author)

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have to “think like a fish” in order to capture them is not irrelevant, I think, to their ability to distance themselves from fish and enact “modernity” in the ways that they do.



**Figure 6:** Fishermen remove salmon from a set net's holding chamber and load them onto the boat. (Photo by author)



The set-nets are precisely located along the seacoast so that migrating salmon, returning to Hokkaido's rivers, bump into their guide nets, and eventually swim into their holding chambers. During the peak of the fishing season, Kitahama fishers check each trap's holding chamber once per day, transferring the wriggling fish from set-net to boat hold. Because of the large size and awkward shapes of salmon set-nets, they have demanded different labor configurations than other modes of fishing. Where many coastal fishermen worked alone or with a single partner, salmon set-nets required between 7 and 20 people for their construction and harvest.

Due to the fixed nature of the nets, salmon fishing rights specify the size, shape, and location of the patch of seafloor that each net is allowed to occupy. As a result of the specificities of salmon migration patterns, not all locations are equal, and during the postwar reassignment of fishing rights, multiple people often sought access to the most productive spots. In cases when there were multiple applications for the same section of sea, the government used a ranking system designed to advance its goals of "democracy" for determining who would receive the rights. Highest priority would be given to applications from workers' collectives, groups of 7-20 fishermen who would work a single net together as owner-operators. If there were no workers' collectives, priority would then be given to smaller groups of fishermen who planned to incorporate. The lowest priority were applications from people who were seeking sole proprietorships. After the initial distribution of rights in 1952, set-net contracts had to be renewed every five years, but existing owners always retained the right to

renew their existing claim. Only when an owner gives up his net does the Hokkaido government allow open applications for that set-net location.

Although the process was ostensibly clear, the original distribution of net rights was not entirely fair. In theory, a group of local citizens could always form a collective and block a powerful community leader from obtaining sole proprietor rights, but in practice, local politics often left the lower priority applications of prominent citizens unchallenged. In many parts of Hokkaido, there was not much competition for set net rights, and in quite a few places, the same wealthy people retained control over the same nets that they had held before the war. But in Kitahama, things played out a bit differently. Across Hokkaido, pre-war sole proprietors of salmon rights hired migrant laborers from Honshu to haul in their heavy set-nets. In most places, the laborers only stayed in Hokkaido during the fall and early winter fishing season, keeping their Honshu villages as “home.” But in the case of Kitahama, a sizable percentage of such salmon laborers seemed to have permanently relocated to the city, working other jobs in the off-season. Thus, when a chance at fishing rights arose, these laborers were legal community residents who wanted their share. Furthermore, the postwar brought an influx of skilled fishermen to Kitahama. A significant number of returnees from Karafuto/Sakhalin and the Northern Territories/Kuril Islands ended up resettling along the Okhotsk Sea Coast, as close as possible to the regions they once called home. Many of those returnees were trained fishermen who had harvested salmon in waters further north, and they too were desperately seeking jobs.

As a result, Kitahama had a large number of contested nets during the “democratization” process. Thus, due to the priority ranking system, people in Kitahama were forced to form *seisan kumiai* (workers’ cooperative) – the highest priority form – in order to have a chance at securing rights to a net. By the time postwar sea tenure reform was over, more than 160<sup>98</sup> people held salmon set-net rights in the immediate Kitahama area. On paper, this looked great; rights holders had dramatically increased. “Democracy” had been achieved. But a closer look at patterns of net ownership tells a different story. Although far more people held rights, the structure of ownership was still deeply linked to older patterns of community hierarchy, geographies, and racial divisions. The wealthiest and most powerful people who had held set-nets before the war managed to hold on to the most valuable sites near the mouth of the Kitahama River. A group of siblings banded together to secure rights near their family enclave west of town. People of Ainu descent secured the least valuable spots off the coast of the old indigenous village site where their contemporary homes now stood. Such social divisions, familial allegiances, and political factions kept the fishermen from forming pan-Kitahama alliances. In theory, they were all members of a common “cooperative,” but they worked as if it were every set-net group for itself.

Despite their divisions, Kitahama fishermen were plagued by the same major problems: first, a lack of fish, and then, beginning in the 1980s, far too many of them. Salmon stocks had been on the decline for decades, and in the waning years of World

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<sup>98</sup> For comparison, in another regional town, 17 people hold salmon rights.

War II when fishing in distant waters became impossible, harvest pressures on coastal fish stocks, such as Hokkaido salmon, drove their numbers even lower. Just after the war, when the GHQ conducted a survey of Hokkaido's fisheries resources, there were so few salmon remaining that they didn't even seem worth counting. While the survey specifically listed the number of harvested tons for the most commonly caught species such as herring and squid, salmon were simply tallied under the category of "other fish." Yet in an immediate postwar moment characterized by food shortages and general instability, salmon set-net rights seemed rather appealing to Kitahama residents – appealing enough that hundreds of people wanted a piece of the rights. The problem was that there were simply not enough salmon left to make coastal fishing profitable, especially when the profits were divided so many ways. High overhead costs burdened the fishermen, and they tried to make ends meet by working odd jobs in town or by heading to Honshu as *dekasegi* (migrant laborers) during the fishing off-season.

In the 1970s and 1980s, however, improvements in hatchery technology and favorable ocean conditions caused a spike in salmon numbers along the Okhotsk Sea Coast. In the space of a few decades, new practices of fish rearing and release timing strategies transformed northern Hokkaido's hatcheries (which had failed to boost salmon numbers in the previous 100 years) into fish-making machines. Between 1970 and 1990, coastal salmon harvests increased nearly 10-fold (Okamoto 2009). But this dramatic increase in salmon did not solve the woes of the Kitahama fishermen. When salmon populations peaked in the early 1990s, the resulting glut caused dramatic local

price drops that were made even worse by the contemporaneous global decline in salmon prices triggered by farmed salmon. As they had been when salmon runs were weak, the Kitahama fishermen remained poor – this time a kind of poor they called *tairyou binbo* or “big harvest poor.” Too many salmon inundated domestic markets and depressed prices, driving them so low that fish sometimes rotted on the docks as it cost more to process them than they were worth.

On top of overabundance, the fishermen also struggled with uncertainty. Based on the slightest differences in water temperature and currents, the routes that the salmon took through Kitahama Bay varied, as did the specific nets they entered. Depending on the year, the salmon flooded some nets, while others stood almost empty. Because individual fisherman held rights to only a part of one net (or to a part of nearby nets), their earnings varied dramatically from year to year, and a bad season could be tough for those with few savings in the bank.

This was the state of the Kitahama salmon industry that Motozumi-san and the other young Kitahama residents sought to remake. They might be stuck with salmon, but they decided that they were not stuck with this form of fishery, its economic problems, and its stereotypical parochialism. Quickly, the Salmon Club participants recast the postwar salmon industry – originally molded in the name of “modernity” – as “traditional” and “backwards.” They proposed that they could – and would – bring real “modernity” to Kitahama’s fisheries. For them, modernization primarily meant higher incomes, meritocracy, and professionalization. It meant having enough money to fly to Sapporo on weekends, to take overseas vacations, to be able to pursue

hobbies (not menial part-time jobs) during the off-season. It meant a more just co-op structure that privileged hard work over familial status. And it meant having a spotlessly clean business office filled with computers and spreadsheets rather than pornographic calendars. They actually put a yen-figure on what would count as a “good living,” settling on 10 million yen (about \$85,000), an amount that would allow them to support their families and send their children to college without worry. To bring such dreams into being, they felt they needed to cultivate both different modes of thinking and different forms of interpersonal relations. In order to do the things they wanted to do – reduce fishing costs, more evenly distribute profits, and increase markets for their salmon – they felt that they needed to work together in new ways. In Tokyo, one might be able to be a “self-made” cosmopolitan, but in Kitahama modern identities were going to require collective effort.

In Kitahama, the small set-net group, not the large collective, has been the primary unit for salmon fishing. For most of the postwar period, each salmon set-net group owned its own boats, nets, and other gear. Because the number of rights’ holders was almost always less than the number of people required to haul in a net, each set-net group hired migrant laborers from northern Honshu to help them with the hard work of the harvest. Each set-net group maintained its own residential bunkhouse, providing room and board, in addition to salaries, to the laborers. The system was terrifying for net owners because it created high overhead costs while generating uncertain returns. Although some nets tended to be more productive than others, both the overall populations and the migratory paths of the region’s salmon

varied from year to year. In a given season, one net would be a bonanza, while a neighboring one a few hundred meters away would bring in only a handful of fish. The following season, the tables were often turned. Such unpredictability made it difficult for rights' holders to manage their finances. When the fish ran thin, the rights owners often went deep into the red, struggling to buy the fuel they needed to check their empty nets and to pay the laborers they had hired on contract at the beginning of the season. In good years, they never seemed to squirrel away enough savings to compensate for the bad ones.

Even before Motozumi-san and his generation rose to power in the cooperative, the Kitahama rights holders began experimenting with income pooling, challenging the classical model of the lone fisherman who receives the profits of his own catch.<sup>99</sup> They set up structures in which net groups began sharing profits – first within geographically clustered units, and then across the entire Kitahama salmon collective. Income sharing helped to even out the highs and the lows – the inequalities of localized abundance and scarcity among nearby nets. They tried out several income-sharing forms, from an insurance-type system that proved a minimal level of support for low harvest years to a more radical system in which the fishermen pooled all income, then divided it evenly among all Kitahama rights holders. All of the approaches had their promoters and detractors, but the bottom line was, indeed, the

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<sup>99</sup> For example, in 1984, the owners of Kitahama's 14 nets elected to group themselves into six cooperative labor teams, where one boat and crew would harvest two or three nets rather than only one.

bottom line: no matter how the Kitahama fishermen tried to distribute the money, there just wasn't very much to go around.

The sky-high costs of salmon fishing consumed most of the industry's potential profits. Each net-group was an independent business unit with its own office, office staff, storage area, and shop building. Once all these costs were paid, there was barely any money left. In addition, each individual group had relatively few assets, so it was difficult for them to get loans for updated equipment. The leaders in the salmon fisheries community saw only one solution to what they saw as a problem of inefficiency: they had to convince all of the salmon rights holders to work together. But convincing rights holders with long-standing rivalries, racial prejudices, and prideful independence to consider new collective work formations was not an easy task. The younger leaders needed allies who could help them enroll Kitahama's salmon people into their projects of efficiency and cooperation. An older, well-respected, and charismatic rights holder helped them negotiate the nuances of community politics, persuading more and more local salmon net owners to put aside their differences and contemplate potentially more profitable forms.

In 1994, after much deliberation, Kitahama's 160 salmon rights holders voted to combine themselves into a single group, with one business office and collectively owned gear. In the process, they implemented new organizational principles. Per Hokkaido law, each of the 160 rights holders would continue to have stakes in their original net(s), but they would effectively sign over the rights to manage and profit from those nets to the cooperative. Instead of controlling their own nets, the rights



holders essentially deputized a board of directors to manage their net, in concert with all of those in Kitahama. As they implemented this new corporate-style governance structure, the co-op leaders also began applying the practices of “international” business management to their fisheries decisions. They began rationalizing their fishing efforts – charting which nets were the most productive, how much fuel it took to harvest fish from each trap, and estimating the most profitable patterns for checking the nets. As they sought to make fishing a real science rather than an art, data became king. Numbers about weather, water temperatures, fish numbers, and boat usage were recorded on clip-boards, displayed on dry-erase boards, and entered into computers. If a certain practice didn’t “make sense” according to the data, they changed it. In several cases, they stopped fishing nets that they found to be inadequately productive. When their number crunching revealed that they were spending too much of their gross income on buying ice to chill their fish, they built their own large-scale ice machine so they could eliminate the ice-maker middleman. In addition, based on the data, they upgraded their boats while reducing their number. As a large collective, they could use vessels strategically – emptying all the set nets with five large boats rather than dozens of small ones. The larger boats – with higher capacity fish holds and better fuel efficiency – had both lower operating and maintenance costs. The all-Kitahama set net group also eliminated all hired hands.<sup>100</sup> While a lone set net owner had to employ help to fill his crew, once they collectivized, they could easily staff their five boats from their own ranks. Indeed, they divvied up

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<sup>100</sup> The exceptions are a small crew of women who prepare breakfast during fishing season and a weekly visit from an office janitorial service.

the work among the 160 requiring rights-holders to staff the office, man the boats, unload the catch, and chase away the birds until buyers came to haul them away. Although they were initially reluctant to do the “dirty work” that they once assigned to the migrant workers, the rights-holders eventually agreed to wash crates, sweep floors, and empty trashcans to decrease their overhead costs.

Convincing people to take on such new roles and to voluntarily give up direct control over their “own” nets demanded that the set-net leaders credibly conjure the new riches that such acts would generate. But it also required more. It required that they reassure the rights holders that they would not be cheated of their “rightful” shares of the pie – while also redefining what counted as “rightful.” Because certain nets had historically greater average harvests than others, the owners of those nets wanted bigger portions of the collective earnings than others. So too did the owners of nets with dramatically fewer rights holders, and thus, greater per person earnings. But the rising co-op leaders had other ideas. They wanted to value labor instead of historical privilege. “Why shouldn’t the money go to the people who work?” a co-op member once asked rhetorically. The co-op leaders, especially Motozumi-san, sought to create a more socially just business model that combined notions of meritocracy and fundamental equality. Although he never opened up about his beliefs about party politics, Motozumi-san struck me as an eccentric Marxist. An active member of the “Russian Club” – a local study group that focused on Russian literature, culture, and politics – Motozumi-san had previously attended a university well-known for its

student radicalism, was involved in some leftish anti-nuclear protests, and was an avowed atheist who loved to repeat that religion is merely the opium of the people.

Motozumi-san and many of the other young fishers who did not have the good fortune to inherit rights to the highest grossing nets were frustrated by “out-of-date” systems of inheritance that privileged lineage over skill or effort. During their time in Tokyo or abroad, they had celebrated both their freedom from local family hierarchies and their abilities to “pull themselves up by their bootstraps.” But at the same time that they celebrated individual achievement and self-discipline, they were also drawn to postwar rhetoric that described the ideal Japan as a universally middle-class nation without significant economic divisions. Neither “pure capitalism” nor “pure communism” makes for a good world, the fishers told me. Under capitalism, you end up with too much inequality. “Haven’t you seen Michael Moore’s movies?” they asked me, insisting that America was an example of injustice. But “pure communism” was just as big of a problem, they said. “With ‘pure communism’ people get lazy, they don’t work hard,” one fisher told me.

The fishers also sought to create what they saw as the right kind of inequality – a little bit of inequality that motivated people to work hard without creating too many disparities. Initially, they had to make some compromises. They ended up having to offer slightly outsized shares to the historically powerful people with the highest producing nets in order to convince them to join the collective effort. But they nonetheless reduced the proportion of the fruits that these people received. But over the past decade, the set-net board members have been gradually reducing the role that

pre-collectivization salmon profits play in current share distribution patterns, rewarding present labor over historical precedent. Today, the co-op uses a system of fractional shares to divvy up the profits. For example, the top earner, the board president who bears ultimate responsibility for the co-op, receives a full share of “1,” while the vice-presidents might earn 0.92 or 92 percent of the largest share, and a hard-working man who volunteered to work on a boat might receive a 0.85 or 85 percent of the salary of the president. When Motozumi-san and the other co-op leaders talked it over, they decided that the “ideal inequality” would be for the average, dedicated co-op member to earn about 0.80 or 80 percent of the top share. Such differences would reward people for taking on the risks and burdens of leadership without creating hard feelings.<sup>101</sup>

However, while this “merit”-based system proved more egalitarian than earlier patterns in which wealth aligned with historical privilege and kin ties, it was much less transparent. The spread of the fractional shares was public information. Every year, the set-net group gave each member a list of the distribution – one person at 1, 25 people at 0.83, 30 people at 0.80, and so on so that they could confirm that the general schema seemed equitable. But officially, other than the board members, no one knew what anyone else’s share was. There were rumors, of course, but not overly grounded ones, as most people kept their share information secret. The actual

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<sup>101</sup> On top of shares, the board members have also created a “bonus” system that rewards both the dockworkers and the boat crewmembers of the team with the largest catch with a bit of extra money. Because they end up unloading and sorting the most fish, the largest grossing team is given a small bonus. However, such differences are managed to limit hard feelings.

allocation of shares was a cryptic process in which the set-net group's board members, in a closed meeting, privately decided each member's share. Once, I asked Motozumi-san if I could see a copy of the set-net groups by-laws, assuming that they had written rules and policies for determining who gets how large of a share and for determining who can inherit rights. "We don't have any," he replied. Initially, I thought this statement was just a tactic to avoid sharing them with me, but I soon learned of its veracity. They really didn't have any. Motozumi-san stated that the co-op board members had a shared sense of what was right and that they preferred not to be tied to any written rules. They needed flexibility, he said. The general principals for deciding shares were clear, he said. Rights holders who do more demanding work receive larger shares, so that people who work on boats receive more than people who work on the docks. Within a particular category of work, effort and attitude count. For example, a boat worker with a reputation for being a hard worker would get a larger share than someone who chronically shows up late for work. They are punitive toward healthy, but seemingly lazy, young men who choose the easier dock work over joining a boat crew, but they are compassionate toward people with physical ailments. For example, one man who has severe liver problems and who is on a transplant waiting list can no longer do the heavy physical labor of the boat crew, but still shows up every morning to work on the docks. His share has not been significantly reduced. Similarly, in the case of a hard-working husband who died young, his widow (with small children) is allowed to retain his large share even though she cannot work on a boat herself. Generosity, everyone agrees, is certainly

called for in such cases. During the months I spent at the co-op, I heard some minor grumbling about shares, but no serious dissatisfaction or dissent. In theory, a miffed rights holder could refuse his or her offered share, withdraw from the cooperative, and return to fishing his net independently. But considering the capital outlay required to establish one's own salmon fishing operation, such a move isn't really an attractive option. Everyone agreed that life was so much better post-collectivization that no one expressed any major complaints.

Once they were efficiently organized, the co-op leaders also sought better prices and more diverse markets for their fish. Although Japanese canned salmon had been a major export product before World War II, in the postwar period, Japanese salmon lost their overseas market share. Hokkaido salmon, in particular, had now circulated almost exclusively within Japan. But in the 1970s and 1980s, domestic demand for Hokkaido salmon began to fall, in part due to the rising popularity of imported salmon, including high-end sockeye from Russia and Alaska and cheap farm-raised fish from Norway and Chile (see Chapter 4). At the same time, Hokkaido's salmon populations exploded, producing an overabundance of salmon in Japanese markets. Although a profitable domestic market remained for a handful of the highest quality fish, the Kitahama fishers were routinely forced to sell the majority of their lower-grade fish at rock bottom prices, often to fishmeal or fertilizer companies. Instead of passively accepting such glut conditions and abysmal prices, Kitahama fishers began searching for new overseas buyers who might pay a bit more for their fish. High Japanese labor and fuel costs, however, made the export of fully

processed Hokkaido salmon to Europe or the United States virtually impossible. Japanese companies simply could not produce the frozen salmon fillets that consumers had come to prefer at a cost comparable to those of Chilean salmon farms. Unable to reactivate prewar export patterns, the Kitahama fishers sought out Chinese fish processors who were pioneering new supply chains. The Chinese companies bought low-priced, lower-grade, minimally-processed, wild-caught fish from around the North Pacific. These companies then cut the fish into single portion sizes, deboned them by hand, repackaged them, and sent them off to European and American markets. China's lower labor costs and the convenient, "ready-to-eat" portions that the factories produced made otherwise low-value salmon into a globally competitive product. Although the Chinese factories would not pay top dollar for Kitahama's salmon, they outbid the Japanese fertilizer plants and raised the price of Hokkaido salmon just enough that – when coupled with the cost-cutting cooperative measures – gave the Kitahama fishers a real shot at reliable profits.

Over time, all of these efforts to "modernize" their cooperative structure, harvest practices, and trade patterns literally "paid off" for the Kitahama fishers: their incomes rose dramatically. When I arrived in Kitahama in 2009, I was stunned to find a world of unbelievable salmon abundance and uncommon levels of wealth. Salmon harvests were at an all-time record high. Gleaming stainless-steel boats decked out with the latest sonar lined a newly built concrete harbor, and the cars in the parking lot in front of the fishermen's co-op included several Audis, a couple of BMWs, and even a Mercedes-Benz, and nearly all of the salmon fishers were bringing home

incomes that put them into the top Japanese tax bracket.<sup>102</sup> Money certainly allowed the fishing industry people to enact their “modernity” to bring the world into their homes and cultivate the personal, literary, and culinary habits that marked them as part of a transnational cultured class. But they attributed their material success and their essential “modernity” to their cosmopolitan knowledge practices. Their ability to think comparatively and to produce works of *bricolage* – bringing together ideas from different genres of being and doing – was, for them, the core of what made them who they are.<sup>103</sup>

It was Ohno-san, who most clearly explained to me what it meant to be “modern” as an Kitahama fisherman. Ohno-san sat on the floor of his living room cradling his expensive pet Chihuahua in a failed attempt to prevent her from barking incessantly while we talked. Despite the inconvenience of the yapping dog, Ohno-san, a fifth generation Kitahama fisherman and the descendent of one of the town’s Meiji era pioneers, very much wanted to talk. From the outset, Ohno-san saw me as a kindred spirit – as a fellow social scientist. After attending an elite Jesuit boarding school, Ohno-san had majored in sociology at Hokkaido University. He had even written his bachelor’s thesis on the social history of Kitahama’s salmon fishing industry, a copy of which he eagerly loaned to me. Ohno-san’s favorite word for describing Kitahama’s salmon fishing practices was “evolved” (*shinka-shita*), and the

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<sup>102</sup> No one was ever willing to tell me exactly how much they were earning. I heard unsubstantiated rumors of about \$250,000 for some people. What I do know is that in 2012, bonuses alone, which make up only a part of earnings, ranged from 5 to 8 million yen (about \$60,000 to \$95,000, based on the exchange rate at that time). Figures were similar for 2011 at 5.2 to 8.5 million yen (about \$67,500 to \$110,000).

<sup>103</sup> *Bricolage* is a term used by Levi-Strauss (1966).



word appeared in virtually all our conversations. According to Ohno-san, Kitahama certainly has the most “evolved” technology. Their nets are more complex and better built than those of other cooperatives; not only are they so good that salmon cannot escape once they enter, but even human divers can't easily find their way out of Kitahama nets. Kitahama boats, too, have the finest in advanced navigational equipment. But when I ask Ohno-san directly about what makes Kitahama’s salmon fishing so “evolved,” he brushed the technology aside. For him, what is most “evolved” about the set-net group is neither the nets nor the boats, but the group’s way of thinking. They are more evolved than other cooperatives, he says, because they aren’t bound to tradition (*dento*). "Other [fishing co-ops] just keep doing it one way because that's how they've always done it. We kept thinking that there must be a better way," Ohno-san explains. In contrast to other fishing groups, the Kitahama fishers have learned “how to talk to each other,” Ohno-san says. "It’s about communication, about being able to see the world in different ways.”

What Ohno-san calls being “evolved” other Kitahama fishers call being “modern” (*kindaiteki*). But regardless of the word, nearly everyone had the same explanation of what made them who they were: their ability to see the world from multiple perspectives. With multiperspectival views, they are thus able to reinvent their relationships with each other, overcoming "traditional" patterns of “local competition.” Kitahama fishers, they told me, were able to develop new modes of interacting because they had experiences beyond their local areas that provided them

with in-depth knowledge of other modes of relating, particularly those of the metropolitan university and the Honshu corporation.

According to both Ohno-san and Motozumi-san, physically changing places has been essential in allowing them to re-arrange their mental geographies. “Living in Tokyo changed how I thought about everything – truly everything,” Motozumi-san once told me. And when he, Ohno-san, and several others returned to Kitahama, they returned with their new abilities to compare. They began comparing the working of fishermen’s co-ops to metropolitan corporations, their lives in Kitahama to visions of who they might have become in Tokyo, and the existing situation in Kitahama to visions of a better future world. Based on their experiences in Tokyo, many of the Kitahama fishers are convinced that travel, information, and the ability to compare are fundamentally intertwined and that, together, these things are the foundation of their modernity.

### **An imperfect modernity**

The Kitahama fishing industry professionals truly loved the aesthetics and performance of modernism. They loved their sparkling new boats, the only all-aluminum ones in Hokkaido’s salmon fisheries, and they cared for them in a way that reminded me of the quintessential American image of a guy shining his sports car. They loved their organizational systems and regularized patterns for rapidly and accurately sorting fish by grade and sex as they unloaded them from the boats. They loved that they had designed and ordered wonderfully efficient welded metal sorting

tables and trained everyone to carry out their specific sorting job with an assembly-line mentality. They loved that everything on the dock had its place – that all gear was always cleaned, stacked, and properly put away. They loved the very scale that they had created, too. They had built a business structure where they were dealing in “big” quantities, not small-time cottage production. Simply put, the Kitahama fishing industry professionals were in love with their “success.” However, at the same time, they also felt dogged by their inability to “completely” modernize and frustrated by the “traditional” baggage that they could not seem to will away.

One evening, I wanted to talk with Motozumi-san about the rumors that I had heard about Ainu ethnicity among the Kitahama fishers. Were there Ainu people in the set-net collective, I asked him. “Yes . . . well, I don’t know,” Motozumi-san ambiguously answered. “I don’t like to think about people like that. . . . According to your Saul Bellow, discrimination begins with the word black.” For Motozumi-san, localized intra-cooperative discriminations were the wrong unit of comparison, dangerous not only to group cohesion, but also to his image of modernity. Racial discrimination was a mark of lingering “traditionalism.” Modernity, as he saw it, called for a race-blind utopia. Proper identity politics were to be played through cosmopolitan comparisons, not through race-based ones. But despite his efforts to foster collective sentiments among cooperative members, Motozumi-san couldn’t cleanse Kitahama of tradition in order to start with a blank slate. He, like all leaders of modernist projects, could not actually create the *tabula rasa* from which he yearned to build his imagined world. But while Motozumi-san did his all to ignore it,

the messiness of the “pre-modern” and “non-modern” kept bubbling up in ways that he couldn’t domesticate or work into his plans.

Motozumi-san could not, for example, erase the “traditional” race and class divides in the co-op. Although he had helped unite the fishers into a single business entity, people refused to be homogenized. Motozumi-san and the other co-op leaders quickly realized that they could not randomly assign people to work groups. People from wealthier parts of town did not want to work with people whom they identified as Ainu. Somewhat reluctantly, they continued to organize the “new” cooperative’s work teams around “older” geographies, forming five teams of boat and dock workers that very nearly replicate mid-20<sup>th</sup> century neighborhood and kin formations. People continue to work alongside those with whom they have the closest ties – the children (or grandchildren) of the people with whom their fathers (or grandfathers) applied for net rights. As an idealist, Motozumi-san wanted to assign people to teams based on rationalized needs for labor. But as a practical manager, he knew he couldn’t. To ignore prior allegiances would lead to too much friction.

Even the arrangement of dockside break rooms and boat moorages demanded that he consider layers of community history. Daily life would be filled with both unspoken tensions and petty arguments if one of the historically upper-class near-town teams were forced to share a break room with one of the more geographically and socially marginal “countryside” teams. So in a characteristically “inefficient” move, the cooperative decided to purchase duplicate goods. They bought two shipping container-sized prefabricated modular units to use as break rooms, one for

the two countryside teams and one for the three town teams, because they didn't want to break bread – or more accurately rice – with each other.

In between salmon boat unloadings, I would often sit at the cafeteria-style folding tables in one of the two dockside break rooms. After peeling off their vinyl bib rain pants, about 15 dock workers would crowd into one or the other of the break rooms, grabbing aluminum foil wrapped *onigiri* rice balls and cans of coffee or tea. But while I rotated in which break room and with whom I took my meals, no one else did. I quickly realized that – although the two break rooms were only a few hundred yards apart – this anthropologist seemed to be the only person who regularly traveled back and forth across the invisible line that apparently ran down the middle of the dock. If you asked people why they didn't go over to the other side, they just said that they had no reason to do so. When I was sitting in the break room for the teams whose members historically come from the neighborhoods that are closest to the center of town, I asked some of the people gathered there if there were any differences among the five teams. "Well," one man loudly stated, while gesturing toward the other break room, "the people over there are low-level (*reberu hikui*) people." Caught off-guard by his comment, which contrasted with the official set-net group rhetoric of equality and cooperation, I ask why the dock workers in the other break room were "low-level." Several of the men at the table jumped in to explain: the people in the other break room were from the geographic margins, the most eastern and most western of the five fishing zones. Those people were from the "countryside" (*inaka*), one of the near town fishers explained, using a Japanese term

that connotes a sense of rural backwardness and country bumpkin status. But I was still clearly missing the implicit message, so the dock workers made it more explicit. Silently, several people very deliberately and obviously mouthed the word “Ainu.” “But they don’t seem any different from anyone else,” I commented. I was quickly informed that appearances can be deceiving. The people in the other break room allegedly don’t look Ainu because most of them are only about a quarter Ainu, according to gossip, apparently enough to make them “low-level” but not enough to generate much phenotypic variation. “Are the people in the other break room a different people/culture group (*minzoku*)?” I asked, trying to figure out categories on the fly. “No, they’re not quite a different *minzoku*,” another man explained, “but they are definitely a different kind of people (*jinshu*).” I want to ask more questions, but when some other dockworkers suddenly open the door to the pre-fab, one of my conversation partners draws his finger across his throat, motioning to cut the conversation there.

The “we” of the co-op was clearly partial, tentative, and fractured. It was not the “we” of Motozumi-san’s modernization dreams – a fantasy of erasing difference, overcoming divisions, and buying one big, pre-fab break room<sup>104</sup>. Even the most

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<sup>104</sup> The effect of “low-level” and/or “Ainu” status on one’s income or ability to obtain a leadership position in the co-op was unclear. If anything, the “low-level” people were over-represented in the set-net group leadership. Although the group’s president is from one of the town groups, all of the other high-ranking set-net positions are held by people from the country teams (albeit people who clearly recited pioneer immigrant stories in private interviews about their family histories). Furthermore, during the time that I was there, one of the “low-level” groups hauled in the most fish and thus received the highest bonuses. That said, none of the people specifically identified by others as “Ainu” held positions of power in the cooperative.

ardent and skilled modernizer could not prevent certain “traditional” and “local” comparisons from cropping up and complicating the plans to make Kitahama’s fisheries into an “evolved” business that would compare well. They couldn’t “get rid” of race and class.

### **Commodified relations to fish**

They couldn’t get rid of salmon either.

By the time I arrived in Kitahama, most of the fathers of people like Motozumi-san and Ohno-san had passed away or were in poor health. But their sons told me of the older generations’ affection for the fish. One co-op leader gave me a book of haiku that his father had written about his awe for the region’s seasons and environs. For him, salmon clearly helped constitute time, place, and self:

Wearing his work clothes  
he takes on the airs of a poet  
the man of salmon

The great autumn salmon  
Caught in the morning  
An offering to the Gods

Clouds at sea  
The running fish rise up  
Vigorous salmon<sup>105</sup>

When Kitahama fishers owned their own boats, they had a real connection to their fish, many people told me, an old-fashioned kind of pride. The younger generation, however, didn’t yearn for that nostalgic world. They didn’t want salmon to be lively

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<sup>105</sup> All three poems are translations by the author (in consultation with Alan Christy) of pieces that appear in (Shinya 2009).

parts of their lives, the stuff of their dreams and poems. Even if they had failed to completely distance themselves from Kitahama and its fishing industry, they wanted to do the best they could to separate themselves from the fish. Their subjectivities demanded a different kind of relation to salmon.

On one hand, the Kitahama fishers knew that their particular form of modernity was completely dependent on salmon. Without the fish, their wealth and the cosmopolitan lifestyles it facilitated would be impossible. On the other hand, they felt that to be a fisherman was to be outside modernity. As we saw in the description of cooperative practices, they yearned to be businessmen who dealt in data. However, there was no getting rid of the actual fish. They were in their nets, on their boats, and on their docks. The Kitahama fishers' solution to this paradox was to kill salmon as quickly as possible – not literally, but affectively. Even though the salmon were still physically alive when they hit the boat deck, as fish, they were already dead to the fishers. “I don't even really see them as fish,” one fisher told me. “I only see them as money.” Through this affective salmon death, they replaced one form of liveliness, salmon liveliness, with another – commodity liveliness.

Like most Japanese, the current generation of Kitahama fishers liked to eat salmon – grilled for breakfast, buried inside a rice ball for lunch, sliced into sashimi for dinner. But the fishers didn't really like salmon as creatures. They rarely admired their fish or mused of the wondrousness of the salmon life cycle. They were almost willfully uncurious about the fish and sought to limit the amount of time they were forced to interact with them. When they unloaded the boats, each fisher had a



designated task: operating the winch, opening the net chain to deposit the fish into the unloading area, moving the fish into the sorting areas with plastic snow shovels, or sorting the fish by species, sex, and grade. They wanted to be alienated from salmon, to get the job done as fast as possible so that they could get on with their lives separately from the fish. If they kept on track, they could often be done with work by noon, leaving the afternoons free to play golf.

Before the formation of the single Kitahama co-op, salmon routinely spilled over into other parts of the fishers' lives. They were not so easily contained. When they ran their own small set-net operations and were financially crunched, they needed to enroll the whole family in fish-related endeavors. They needed wives and sometimes kids to help unload the boat, manage the books, market their fish, and hand-make salmon jerky to direct sell to tourists. As part of their attempts to raise salmon prices, the fishers also spent much of their free time organizing seafood promotional events such an annual salmon festival complete with a "salmon derby" where people would bet on which fish would swim across a tank the fastest. After the formation of the single co-op, the fishers stopped all of those activities without an iota of nostalgia. "Traditional" fishermen had to do such activities; "modern" fishing industry professionals didn't need to. For the Kitahama fishers, salmon-centric lives were signs of failure. You hold salmon festivals and wax romantically about your connection with fish when your fishing business isn't going well, they told me. Consider salmon festivals. You trump up your city as a "salmon town" in order to boost salmon sales. But for all the effort and planning they require, the festivals

represent a terrible return on one's investment of time and energy. Festivals might get you featured on television, but because of the way salmon are generally stripped of their specific cooperative affiliation as they circulate through fish auctions and grocery stores, that kind of publicity – even if it slightly boosts overall Hokkaido salmon sales – doesn't really translate into much of an increase in purchases of your salmon. The Kitahama fishers were proud that they didn't have to have festivals because they saw it as a sure sign of good business management. A well-run salmon group made enough money that its members didn't have to spend their time on desperate gimmicks.<sup>106</sup> Because they had overcome “traditional” modes of thinking to build a business-like salmon group, the Kitahama fishers were freed from the burden of having to perform “tradition.”

When I arrived in Kitahama, I immediately noticed how little the fishers' wives had to do with salmon. In other parts of Hokkaido, fishermen's wives were active participants in the salmon world. They made *toba* (dried salmon) to sell at local stores and markets and set up food booths at regional events where they made and sold fresh homemade seafood dishes. Sometimes, they also taught cooking classes, operated their own restaurant or even ran their own direct sales seafood stores. But in Kitahama, only a handful of women participated in the fishing cooperative's “women's division,” the entity through which fishermen's wives typically organize

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<sup>106</sup> Overall, the Kitahama fishers took a complicated approach to “entrepreneurialism.” They were firm believers in the value of some kinds of innovation, such as developing new international markets. But they were critical of small creative activities designed to make a few more bucks. Rather than celebrating this kind of entrepreneurial spirit, they dismissed it as an act of desperation.

such activities. I initially misread the Kitahama women's absence from fishing as a sign of potential oppression, and I asked a number of Kitahama wives if they were disappointed that they didn't get to participate in the fishery. Was there something about Kitahama fishing culture that was preventing their participation? But as Motozumi-san's wife explained to me, I was missing the point. Active women's groups are symbolically similar to salmon festivals. When fishing wives work, it is a sign of poverty, not empowerment. She hasn't been excluded from the fishery; she has the great privilege of not having to work outside the home. Because the Kitahama fishers are doing such a good job of managing their fisheries, she is able to choose to not join in the fishing world. As another fishing wife told me, Japanese fishermen typically struggle to find wives because women don't want to have to labor in the industry, but young men in Kitahama – who are able to keep their families separate from fishing – have plenty of potential brides.<sup>107</sup>

For the Kitahama fishers, modernity was a project of containment and transformation. They sought to contain the role salmon played in their lives by transforming them into abstract commodities as quickly as possible. As commodities, salmon could move, becoming cosmopolitan themselves. In doing so, they also generated the wealth that the Kitahama fishers used to surround themselves with the trappings – the commodities – of transnationally legible upperclassness.

Commodification was the route to freedom. Motozumi-san's favorite story, which he

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<sup>107</sup> Older Kitahama fishers also gently teased me that I should marry one of the young men because then I would have plenty of time to focus on my own interests – research and writing – without having to worry about money.

told me several times, was about one of his trips to Europe. On a visit to Paris, he had arranged for a special tour of the central Paris fish market so that he could continue to expand his knowledge about the global seafood industry.<sup>108</sup> Much to his surprise, as he walked through the market's aisles, he stumbled upon a crate of Kitahama salmon. He had gone all the way to France, only to encounter his own fish! I think Motozumi-san was especially fond of this anecdote because it demonstrated both his own cosmopolitanism and his success in turning his salmon to a global commodity. Through worldly thinking practices, he had successfully commodified salmon, freeing them to travel beyond local Japanese markets. By doing so, he had also separated himself from salmon-as-things, building an identity as a "businessman." He had created the financial wealth and freedom that he needed to be able to travel to Europe. While the men of Motozumi-san's father's generation had known salmon primarily through bodily intimacies, Motozumi-san's worldly ways had enabled him to "know" Kitahama salmon from Paris.

Motozumi-san and the other Kitahama fishers liked the idea of salmon-as-commodities – as uniform units that they could convert to money and then to other goods. They had actually built the concept of salmon-as-commodities into their co-op policies. While salmon fishers in other parts of Hokkaido would commonly select a few of the most beautiful fish to simply take for their own tables and freezers, such practices were not allowed in Kitahama. If Kitahama fishers wanted some of their

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<sup>108</sup> Every year, the group's board members go on a comparative study tour (*kensyuu*) to enhance their understanding of global fisheries. When their harvests are good, they travel internationally, and when I was there, they were debating if they should travel to Australia or Vietnam, both countries with important fishing industries.

own salmon to take home, they had to buy them from the set-net group at the day's per kilo auction price. The moment that they entered the set-nets, salmon were units of potential profit that belonged to the co-op. By mandating that everyone, including boat hands, buy their fish at the going auction rate, the Kitahama fishers intentionally closed the shortcut by which fish bound for fishermen's tables had long bypassed commodification. Instead, they structured their policies so that, even in order to become their personal food, salmon had to pass through a commodity-making apparatus.

The comparisons that the fishers made between their fathers and themselves, between traditional craftsmanship and modern business, and between salmon liveliness and commodity liveliness harkened them to rationalize salmon. Yet, as much as the Kitahama fishers found pride in their objectification of fish, their commodification of the salmon was far from "complete." Their eyes still noticed differences among salmon, and they still felt something special toward the most perfect fish. One day, when I came home from the docks, Motozumi-san's wife Mariko-san was vacuum-packing salmon fillets at the kitchen table. The night before, I had heard them drawing up a list of annual year-end gift recipients, deciding who should get how much fish and in what forms. Sending such *oseibo* gifts to family, close friends, and business partners is a common practice in Japan. But while most Japanese sent specialty food items purchased at a department store, the Motozumis sent salmon. During a lull in the morning action at the docks, Motozumi-san had brought some especially high-quality salmon that he had purchased from the set-net

group home to Mariko-san. Some of the salmon came from one of the rare sexually immature salmon that entered the near-shore nets. Because they had not yet used any of their energy reserves for developing gonads, their flesh had the highest fat content and was thus the most flavorful. These special fish, called *keiji*, were said to be a one-in-a-thousand or even one-in-ten-thousand catch. They never appeared at regular supermarkets, but when I occasionally saw *keiji* for sale at high-end department stores or specialty markets they were routinely being sold for the equivalent of about \$300 per fish. You couldn't tell for sure if a fish was a *keiji* until you cut it open and discovered an absence of sex organs, but you could hazard a guess by looking at a fish's outward appearance. Some fishermen in other parts of Hokkaido would sort out the shiniest silvery fish that seemed likely to be *keiji* or other high-value immature fish called *meijika* or *tokishirazu*, selling them individually at premium prices. But the Kitahama fishers did as little differentiation of their fish as possible, sorting them into four simple categories. If there was a silvery immature fish, it might go right into a crate where it was buried among regular fish and sold at auction in bulk at the normal price per pound. But sometimes, such fish caught the eye of the fishers as they sorted the day's catch. They might take a moment's break from their work to grab that fish and stash it aside to buy at auction. Such fish were a bargain deal – \$300 fish that they purchased at auction prices that hovered around \$3.50 per kilo. These were the kinds of fish that Motozumi-san handed off to Mariko-san, who then gutted, filleted, vacuum-packed, and froze salmon meat while also preparing small Tupperware containers full of salmon roe (*ikura*). The next day, she then carefully packaged the

frozen fish and chilled roe in Styrofoam boxes and sent them through refrigerated mail. This process repeated itself for several days until each name was checked off the original list.

After the packages went out, the phone began to ring often, with numerous “thank yous” from gift recipients. But one evening, when Motozumi-san answered, there was a different caller on the line: the refrigerated shipping company. They had some unfortunate news: one of the carefully packed gift boxes had accidentally been shipped regular mail rather than chilled mail. Because the product inside would no longer be safe to eat, the shipping company wanted to compensate Motozumi-san for the loss. Although I could only hear one side of the conversation, it was not difficult to imagine the other. “How much did you pay for the fish?” the shipping company representative must have asked. “I’m a fisherman, so I didn't buy the fish at normal price,” Motozumi-san answered, for once identifying himself as a fisherman rather than as a fishing industry professional. “Well, how much was it worth,” the company representative apparently replied. “That was the kind of fish you can't get your hands on, that you can't buy. It's irreplaceable,” Motozumi-san said, emphatically. “It was a *keiji!* You can’t calculate the value of a fish like that!” After more back and forth, the shipping company representative eventually offered an amount of compensation that I was not able to hear, and Motozumi-san, clearly still miffed, reluctantly accepted the settlement.

Most of the time, Motozumi-san was a fishing industry professional, and his fish were uniform commodities, known through spreadsheets and profit reports. Most

of the time, he claimed that he didn't like anything about fish. Once, when I asked him about what he liked best about working with salmon, he bluntly answered: "Nothing." He passionately claimed to be passionless about fish. But on occasion Mariko-san would cut open a fish, then call out to her husband in a voice filled with astonishment and wonder: "*Papa, keiji da yo.*" And in reply, even Motozumi-san would smile.



## **Chapter 6** **Making “wild” salmon in Japan** **(and in comparison to the Columbia River)**

### **Introduction**

“There are no wild salmon left in Japan,” an American fisheries biologist once told me. He had never been to Hokkaido or seen a Japanese salmon river, yet he knew that there was nothing of value there. Confidently (but incorrectly), he told me that more than 99 percent of Japanese salmon were of hatchery origin. To this biologist, it was simple: Protecting wildness was supposed to be the primary goal of salmon management. For him, there was nothing to be learned from salmon worlds that were not properly wild. Because Japan was an uninteresting wildness wasteland, there was no reason for him to be curious about Japan’s salmon. Such dismissive views of Japanese salmon management are not uncommon among salmon professionals in the United States and Canada. In the minds of North American conservationists, the Russians are ripe for redemption: they don’t protect their fish populations particularly well, but they have bountiful wild salmon-bearing watersheds. But the Japanese are an almost lost cause because they are doubly deficient – they both fail to conceptually “get” wildness and no longer materially have any of it left. North Americans<sup>109</sup> tend to see Japanese salmon management practices, which focus on “food security” rather than “wildness,” as illegible and improper.

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<sup>109</sup> Throughout this section, there is a tension in how I use the term “North American.” Very similar salmon management ideals exist in Oregon, Washington, California, and British Columbia. Alaska, however, has many important differences. I talk about how Alaska is different in some sections, but in other places the term “North American” causes problematic elisions.

Such critiques of Japanese salmon management are clearly linked to broader discourses about Japanese relations to nature. Talk of Japanese salmon always seems to be infused with a general sense that Japanese “culture” doesn’t do “nature” quite right. North Americans have long understood Japanese landscape-making practices as a product of fundamental cultural differences. The (Christian) West does the nature/culture binary; the (non-Christian) East does not. As the story goes, without a nature/culture split, the Japanese place “no particular value in an independent nature, untouched by human hands” (Morris-Suzuki 1998: 53), and thus, for example, do not see any categorical difference between an environment of domestic cherry trees and one composed of undomesticated pines (Morris-Suzuki 1998; see also Kalland and Moeran 1992, Asquith and Kalland 1997). Indeed, rather than valuing the wild “natural” pines of the forest like a Westerner would, the Japanese supposedly prefer the cultivated cherry tree, believing that the “most perfect nature [is] the nature most thoroughly improved by human beings” (Morris-Suzuki 1998: 54). In the supposed “Japanese worldview,” then, human cultivation is not antithetical to nature, but instead “allows nature to achieve its full potential” (Roth 2009). As a result, the Japanese can allegedly clear-cut virgin wilderness and replace it with tree plantations without feeling the loss of “nature” and “wildness” that a Westerner would. What Westerners see as a contradiction in Japanese attitudes and behaviors towards nature – the simultaneous ability of the Japanese to profess a deep love of nature and destroy the natural environment – is thus attributed to a lack of a nature/culture dichotomy.

I do not want to argue that this storyline is 100 percent wrong. It does indeed draw our attention to very real differences in the ways that people in Japan and North America engage categories of “nature” and “wildness.” However, I want to strongly argue that it is far from 100 percent correct. Furthermore, its use as an explanation for Japanese-nature relationships is incredibly dangerous because its explanatory power and rapid move towards closure prevent us from asking more critical questions about the historical contingencies through which specific relationships between Japanese people and other species have actually developed. If we accept this generic and stereotypical narrative as true, then we know the answers about Japanese-nature relationships before we even ask the questions: Japanese attitudes towards nature are “different” because they lack a nature/culture split and embrace cultivated nature.

Yet, especially for Hokkaido, this is far from the case. Wildness has a long association with frontier landscapes, and Hokkaido is no exception. As we saw in Chapter 2, Hokkaido has frequently been enrolled in “wild” narratives and cast as rugged, virgin terrain. In this part of Japan, as in western North America, “wildness” – an ongoing legacy of colonial settlement – is very much on the scene. Thus, when it comes to understanding “wild” salmon – or their relative absence – in Hokkaido, drawing a contrast between Japanese and North American ideas of “nature” misses the point. It is not that Hokkaidoans lack an idea of “wildness” that North Americans have; it is that Hokkaido salmon and North American salmon get linked up to circulating ideas of “wildness” in different ways.

In this chapter, I want to interrupt stereotypical comparisons about Japanese and North American ideas about “nature” by exploring the divergence and convergence of modes of salmon management in Japan and North America (specifically in the U.S. Pacific Northwest). Paying particular attention to enactments of hatchery and “wild” salmon, I show how the contrasts between current U.S.-based wild-salmon-centric management models and Japan-based hatchery-centric management models are both an incredibly recent phenomenon and the product of specific historical contingencies and particular practices of comparison (rather than supposedly innate cultural differences). On one hand, I take seriously the existence of “Japanese” and “American” approaches to salmon management, asking about the salmon-human worlds each brings into being and the kinds of claims each set of practices makes on us. But on the other hand, I also want to attend to the ways that the binary contrasts that a “two models” framework sets up do not begin to capture the diverse ways that people engage with salmon wildness and nature conservation in either Japan or the U.S. To this end, I ethnographically explore how people in one region – in Hokkaido – negotiate competing approaches to conceptualizing and enacting wild salmon.

As we saw in Chapter 2, hatcheries in Hokkaido and the Columbia River Basin have deeply intertwined histories: the Meiji government sent students to Oregon and Washington states to learn hatchery techniques, and the first Hokkaido hatchery was explicitly modeled after those in the Columbia River Basin. Nevertheless, even though fish culture technologies, visiting scientists, and even

salmon eggs have been traveling back and forth between these two places for more than 130 years, contemporary experiences of hatchery production in these regions could hardly be more different. While in Hokkaido hatcheries are heralded as a technology of redemption that has saved salmon and improved the lives of salmon fishermen, in the Columbia River, hatcheries are generally detested and viewed as destroying salmon “wildness.” These differences have had profound effects on regional approaches to salmon management. For example, while Columbia River managers have focused on maintaining “wild” salmon populations, framed salmon management as a matter of nature preservation, and tried to limit hatchery use, Japanese experts have focused on the health of hatchery stocks, framed salmon management as a matter of food security, and embraced the widespread use of hatchery technologies. Such contrasts call out for an explanation: How have these regions’ ideas about hatcheries come to diverge so significantly?

When I posed this question to fisheries professionals in both Hokkaido and the Columbia River Basin, they – like so many social scientists – nearly always turned to the explanatory logic of the “Japanese people lack a nature/culture split” stereotype. As one Japanese salmon biologist explained: “For white people, the difference between ‘wild’ salmon and ‘hatchery’ salmon is really big. For us, that difference just isn’t really there . . . it probably has to do with religion, but for Japanese people, domestication, like giving food to birds, well, that’s natural according to Japanese

values.”<sup>110</sup> But is the difference in Japanese salmon management approaches simply attributable to some immutable cultural essence as this salmon biologist implicitly claims? I argue that the answer is an empathetic no, and I turn instead to tracing the history of how such contrasting management approaches have come into being.

### **A trans-Pacific history of postwar salmon management**

Until the 1970s, approaches to “modern” Pacific salmon management in the U.S. and Japan both took similar forms and produced similar results. On both sides of the North Pacific, applied scientists touted the wonders of the hatchery and relied on it as their primary tool for managing salmon populations in the midst of radical transformations of salmon-bearing watersheds. Yet despite such similarities in management practices, fishermen and conservationists in the U.S. Pacific Northwest have long expressed far more unease about hatchery technologies than have their counterparts in Hokkaido. When salmon hatcheries were initially constructed in the Columbia River in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, they were widely embraced as a technology that was expected to augment the region’s fish runs. At the time, salmon populations were robust, but coming under increasingly intense harvesting pressure, as the invention of salmon canning turned the fish from a locally consumed food to a globally-marketed product. But then, in the 1930s, the role of hatcheries switched from one of augmentation to one of mitigation. During that decade, construction began on a series of large-scale hydropower dams on the Columbia

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<sup>110</sup> In this quote, the Japanese scientist said the words “wild” and “hatchery” in English, while he spoke the rest of the sentence in Japanese.

River, which would provide power to steel mills and irrigation water to corporate agriculture. But these dams blocked salmon's migratory routes between ocean and river and eliminated over a third of all salmon spawning habitat in the Columbia River Basin (Harrison 2008). It was no secret that this would cause catastrophic declines in naturally reproducing salmon populations and endanger the livelihoods of the river's fishermen, but the U.S. government and dam boosters offered a solution: they would build hatcheries below the dams, which would produce salmon and mitigate for the fish runs lost due to dam construction. Rivers could be turned over to hydropower and salmon could be ranched out of hatcheries, and everything would be fine. Columbia River residents mourned that the region's great natural salmon runs would be sacrificed on the altar of Progress, but most people believed that the techno-solution of the hatchery would allow them to continue to have strong salmon populations in the future.<sup>111</sup> The problem was that the hatcheries didn't work. The Columbia River's salmon could not be enrolled in this project.<sup>112</sup> Hatchery managers released hoards of juvenile fish every spring, but the return rates of those fish were dismally low, much lower than that for natural fish. The promise of human cultivation – that it would improve on nature – could not be realized, and salmon populations in the Columbia continued to decline. As fish stocks dipped lower and lower, distrust of and distaste for hatcheries began to rise (Cone and Ridlington 2000).

On the other side of the Pacific, Hokkaido's 19<sup>th</sup> century hatcheries – like

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<sup>111</sup> For more on the Columbia River, see Richard White's *The Organic Machine* (1995).

<sup>112</sup> See Callon (1986) on enrollment.

those in the Columbia River – were celebrated as an example of how modern technology could increase the efficiency of nature. Yet, as was the case in the Columbia River, Hokkaido hatcheries were ineffective, and salmon populations rapidly declined as a result of over-harvest and increased habitat degradation. But although salmon runs and coastal rivers were hard hit by development in Hokkaido (including dam construction), hatcheries never played a significant role in legitimizing such watershed changes. There were never any overt mitigation projects – and not even much of a concrete sense of "harm" towards the fishermen and the salmon. As salmon largely disappeared from Hokkaido, the island's fishermen just moved north to the waters around Kamchatka and the Kurils in search of more fish. Salmon declines didn't precipitate a sense of crisis, and the hatchery was not fingered as a tool of destruction.

Despite these differences in attitudes toward hatcheries in the U.S. and Japan, until the 1960s, the on-the-ground practices of making salmon were largely similar – and in both cases produced similarly lackluster results. But in the late 1960s and early 1970s, Hokkaido salmon management and Columbia River salmon management began to more sharply diverge. After the end of World War II, when Japan lost most of its access to Russian salmon, the Japanese government decided that they would make salmon of their own. In the wake of widespread postwar food shortages, any project that held the promise of increasing domestic food resources was given a high priority. Although hatcheries had been utterly ineffective at bolstering salmon runs in the past, the Japanese government poured money into hatchery research and



development, and by the mid-1970s, this investment started to generate a visible return. After hatcheries initiated new feeding programs and more carefully timed fish releases to correspond with optimal ocean conditions, Hokkaido salmon populations began to rapidly increase. Between 1970 and 1990, the number of salmon returning to Hokkaido increased more than 10-fold (Okamoto 2009).



**Figure 7:** Fertilizing salmon eggs at a Hokkaido salmon hatchery. (Photo by author)

In Hokkaido, late 20<sup>th</sup> century salmon hatcheries were not only effective, they also came to be seen as both democratic and sustainable. Although stories about domestication and cultivation are so often stories of resource enclosure, in which poor people lose out and wealth gets concentrated in a few hands, just the opposite happened in Hokkaido. Where the high seas factory ship salmon industry had privileged large corporations, the new coastal hatchery-based industry directly benefited local fishermen's cooperatives, who held the rights to set nets near the mouths of salmon rivers. Thanks to the new hatchery system, income from salmon harvests came to be more widely distributed, and rural fishermen, once struggling to pay their winter heating bills, suddenly found themselves able to send their children to college and take vacations to Hawaii (See Chapter 5).

In the Columbia River, hatchery production simply did not work nearly as well. In the 1960s, federal and state agencies also invested in hatchery research, but with less success. Two Oregon State University scientists conducted groundbreaking work on juvenile salmon nutrition and developed a new hatchery feed product called the Oregon Moist Pellet.<sup>113</sup> Although the OMP did improve the survival of young fish, it did not lead to the dramatic increases in returning adult salmon numbers that similar shifts in diet produced in Japan. It turns out that the specificities seriously matter. In Hokkaido, salmon populations are comprised mostly of chum salmon (*Oncorhynchus keta*), a species that migrates to the ocean within a few weeks of

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<sup>113</sup> See <http://marineresearch.oregonstate.edu/innovations-and-improvements-behind-scenes>

hatching.<sup>114</sup> Chum have very short hatchery residence times, and because they are so small, can be produced in large numbers with relatively few tanks. Needing little food and little human labor, chum are cheap to make. In addition, because chum don't live in such facilities for long, they have less time for the hatchery to affect their behavioral patterns. Furthermore, because hatchery chum do not make much use of river and estuary environments, instead migrating directly to sea, they are less impacted by the intense modifications of aquatic habitats that have accompanied "development." As a result of all of these factors, chum proved quite amenable to hatchery cultivation.

Once salmon populations were clearly on an upward trajectory, the Japanese government privatized salmon hatcheries, placing them in the hands of fishermen's cooperatives themselves. Hokkaido hatcheries became directly funded by the fishermen, who pay a set percentage of their gross income to their regional hatchery network. This system created a seemingly "sustainable" cycle in which profits from hatchery fish harvests pay to produce the next generation of hatchery fish without continual infusions of government funds.

In the 1970s, the State of Alaska took notice of Japan's hatchery success. Until that decade, Alaska – one of the world's largest salmon producing regions –

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<sup>114</sup> Data from Japan's National Salmon Resources Center. Based on my calculations using this data, chum make up 94.5 percent of salmon harvested (by weight). However, these statistics do not include a very small harvest of cherry salmon. It is also worth noting that while chum salmon have always been the dominant species, they would have accounted for a smaller percentage of Hokkaido salmon prior to intensive cultivation. While chum have thrived in hatchery settings, cherry salmon have not, and their numbers have continued to decline significantly in recent years. See <http://salmon.fra.affrc.go.jp/zousyoku/zousyoku.htm>

relied on stream-based salmon reproduction, constructing only a handful of hatcheries in the state's southern panhandle. But in the 1970s and 1980s, as Alaskan fish numbers dipped, both fishermen and government leaders sought to implement more active stock enhancement programs. In 1976 and 1983-84, the State of Alaska Department of Fish and Game sent officials to Hokkaido to explore Japanese practices of chum cultivation and hatchery organization (Moberly and Lium 1977, Kron 1985). Illustrating that development does not always flow from the "West to the rest," Alaskans embarked on large-scale hatchery cultivation inspired by Japanese models (McNeil 1980: 18). As in northern Japan, such practices of chum ranching proved successful in Alaska. Today, Alaska harvests about 17-18 million chum salmon per year compared to about 5 million per year prior to the mid-1970s turn to hatcheries, and hatchery fish have composed about 69% of recent chum harvests (Alaska Dept. of Fish and Game 2013, Knapp 2007b).

Contrast this with the Columbia River, a region with few chum salmon. The vast majority of the region's salmon populations are comprised of other species - Chinook (*Oncorhynchus tshawytscha*), coho (*Oncorhynchus kisutch*), and sockeye (*Oncorhynchus nerka*). Unlike chum, who migrate to sea soon after hatching, these species have lengthy freshwater residence times – anywhere from 3 months to 2 years.<sup>115</sup> Thus, when cultivated in a hatchery setting, they require extensive feeding

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<sup>115</sup> See info on chinook at <http://www.nmfs.noaa.gov/pr/species/fish/chinooksalmon.htm>

and care. This magnifies the challenges and costs of rearing such species.<sup>116</sup> Moreover, once they are released from hatcheries, such species rely much more heavily on riverine and estuarine habitats that have been hammered by diking and drainage practices throughout the past century. Furthermore, in the case of the Columbia River, where many hatcheries are located on upriver tributaries, out-migrating juvenile salmon often have to pass through one (and up to as many as eight!) dams. After they are swept through each dam's turbines or bypass pipe or over its spillway, the salmon are left stressed, disoriented, and more vulnerable to predation. As a result, improvements in hatchery diets yielded much less impressive results in Oregon and Washington than they did in Hokkaido.<sup>117</sup> Overall, the kinds of hatchery success stories that blossomed in Japan and Alaska proved impossible to replicate in the Columbia River, as well as in other parts of Washington, Oregon, and California.

### **Slipping into the “wild slot”**

But how, in the wake of such hatchery failures, did Columbia River salmon

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<sup>116</sup> When the costs of wages, fish feed, and high levels of fish mortality are all figured it, the cost to produce one adult Columbia River salmon harvested by a commercial fisherman cost from \$14 for the most effective hatchery and fishery to \$68,031 for the least efficient (Northwest Power and Conservation Council 2002). Even at its best – at \$14 per fish – hatchery fish production still runs in the red. In addition, the costs for producing hatchery salmon are borne not by the fishermen who catch the fish, but through Congressional appropriations, state taxes, and mitigation monies from dams (which pass off the costs to electricity rate payers).

<sup>117</sup> In this recounting of differential successes, variations in ocean conditions across the Pacific should also be considered. Differences in ocean conditions may also have contributed to the dramatically divergent return rates of hatchery fish in these regions.

become “wild”? The Western United States, with its histories of frontier expansion and nature, certainly had well-established notions of “wildness” long before salmon entered the scene in the early 1990s. In this section, I trace four processes that came together in the U.S. Pacific Northwest to articulate salmon to existing ideas of wildness and to slide salmon into the “wild slot.” Such processes did so by producing both strong anti-hatchery sentiments and a new categorical distinction between “wild” and “hatchery” salmon.

The first of these processes was a continued decline in salmon populations. As Columbia River hatcheries failed to produce salmon in large numbers, the once lucrative regional salmon economy declined and critiques of hatcheries deepened. In the 1990s, triggered in part by increasing habitat degradation and in part by changing ocean conditions, most salmon populations in western Oregon and Washington – regardless of whether or not they were born in a hatchery – nosedived. Although salmon declined throughout the Columbia River Basin during this time, certain highly visible stocks were particularly hard hit. For example, the Redfish Lake sockeye – a subspecies that spawns and rears in Idaho – hovered on the verge of extinction. Between 1990 and 1995, annual counts of Redfish Lake sockeye – a population that migrates more than 900 miles inland in order to lay its eggs – ranged from zero to eight (White 1995: 104). In 1992, the single fish that returned to Redfish Lake was given the name “Lonesome Larry” and mourned as the last of his kind (see White 1995: 104).

Such declines triggered a second key process – the articulation of salmon with

the U.S. Endangered Species Act. Environmental advocacy groups, disturbed by the possibilities of fish extinctions, set out to “save the salmon.” In 1990, the National Marine Fisheries Service received a series of petitions from nonprofit groups asking the agency to consider protecting several salmon populations – including that of the Redfish Lake sockeye – under the auspices of the Endangered Species Act. But such demands raised new questions. As salmon were interpolated into endangered species policies, both salmon populations and benchmarks for successful salmon recovery had to be more clearly defined. Who and what were to be protected? If the government built better hatcheries for salmon would that count as endangered species recovery?

This question leads us to the third process that has revolutionized conceptualizations of salmon in the Pacific Northwest: increasing research on salmon genetics. Prior to the 1990s, most people – including most fisheries managers – did not sense a meaningful difference between salmon that began their lives in hatcheries and those who were born in streams. A salmon was a salmon. But a handful of fisheries geneticists began to paint a different scene. Their research on salmon population genetics revealed that salmon of the same species that inhabited different tributary streams had remarkable genetic differences. Using mitochondrial DNA, scientists learned that salmon – a philopatric, or homing, species – are evolutionarily fine-tuned to the specificities of their natal stream – its water flows, temperatures, food supplies, and distance from the ocean. Part of what made salmon special were the unique relations that they formed with highly particular places. But hatchery

salmon, fish geneticists realized, lacked such specificity. Hatcheries had long swapped eggs, in attempts to both relieve shortages and increase the geographic ranges of salmon with desirable traits. For example, many of the hatcheries in the lower Columbia River reared salmon descended from eggs from southern Oregon's Rogue River because those fish were prized for their large body size and because their migratory routes improved harvest rates for Oregon fishermen (See Kostow 1995). In addition to countless stock transfers (see Taylor 1999), hatcheries also exerted selective pressures on salmon that incidentally altered their genetics. Concrete ponds and pelleted feed simply were not the same as undercut banks and a plethora of predators. Hatchery breeding practices also skewed salmon genetics. Worried that they might not fill their quotas of eggs if they waited until late in the season, hatchery workers consistently used the earliest returning fish as brood stock. As a result, the genes of early returning fish are nearly always overrepresented, and over the course of several decades, the timing of hatchery salmon runs has crept earlier (Quinn et al 2002). When they looked carefully at salmon genetic markers, fisheries scientists found that they often observed differences between hatchery and non-hatchery salmon in the same river. Although they were swimming in the same waters, they did not seem to belong to the same genetic populations. A salmon was no longer a salmon.

Fisheries scientists crafting policies on how to apply Endangered Species Act frameworks to salmon drew heavily on such genetic research. In 1991, a National Marine Fisheries document declared that hatchery salmon – with their motley genes



out-of-place – did not count as salmon under the Endangered Species Act. According to the policy, “the key is the link between a ‘species’ and its native habitat, and this link is broken when fish are moved from one ecosystem to another” (Waples 1991: 18-19). For the document’s authors, hatchery salmon, whose link to a specific spawning stream was no longer intact, did not represent “an important component in the evolutionary legacy of the species” (Waples 1991: 12). Such a statement had major legal and management implications. In its wake, Columbia River salmon policies became increasingly focused on protecting non-hatchery salmon – also called “wild” fish – as the identified bearers of valued genetic material.

At the same time, hatchery salmon increasingly came to be seen not merely as genetically worthless, but also as vectors of harm. New research indicated that hatchery salmon might actually be contributing to declines in wild salmon populations. Instead of returning to the facility of their birth, some hatchery salmon inevitably strayed and spawned in creeks, where they reproduced with local salmon and spread their weedy, mixed-up DNA. Scientists began to fear that hatchery fish strays would dilute the genes of wild fish and destroy their unique links to their specific rivers, thus endangering salmon diversity. Salmon who lacked local adaptations to their specific watershed also showed a significant reduction in reproductive fitness – meaning that the descendants of mixed hatchery and wild salmon parentage produced fewer offspring than did fish of exclusively wild parentage (Araki et al 2008). Scientists began to worry that lower levels of reproductive success might push some salmon populations closer to extinction.

On top of these genetic concerns, many environmental advocates also began to target hatcheries as a dangerous technology used to legitimate widespread destruction of watershed ecologies. In the mid-1990s, an increasing number of Columbia River residents began to experience salmon declines as a symptom of civilizational crisis. Salmon were the proverbial “canary in the coal mine” who were warning us that our relationships with the earth had gone badly awry. Salmon declines became a “crisis” that was framed in moral terms, as much as in economic and ecological ones. As one regional fishermen wrote:

The plight of our once abundant salmon runs is a case study of decades of institutional, political, and moral failure. Salmon declines are a symptom of all that is wrong with our society's current way of thinking about the world and about our place in it as a species. It is also a symptom of our worldwide cultural refusal as a civilization to live within the boundaries of responsible use of resources and habitat sustainability. Ultimately, the story of salmon is an allegory for the story of the human species – and a textbook example of the massive social and political failure now threatening future human survival on this planet. Salmon represent a profound crisis in culture that we have yet to come to grips with as a region, a country or a world society. (Spain 1995)

In the end, much of the blame for this crisis ended up on the backs of hatcheries – as much for their faulty ethical logics as for their technical failures. Beginning in the early 1990s, fisheries biologists, fishermen, journalists, and others began publishing a slew of books and articles that reinforced the emerging narrative that not only had hatcheries failed to live up to their promise of endless salmon, they had also served to legitimize the destruction of natural salmon runs (For a few examples, see Cone 1995, Cone and Ridlington 1996, Lichatowich 1999, Petersen 1995, Taylor 1999). It had been the fantasy of the hatchery – of producing salmon without protecting salmon habitat – that allowed dam construction to proceed without major objection. But

hatcheries had been a false god, a seductive dream that ended up being mere “techno-arrogance” (Meffe 1992). Hatcheries had not only underwritten environmental degradation, but also social inequality: they allowed salmon to be taken from proletarian fishermen and indigenous peoples in order to give both literal and figural power to corporate businesses. Within such logics, “saving salmon” came to mean turning away from the techno-temptation of the hatchery and toward the conservation of natural salmon spawning grounds, a change that called for a “complete reevaluation of our basic philosophies of nature, technology, and resource use” (Meffe 1992: 353). Part of this reevaluation entailed sharpening the distinction between wild and hatchery salmon.

The fourth phenomenon that has shaped the emergence of “wild” salmon has been the increase in farmed fish. Pen-reared salmon have served as an Other, a constitutive outside, that has been essential for the making of “wild” fish (See Hebert 2010). When farm raised salmon from Norway and Chile began to flood global salmon markets, all of the fishermen and processors who dealt in non-farmed fish were hard hit by the resulting price declines. Consumers did not initially perceive much difference between a farm-raised fish from Chile and a fisherman-caught one from Alaska – except for their price. And when it came to price, the salmon farms were clearly able to undercut those of fishermen. In a frantic effort to distinguish their non-farmed fish as premium products and (hopefully) boost their prices, U.S. and Canadian fishermen and processors turned to “wildness” as their central motif. “Wildness,” here, was certainly a tool for marketing and branding. In coastal fishing

communities in Alaska and the U.S. Pacific Northwest, a popular bumper sticker asserted: “Friends don’t let friends eat farmed salmon,” while advertisements in nationally circulating magazines trumpeted the “wild,” “pure,” and “natural” qualities of Alaskan salmon. However, the amplified attention to differences among kinds of salmon that such campaigns fostered affected more than just consumer purchasing patterns. It also brought a “wild”/non-wild salmon binary into widespread public use, albeit one that was different from those of either genetic researchers or conservation biologists.

Along the U.S. West Coast, the category of “wild salmon” has largely come into being through the conjuncture of the four processes described here: salmon population declines, genetic research, endangered species concerns, and the rise of farmed salmon. Although almost no one (except a handful of fish geneticists) made a distinction between hatchery and wild salmon prior the 1990s, since that time, salmon “wildness” has become the organizing principle for salmon management practices in the Columbia River region. Wildness also took hold beyond the U.S. Pacific Northwest, rapidly becoming a core principal for salmon management in British Columbia and Alaska. But as “wild” salmon spread, multiple definitions for them appeared. Salmon labeled “wild-caught” in a fish market were considered non-wild by fisheries biologists. Salmon that spawn naturally in streams were categorized as “wild” within the context of recreational fishing regulations, but non-wild within

research laboratories that analyze their DNA.<sup>118</sup> Although definitions of wildness remained overlapping, complex, and unstable, salmon had slipped into the “wild slot.”

But while the emergence of “wild” salmon marked a categorical shift, “wild” salmon is more than a mere category: it is a concept that pulls landscapes along with it. As “wild” salmon have gained traction in the U.S. Columbia River basin, they have made huge demands. They have altered water quality standards, fishing harvest regulations, hatchery management policies, scientific research priorities, and hydroelectric dam operations. They have had profound effects on regional agricultural, logging, and ranching practices – requiring a reduction in irrigation water and pesticide use, forest buffers to shade streams, and fencing to keep cattle from trampling spawning grounds. In the case of logging, “wild” salmon have reshaped policies to such an extent that a resource manager once quipped that Pacific Northwest logging regulations are “basically a salmon management plan.” As boundaries among kinds of salmon are defined, redefined and negotiated in courtrooms, research labs, hatcheries, and streams, they are far from neutral: they determine who gets to fish, how much power gets generated, and who gets to develop property. In the Pacific Northwest, “wild” salmon have proven to be a potent political

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<sup>118</sup> In this chapter, I am examining the form of “wild” used by most scientists and conservationist, which juxtaposes wild and hatchery fish. In culinary settings, “wild” salmon are defined in opposition to farm-raised rather than hatchery fish. At fish markets and restaurants, “wild” salmon include hatchery fish. I do not make such differences a central part of this chapter because Japanese and North American scientists and conservationists use the same wild/hatchery binary (although, as see later, they disagree about many other aspects of “wildness”). For more on salmon wildness categories in the Columbia River region, see Swanson 2005.

and landscape-making force.

### **Making wild salmon in Japan**

Initially, in the 1990s, most people involved in Hokkaido salmon management ignored the category of the “wild.” This inability of “wild” salmon to gain traction in Japan was the product of a lack of urgency rather than the result of a generic Japanese failure to engage with wildness or critiques of modernity. Hokkaido tourist promotional materials from that decade are filled with references to and images of wild nature. And with the burst of the Japanese economic bubble, Japanese people had plenty of declensionist narratives. But salmon did not get hooked up to these discourses as they did in the U.S. Pacific Northwest. Rather, to people in Hokkaido, it made little sense to try to fit Japanese salmon into the “wild slot.”<sup>119</sup> I suggest that there were two primary reasons for this. The first was the island’s hatchery successes. As it was enacted in the Columbia River basin, the promotion of “wild salmon” required casting hatchery salmon as inferior. But such a practice made no sense to people in Hokkaido. As a result of Hokkaido’s chum hatchery improvements, the region’s salmon populations were booming. Although estimates are difficult, perhaps about 85 percent of these salmon were hatchery fish. Instead of blaming hatcheries for a salmon “crisis,” people in Hokkaido thanked hatcheries for preventing one. Hokkaido’s hatcheries seemed to be working well and churning out large numbers of fish. There was simply no antipathy towards the hatchery as an institution. Rather,

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<sup>119</sup> This is my twist on Trouillot’s “savage slot” (1991).

hatcheries were viewed as the epitome of “sustainability” through comparisons with the high seas salmon fishery that dominated Japanese salmon production in the 1950s and 1960s. Within such comparisons, the factory ship salmon industry – which had produced the majority of Japan’s salmon in the immediate postwar period – was coded as an older “bad” system that had “preyed” on other nation's salmon runs. Effective hatcheries, in contrast, were trumpeted as institutions that allowed Japan to move towards “self-sustaining” and “responsible” fisheries. Borrowing a popular phrase often used by Japanese fisheries professionals, hatcheries marked a “good” transition “from fisheries that take to fisheries that make” (*toru gyogyo kara, tsukuru gyogyo e*). Overall, in the context of booming salmon population numbers, and international pressure to abandon high-seas fishing, people in Hokkaido came to experience hatcheries and hatchery fish as such a clear “good” that it made little sense to see them as deficient vis-à-vis “the wild.”

The second reason the category “wild salmon” was not immediately taken up in Hokkaido lies in the way that postwar Japanese salmon production has been framed as a matter of “food security.” When World War II ended, many Japanese people were literally starving to death. Although Japan has not suffered from famine for more than half a century, memories of postwar starvation have been kept vividly alive through documentaries and animated films, especially Studio Ghibli’s *Grave of the Fireflies*, and food insecurity remains the stuff of everyday parlance, with frequent newspaper articles about low levels of domestic food production. Tellingly, one of the vocabulary words I learned early in a beginning Japanese class was

*shokuryou jikyuuritsu*, or food self-sufficiency rate.<sup>120</sup> Such lingering concerns about food security and inadequate domestic food production have continued to shape attitudes toward salmon. An underlying sense of urgency in producing salmon as caloric units remains paramount in Japan in a way that it does not in the Columbia River Basin. In Hokkaido, salmon are first and foremost food - and only secondly ecological beings. In contrast to the Columbia River, in Hokkaido, there is a sense that there is little room for being romantic about “wildness” when one is producing for the table.

But during the past 10 years, “wild salmon” have become too ubiquitous to ignore. They have come to dominate international salmon scientific conferences and make a claim to a sizable portion of the global higher-end salmon market share. As salmon have slipped into the “wild slot” in North America, they have created ripples that salmon managers in Japan have no choice but to engage. As in the 19<sup>th</sup> century, international legibility and comparability still matter in Japan, and, just as during the colonial settlement of Hokkaido, practices of land use and environmental management continue to be key modes for enacting modernity. In the intervening century, the goalposts for “modern” human-nature relations have certainly shifted – frontier expansion is out and environmental conservation is in – but the desire to compare well remains. Although recent Japanese resistance to international cetacean conservation regimes is legendary, Japanese people seek eco-comparability at the

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<sup>120</sup> Today, Japan imports about 60 percent of the calories consumed within its borders, their prices and supplies subject to the whims of international markets (USDA 2012).



same time that they also seek distinction. Most of the Hokkaidoans I met loved to point out signs of their environmental modernity and comparability – their world-renowned recycling programs, their UN Natural World Heritage Site, their wetlands protected under the RAMSAR convention, their active participation in the Conference of Parties (COP10) Convention on Biological Diversity, and their UN-backed global Satoyama Initiative.<sup>121</sup>

During the past decade, as “wild salmon” has become a category of transnational environmental action taken up by pan-Pacific groups such as the North Pacific Anadromous Fish Commission and the Wild Salmon Center, Japanese fisheries managers have wanted to be legible to it. Thus, wildness has gradually become a part of the piscatorial landscape of Hokkaido, spawning new practices and rationalities. In many cases, Japanese scientists and environmentalists – like their North American counterparts – are now working to “un-domesticate” salmon, return spawning to rivers, and reconnect salmon to ecosystems. On the surface, such changes seem to indicate that Japanese salmon professionals and nature advocates have – at long last – “seen the light” and accepted North American ideals of wild salmon management into their hearts. However, the emergence of “wild salmon” in Japan is not a simple “West to the rest” story that marks a Japanese conversion to a Columbia River-style sense of wildness. While North American conceptions of “wild” salmon have clearly come to affect salmon in Japan, they have not been

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<sup>121</sup> <http://satoyama-initiative.org/en/>

adopted wholesale. Instead, they have produced a complex push and pull around what counts as salmon “wildness” and about how “wildness” matters.

For Japanese salmon professionals and activists, the emergence of wild salmon in Japan is emphatically not a sign of a spread of universal ideas about salmon management from North America to Japan or an attempt to mimic U.S. salmon landscape formations (an impossible task). Instead, at the same time that they engage in conversation and comparison with North American salmon practices, Japanese salmon professionals and activists clearly refuse their implicit universality. The Japanese people with whom I worked often feel that current salmon management practices in Hokkaido are woefully inadequate, but, for them, such inadequacies are not the product of a failure to conform to North American management standards, as North American-based scientists might see it. Rejecting universalism, Japanese salmon managers and advocates claim that their task is to find their own ways of doing salmon and wildness that work here. They show us that what might superficially seem to be a convergence of Pacific Rim salmon management practices around a singular concept of “wildness” instead marks the emergence of multiple ways of doing the wild. Until the last decade, there was no term for “wild salmon” in Japanese. Now, there are two: *wirudo saamon* and *yaseigyō*. The dual usage of these terms is emblematic of Japanese salmon management. The first word is written in *katakana*, a script used to mark terms as “foreign” loanwords. The second is written in *kanji* characters, a script originally borrowed from China around the 5<sup>th</sup> century, but now largely domesticated as Japanese. As these two terms indicate, wild salmon

are sometimes marked as a conceptual foreign import, other times as an inherently Japanese concept. Regardless, they are never the same as “wild salmon” in English.

In the following sections, I trace how Japanese *wirudo saamon/yaseigyō* are coming into being in Hokkaido through practices of eco-certification, scientific research, and citizen-led conservation projects. Because “wild salmon” is never merely an abstract category, but always also a material arrangement, I attend not only to diverse conceptions of wildness, but also to their spatial entailments. Wild salmon make demands on landscapes, and different “wilds” do so in different ways. Different landscapes, one must note, are also part and parcel of the processes through which different “wilds” come into being. By detailing three trajectories of wild salmon-making in Hokkaido, I show how multiple wild salmon are emerging there through simultaneous engagement with and explicit rejection of North American practices of salmon wildness.

### **Trajectory 1 - “Sake no furusato” – Ishikari River Nature Protection Society**

For decades, a local nature protection society has been working to restore salmon to the waterways near Asahikawa, the second largest city in Hokkaido with a population of about 360,000. Although I had traveled through Asahikawa many times by train en route from Sapporo to the major salmon producing towns on the Okhotsk Sea coast, the thought that this inland city might also be a “salmon town” had never crossed my mind. An industrial center encircled by mountains, Asahikawa never struck me as a place to look for fish. While the city’s tourist brochures trumpeted its

zoo, sake factory, and pottery village, they never made any reference to salmon. But according to Nakamura-san, the president of the nature protection society, Asahikawa – located near the center of Hokkaido – was once also at the very center of its salmon worlds. In a nation where short, steep coastal rivers predominate, the Ishikari River, Nakamura-san tells me, is one of the few that winds its way far inland, stretching 268 kilometers from its mouth on the Japan Sea Coast to its headwaters in Daisetsuzan National Park. For centuries, salmon flourished in the watershed, and both archeological and historical records indicate that it may have had the largest salmon populations of any river in Japan (Segawa 2007 and pers. comm. ). Although some salmon climbed all the way to the river's tiny headwater streams, many spawned in the flatter parts of the Asahikawa *bonchi* (bowl-shaped basin). Here, groundwater – percolated precipitation from the surrounding mountains – bubbles up through riverbeds, forming pockets of spring water that make for perfect chum salmon spawning grounds. With abundant salmon populations, the Asahikawa region also supported sizable human ones, as Ainu peoples clustered around this ideal location for harvesting fish. But in recent centuries, Asahikawa's salmon populations have faced more than their share of overharvesting, river channelization, and agricultural development. Furthermore, in the early 20<sup>th</sup> century, the Japanese government established a wood pulp processing plant upriver from a major salmon spawning ground. Soon, the river was so polluted that it smelled. Yet even then, salmon managed to return to Asahikawa every year until 1963, when the construction of a downstream agricultural diversion dam *sans* fish ladder put an end to their migrations.

Nakamura-san, a 65-year-old retired high school teacher who was born in Asahikawa, has been concerned about the river's health since he was young. When he was 13, he started climbing local mountains and trying to connect with nature. For decades, he has climbed Daisetsuzan – the largest nearby peak – once every month to maintain his sense of place. He especially loves the wildflowers that bloom in late June and early July, he tells me. It was natural, he says, to want to protect the environment about which he had come to care. In the early 1970s, when he realized that the river flowing from the mountains he loved was desperately polluted, he – along with other residents – took action and began testing its water quality. Although the wood pulp factory had been privatized after World War II, it – along with other industries continued to foul the river. Nakamura-san and his friends were surprised when, in addition to other chemicals, they found high levels of mercury in the river. At first, they thought that it must be from mining or agriculture, because – after Minamata – they assumed most facilities had cleaned up their acts. But the mercury both peaked at the outflow pipe of the wood pulp factory and exceeded the level allowable under national pollution control standards.<sup>122</sup> The group of which

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<sup>122</sup> Minamata refers here to an industrial pollution incident first identified in the mid-1950s in a Honshu city by the same name. Factory discharges of heavy metals – particularly mercury – accumulated in the tissues of fish in surrounding waters. When people and cats consumed contaminated fish in large quantities, they began to exhibit strange and sometimes fatal neurological symptoms. Human sufferers were eventually able to prove the link between the factory discharges and their affliction (called Minamata Disease), force the factories involved to significantly reduce their pollution output, and obtain some compensation from the company involved and the Japanese government. The Minamata incident is widely viewed as one of the pivotal, catalytic moments in the development of the Japanese environmental movement (George 2001, Oiwa 2001).

Nakamura-san was a part forced the factory to clean up its act – to install a settling pond and a water treatment process. As a result of such actions, the river’s water quality dramatically improved, but Nakamura-san still worries about how much contamination lurks in the mud.

In the years after the river clean up movement, Nakamura-san continued to be a passionate environmental advocate – protesting road building, dam construction, and the overcutting of national forests and serving as the head of the major prefecture-wide nature conservation society. “But I was tired of anti-this and anti-that activism, I wanted to make something, not just oppose things,” Nakamura-san said. “That’s what led me to salmon.” In 1983, Nakamura-san started the local nature protection society, with the goal of restoring wild salmon to the region. He emphasizes the “wild” (*yasei*) part. In contrast to another “Come Back Salmon” project in Sapporo that made its goal the construction of a local hatchery, he has always been working toward naturally reproducing fish. His objective, he explains, is to make Asahikawa a *sake no furusato* – a hometown for salmon. At most nature society events, he displays a banner with the slogan *Asahikawa wo yasei no sake no furusato in shiyō* (Let’s make Asahikawa a hometown for wild salmon).

I must pause for a moment to explain *furusato*, as it is a word that does not translate well. The term is typically used with nostalgia, affection and longing to refer to the (human) community of one’s birth, yet it also carries strong connotations of the rural pastoral village that is seen as the heart of traditional Japan (Ivy 1995, Robertson 1991). *Furusato*, held up as an *ur*-Japanese concept, is about dense webs

of connections and relations – to other people, to rice paddy agriculture, and to the intangible atmosphere of place. Nakamura-san invokes *furusato* with the aim of pushing people to reconceptualize this quintessentially Japanese term. For him, *sake no furusato* is not a location as much as an act – an act of multispecies place-making in which nonhuman relations are as important as human ones. Nakamura-san yearns to rebuild connections – between salmon and their watersheds and between humans and nature. “Now, the [hatchery produced] fish have no relation to the rivers (*tsukiai ga nai*),” he says. “They are not real salmon (*Honrai no sake de wa nai*).” “[Hatcheries] are just factories at mouth of the river.” Ecological connections, he claims, are what make salmon “real.” One of his greatest dreams, he tells me, is for the bears in Hokkaido’s Daisetsuzan National Park – one of the island’s largest undeveloped tracts – to be able to once again dine on salmon. Such relations are what are needed to make the place a real *sake no furusato*.

Nakamura-san’s group has been working to make wild salmon in Asahikawa both by making their absences felt and by bringing their bodily presences into being. For several decades, the nature society has recruited hundreds of local families to hatch salmon eggs in aquariums in their homes.<sup>123</sup> Every year, at a community ceremony, the families release their young salmon into a tributary stream, hoping that someday they will return to repopulate the river. It is a labor of love against nearly impossible odds. In early April, I watched as families gathered along a riverbank made almost entirely of concrete to release their tiny salmon into a heavily “improved”

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<sup>123</sup> About 60 households participate every year.

river – straightened, diked, and dammed. Each family cares for about a hundred eggs, closely tracking their development, and I overheard a couple of salmon raisers comparing their stats. "All of mine hatched this year. I was worried about the last two. They were really slow, but they finally hatched. How about yours?" I spoke with one 11-year-old boy who wrote his own weekly salmon newspaper to update everyone on the progress of his eggs and then fish. "He was praised for it at school," his mother interjected. He loved it so much that he plans to do it again next year. "It was so interesting when they started getting eyes!" the grandmother exclaims.

Standing on the cemented riverbank, the families gently pour their fish from plastic buckets into the river. As they do, they shout *itterashai* (go and come back) to the young salmon, using the same words that one would use when a family member leaves home for a day at work or school. But they know that the chances are slim that any of their fish will return. Even in the best of conditions, only about 2-5% of salmon survive to adulthood. For these salmon, the odds are clearly much worse. Among other challenges, the dam that killed off the region's salmon in the 1960s remains. Although it was retrofitted with a fish ladder in 2000, it was poorly designed and does not function well. The entrance is too narrow and the water flows too quickly, forming small eddies and whirlpools. Yet, a handful salmon do seem to make it up the fish way. In 2003, Nakamura-san received the phone call for which he had long been praying: a fisherman had found the decomposing bodies of two spawned out salmon along the bank of a nearby tributary. Nakamura-san had those first two fish preserved in alcohol and put on display at a local museum as a symbol of hope. If



two fish could make it to Asahikawa, others could, too.

The nature society members also tried to directly reconnect salmon and rivers by building in-stream spawning beds for salmon and seeding them with eggs from a downriver hatchery. One Saturday, I joined the members – mostly retirees, housewives, and families with elementary school aged children – as they schlepped rocks from a mid-river gravel bar to a side channel.<sup>124</sup> Although they enjoy the act of raising salmon in their homes, the members tell me that they feel it is crucial that the majority of the eggs that their project receives from a government hatchery grow up naturally in the river. The problem is that, today, there is not much natural about the river. Intensive diking has largely blocked the upwellings of spring water so essential for the survival of chum salmon eggs. “When you turn the sides and bottom of a river into concrete, you just don’t have much left,” Nakamura-san explains. Channelization has altered river flows, decreased riparian areas, and decreased the amount of properly sized gravel to a degree that it is hard to find places where it is hydrologically possible to restore wild salmon. But every year, Nakamura-san and his group do the best they can. With shovels and bare hands, they build a spawning ground, picking a place with at least a little fresh spring water and arranging rings of rocks to keep predacious fish from eating the eggs. They dig a small channel upstream, trying to ensure that enough river water flows over the eggs to keep them oxygenated but not so much that it washes the eggs away. “It’s not enough, but it’s all we can do,” one volunteer tells me.

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<sup>124</sup> About 20 people participated in this event, but the society has about 150 active members.

In recent years, however, the group has managed to do more. Nakamura-san prodded a government-funded salmon research institute to give the river large infusions of young salmon for three consecutive spring seasons. These releases are essential for Nakamura-san's group as they allow them to release salmon into the river on an otherwise impossible scale. While they can only rear a few thousand salmon through their network of household tanks and hand-made spawning beds, the government institute – as part of its collaboration with Nakamura-san – released 250,000 juvenile salmon into an Ishikari River tributary each year from 2009-2011. They selected eggs from a hatchery in the same watershed, hoping that the fish would have some genetic similarities to those who once inhabited Asahikawa's waterways. The efforts seem to be paying off. More than a year after I returned to the U.S., a friend in Sapporo phoned to tell me that he had just seen Nakamura-san on an NHK program celebrating that many of those salmon had returned to an Asahikawa river and were spawning on their own.

During the time I spent with Nakamura-san, everything made perfect sense to my Columbia River-based salmon sensibilities. Although Nakamura-san and the other nature society members relied on quintessentially Japanese concepts such as *furusato*, their wild salmon-making practices aligned seamlessly with those proffered by North American salmon professionals. As in the Pacific Northwest worlds that I knew best, the nature society members primarily located salmon within ecological webs rather than logics of food productivity. Their conversations were about biodiversity, woody debris, riparian zones, nutrient cycling, and shade trees – and of course wildness.

Nakamura-san did not speak any English and my Japanese was far from perfect, yet we never had much trouble understanding each other because we spoke mutually intelligible dialects of “nature” and “nature-loving” (see Tsing 2005 and Satsuka 2013?). Our versions of wildness jived. For Nakamura-san and the nature society, wildness was a true universal, an intrinsically valuable way of relating to the natural world. It was not an idea of “the West.” As they worked to re-establish a *sake no furusato* filled with *yasei* salmon, they saw no contradiction in doing wildness and being Japanese.

### **Trajectory 2 - “Honto ni oishii” – Sapporo Salmon Society**

For a second example of wild-salmon-making in Hokkaido, I offer up stories about a citizen salmon movement that promotes enacting fisheries conservation through practices of eating rather than practices of wildness. Instead of using idioms of nature protection, Yamada-san, the president of the Sapporo Salmon Society, seeks to build better salmon-human relations by promoting certain acts of domestic salmon consumption. In his late 70s, Yamada-san is a retired hatchery researcher and director who held numerous salmon-related positions across Hokkaido during his 35-year career. More recently, in his retirement, he has served as the director of a salmon museum, published a trade press book on salmon, and sat on the boards of at least four different salmon-related nonprofit groups. A skilled orator who clearly enjoys playing a “wise-elder” role, Yamada-san has become a missionary of sorts, preaching a gospel of Japanese salmon eating. Over the years, he has gained countless converts;

for example, under his tutelage, the all-volunteer salmon society has recruited an incredibly diverse membership – a doctor, an NHK reporter, a professional musician – and has formed alliances with the Sapporo City government and major fish processing companies.

Yamada-san, however, never intended for his life to be so intertwined with these silver fish. His father had devoted his life to Hokkaido's salmon hatcheries, and Yamada-san – resistant to the idea of following in his father's footsteps – wanted to research marine plants instead. However, in the tumultuousness of early 1950s postwar Japan, Yamada-san struggled to find a job after he graduated from Hokkaido University. His father, however, was able to finagle some hatchery work for his son. With no other prospects, Yamada-san reluctantly took the position. “As soon as I started work [at the hatchery], I kept trying to come up with a reason to quit,” Yamada-san said. But just when he was about to hand in his resignation, the salmon eggs began to hatch. “Then the juvenile salmon began to swim around. Watching the fish sparkle as they swam in the water, I began to think that I might want to stay around this work.” When Yamada-san talks about salmon, his eyes sparkle almost as much as the backs of the fish. He is profoundly in love with what he calls the *roman* of salmon – the romantic, adventurous tale of the salmon lifecycle. “You can't teach children the importance of life with scallops,” he once told me. “Scallops don't have a story.”

Yet for him, the force of the salmon lifecycle story lies not in abstract awe, but in the physical consumption of salmon bodies and salmon stories. Salmon eating

is the only true basis for salmon love. Indeed, for Yamada-san, eating salmon is an obligatory act of relating to them well. In recent years, Yamada-san has been disturbed by two salmon trends that he sees as a threat to proper salmon eating: increasing Japanese consumption of imported farmed fish and increasing North American criticism of Japanese salmon hatcheries. Under Yamada-san's guidance, the Sapporo Salmon Society as sprung into action against both of these trends, teaching Japanese mothers and children about the benefits of domestic salmon and fostering international understanding about Japan's salmon management challenges through an exchange program for Japanese and Canadian youth.<sup>125</sup>

On a warm late July day, I attended one of the salmon society's domestically oriented programs: a parent-child cooking class held during the summer school vacation. Although the course is unique in its salmon focus, it is also part of a broader *shokuiku* (education for eating) movement in Japan that teaches about healthy eating, reconnects people with agriculture, and promotes the consumption of local foods. As is the case for nearly all salmon society events, the class began with a salmon dissection and ended with a salmon meal composed of parts from the same fish. For Yamada-san, who always leads the dissection, the activity is his attempt to ensure that curiosity and wonder about salmon-as-nature are always embedded in relations of eating. As another of its projects, the salmon society helps local elementary schools

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<sup>125</sup> Initially, in the 1970s and 1980s, the group put most of its energy into what it called the "Come Back Salmon" movement, which sought to restore salmon to one of the city's urban rivers where years of water pollution had killed off all the fish. The group successfully lobbied government officials to control pollution, established a small hatchery to reestablish the fish run, and started a community salmon education center.

hatch salmon eggs in their classrooms and release juvenile salmon into local waterways. But too many of the children, Yamada-san worries, come to experience the young fish as *kawaii* (cute). “They say ‘oh, salmon they’re so cute, I’m not going to eat them. The poor salmon (*kawaisou*).’ Well then, what are you going to eat?” Yamada-san says. In response, he insists on bringing killing and eating into the picture by doing salmon dissection and cooking with these children too. “Even vegetables are life. Living (*ikiru*) is always about humbly receiving (*morau*) other lives.” Salmon, he thinks, are one of the best organisms for teaching about this “problem of life” (*inochi no mondai*) – the challenge of eating well – because they are both an awe-inspiring species and a prized food. For him, they present the “contradiction” (*mujun*) of conservation and consumption, of respect and killing. He wants the children to develop better affects and better subjectivities – ones that allow them to do the work of eating well.

After he has the children touch the salmon body parts and guess their functions, Yamada-san turns his attention to the parents – almost exclusively mothers – who are also participating in the event. Yamada-san’s unabashed goal is to convince them to buy only Hokkaido salmon and to buy lots of it. Although he participated briefly in the JICA-Chile project (see Chapter 3), Yamada-san is strongly anti-farmed salmon. He sees imported Chilean salmon as virtual devil fish – those who lead Japanese consumers astray. In Yamada-san’s talks, there is always a sense that the Japanese need to reeducate their taste buds, which have been hijacked by the seductive and dangerous “other” of the fattier Chilean salmon. When Yamada-san

asks the children to raise their hands if they like *sake*, the word that connotes domestic chum salmon, one child blurts out, "I like *saamon* not *sake*," meaning he likes imported farm-raised salmon, but not domestic fish. "That's the problem," Yamada-san says. "[Japanese and Chilean salmon] are fundamentally different (*konponteki ni tigai ga arimasu*)," he says. Chilean salmon are merely a product; they do not bring Japanese people into connection with their landscapes.<sup>126</sup> Even more importantly, they are not nutritionally equal to Hokkaido fish. As in all of his public seminars about salmon, Yamada-san depicts Chilean salmon as dirty and contaminated, focusing on the levels of antibiotic residues and the artificial dyes found in imported salmon. Furthermore, he stresses that, due to their pellet diet, Chilean salmon have lower levels of beneficial nutrients such as Omega-3s and DHA than do Hokkaido fish, and he presents an image of foreign producers as sneaky people unlikely to follow Japanese guidelines for producing a clean, safe product. Yamada-san clearly builds on already existing Japanese fears about contaminated imported food. In 2008, milk, rice, and packaged gyoza dumplings – all from China – were found to be tainted with dangerous chemicals. In contrast to such imports, Yamada-san consistently describes Hokkaido salmon as *anzen-anshin*, as phrase that translates rather roughly as "peace and ease through safety."

Using virtually the same language every time, Yamada-san calls on the people who attend salmon society events to re-evaluate how they judge the *oishisa*, the

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<sup>126</sup> A bit of frustration with the Japanese government because he worked so hard to make salmon for the nation in Hokkaido only to have his salmon that he made for Japan be shipped overseas and undervalued.

tastiness of salmon. At the supermarket, farmed salmon, with their pretty dyed red color are *oishiso*, look tasty. But Yamada-san challenges people to judge tastiness not through their eyes or even through their tongues, but through real knowledge. Filled with additives and antibiotics, Chilean farmed salmon present a deceptive, false sense of *oishii*, he says. They taste good on the tongue, but are not nourishing to either human bodies or to the ecosystems they pollute. Despite their lighter color and less flavorful flesh, nutrient-rich and environmentally friendly Hokkaido salmon are *oishii* in the ways that really matter.

Although such comments indicate that Yamada-san sincerely cares about protecting environments, he thinks that the salient comparisons in such situations are those between natural/farmed and domestic/imported rather than between wild/hatchery. However, he does not reject wildness or wild salmon conservation. “As it’s being said internationally, *seibutsu no taiyosei* (biodiversity), *seitaikai no iji* (ecosystem conservation) are the point of view from which we are going forward.” In Japan, “those of us who are connected to salmon are thinking about them as wild animals (*yasei dobutu*). We’re looking for hatchery production that approximates wild (*yasei ni chikazukeru*). We can’t say that just because hatchery production has succeeded everything is fine.” Yet Yamada-san is also simultaneously wary of the (North American) wild and wants to circumscribe its power to predetermine what count as “good” salmon management practices. He worries that wild-based management regimes might displace hatchery production and threaten Japanese enactments of salmon-as-food. “The Japanese are fish-eating people,” Yamada-san



explains. “With our small land area, we can’t really rely on grazing, so we need to ranch the sea.” Yamada-san wants international understanding about Japanese fears about food security to temper wild-centric approaches to salmon management.

One of the salmon society’s other projects, a Japanese-Canadian youth exchange program – seeks to foster precisely that kind of understanding. In odd years, Sapporo students travel to a town in British Columbia to learn about human and salmon worlds on the other side of the Pacific. In even years, the British Columbia students come to Sapporo. When I ask him why the salmon society sponsors the youth exchange, Yamada-san tells me that direct human-human relations are what we need to transcend stereotypes and overcome frictions. “Environmental problems are only going to get more difficult, so we need a sense of connection.” In 2010, I tagged along on some of the events that the salmon society organized for a group of Canadian junior high students who were visiting Sapporo. In addition to general sightseeing, the schedule included a visit to a salmon hatchery, a trip to a salmon museum, a fish dissection, and several conversations about nature and fish. Yamada-san wants the Canadian students to get a sense of how Japanese salmon-human worlds are different from their own. “Salmon equal nature in Canada,” Yamada-san tells me. “They even cut down trees and leave them in river for salmon.” Yamada-san wants them to see why such wild-based management practices are so difficult in Japan. He wants them to develop *rikai* (understanding). He wants the Canadian kids to understand the predicament of Hokkaido salmon – that in the legacies of 19<sup>th</sup> century modernization, wartime exploitation, and ongoing agricultural needs for land

– there are no “quick fixes” for Hokkaido’s damaged rivers. He wants them to understand Japan’s need for hatcheries so that they don’t just criticize Japan for not being wild enough. He wants them to entertain the possibility that hatchery fish are not the evil they are often depicted to be in North America – that there is no contradiction (*mujun shite inai*) in protecting natural spawning and promoting hatchery production. More than anything, working against all of the “bashing” of Japanese around whaling, he wants the Canadian kids to realize that the Japanese aren’t just environmental rapists who fail to understand the values of wildness, but are people who are trying to do the best they can with the landscape challenges that they’ve got. For Yamada-san, it all comes down to a simple mantra: “We’ve all got to eat.”

### **Trajectory 3 –“MSC” – Fishermen and salmon scientists**

In this final ethnographic example, I want to return to Kitahama, where wild salmon are also coming into being – yet in ways that are substantially different from those in Asahikawa and Sapporo. As we saw in Chapter 5, in the wake of the domestic salmon glut, the Kitahama fisheries cooperative has begun exporting a portion of its fish to Europe or North America via China. Yet despite such measures, the per-kilo price of exported Kitahama salmon remains low compared to the domestic salmon prices of the 1980s, and the fishers are perpetually thinking about ways to raise it. Not long after I arrived in Kitahama, I began to hear talk about the Marine Stewardship Council’s eco-label. “It’s what you have to have to sell at

Walmart these days," one fisher told me. Established in 1997 through a partnership between the World Wildlife Fund and the seafood company Unilever, the Marine Stewardship Council (MSC) sets standards for sustainable fishing and seafood traceability. Products that third-party certifiers determine meet MSC standards are allowed to use the organization's blue logo on their packaging.<sup>127</sup> As eco-friendly food production becomes increasingly trendy in some European and North American markets, a growing number of supermarket chains and restaurants – including Walmart (U.S.) Whole Foods (U.S.), Sainsbury's (England), the Carrefour Group (France), Aeon (Japan) and European branches of McDonald's – are making commitments to sell certified sustainable seafood, such as that bearing the MSC mark.<sup>128</sup> Many of their customers, too, are increasingly willing to pay a premium price for such products. If Kitahama had such an internationally recognized eco-certification, it might help raise the price of their fish, many cooperative members hoped. It might allow their product to more seamlessly travel into new international markets. After all, they saw their fisheries as highly sustainable and well managed. In a historical moment where environmental conservation is a mark of full modernity, they clearly thought of themselves as ecologically savvy. Their hatchery was well run, and the fishermen's cooperative had campaigned to keep a local lake clean, worked with upriver farmers to reduce pollution from agricultural runoff, and planted trees to protect local watersheds. They were not overharvesting the seas; instead, their salmon harvests were at all time highs.

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<sup>127</sup> See MSC homepage at [www.msc.org](http://www.msc.org) for more information.

<sup>128</sup> Again, see MSC homepage at [www.msc.org](http://www.msc.org) for more information.

However, the Kitahama fishers quickly realized that MSC operated with a definition of sustainability different from their own – one based on the protection of “wild” fish. MSC’s goal is to protect wild fish stocks, and its guidelines only allow for the certification of “wild-capture” fisheries. Aquaculture facilities are not eligible for certification. But MSC staff and their technical advisory board members have struggled with questions about how to deal with fisheries, like those for salmon, that sit awkwardly between the categories of “aquaculture” and “wildness.” Under current MSC policy, only salmon fisheries that include wild salmon are eligible for certification:

Given the MSC focus on the sustainability of global wild fish stocks, the concept of ‘wildness’ plays a central role in scoping enhanced fisheries. The fishery must incorporate some element of harvest of a wild population, and must be managed so that the natural productivity and genetic biodiversity of that population is not undermined with respect to any impacts on long term sustainability. . . . The intent is that management systems exist to control exploitation rates on wild stocks in order to allow for self-sustaining, locally adapted wild populations (i.e., adequate wild stock levels that can perpetuate themselves at harvestable levels on a continuing basis . . . ) (MSC TAB D-001 v2.1: 5)

In short, in order for a fishery to be MSC eligible, it must have at least some wild fish, it must explicitly manage them, and it must also work to rebuild any currently depleted wild stocks. All of these requirements have proved difficult for the Kitahama fishers and hampered their quest for certification. When the Hokkaido Federation of Fisheries Cooperatives initially approached MSC about certifying some of their salmon fisheries, they were told that they had no chance for certification until they had a wild salmon management plan. But Hokkaido fisheries professionals had never thought about managing wild salmon; indeed, the very idea of “managing” the wild

seemed oxymoronic to them. Wasn't the very definition of the wild that which was not human-managed? To be sure, they had robust hatchery strategies backed up by more than a century of extensive data. But when it came to stream-spawning salmon, they had never even bothered to count them. "We do have wild fish," one fishing industry professional told me, "but if we manage the hatchery fish well, the fisheries are fine. We don't 'manage' the wild fish. We don't have a policy about them. Our policies are hatchery policies." But, as the Hokkaido salmon fishing community soon learned, such a laissez-faire approach to the wild wasn't acceptable if they wanted a serious chance at MSC certification. They needed to do "wild" salmon differently. They needed to count them, track them, and support their reproduction. In a sense, the fishers needed to make wild salmon.

For such projects, they turned to salmon scientists for help. Because MSC requires that applicants be able to estimate wild salmon populations in order to determine appropriate management strategies, the fishermen need to know how many salmon are where. They need to collaborate more with scientists to learn about the naturally spawning fish populations that, previously, they had barely noticed. Most Japanese fisheries scientists have long wanted to increase naturally spawning fish in Japan, so on one hand, they are excited about the interest that MSC is generating around wild salmon conservation. As one scientist explained to me, he can leverage MSC to help him do important work within Japan. "I can use the line 'If you don't have wild salmon, you won't be able to get MSC' to get fishermen more interest in protection of natural spawning." But on the other hand, some scientists also worry

that the MSC-generated interest in protecting wild salmon in Hokkaido is not sincere. “The whole reason for doing the work of even looking for wild salmon is *fujyun* (impure, with an ulterior motive),” one person told me. “People aren’t really that committed to the idea of wild salmon protection. They are interested in the MSC label.” He doesn’t think the “wild”-talking fishermen and government officials have suddenly come to inhabit new conservation-based values. “*Tatema*e (what one says in front of others) and *hon*ne (what one really thinks) are different.”

Yet even if Hokkaido fishermen and government officials have not – in their hearts – fully embraced MSC ideals of salmon wildness, their practices of trying to do wild salmon in ways acceptable to eco-label certifiers are changing both knowledges about stream spawning fish and the futures of their populations. First, research prompted in part by fishermen’s interest in MSC certification, has shown that Hokkaido indeed had more naturally spawning fish than most people (especially most North Americans) tend to think. In 2008, island-wide surveys for stream-spawning chum salmon documented their presence in 104 of 239 streams (Nagata et al 2011) including 65 rivers that have never been stocked with hatchery fish (Nakagawa 2009). Other research has also shown that – despite decades of hatchery influence – Hokkaido’s fish populations retain a substantial amount of genetic diversity and life history diversity, with five distinct population groups and differences in spawning times (Nagata et al 2011, Beachem et al 2008). Hokkaido salmon scientists have also proposed new strategies for restoring and managing naturally spawning fish alongside their hatchery cousins. While current practices make no effort to separate out wild

spawners from hatchery strays, new approaches call for spatial segregation, where hatchery and wild fish are kept apart by directing them to different rivers or different parts of the same river (Kaeriyama and Edopalina 2004). The spatial management practices that prominent Hokkaido salmon scientists recommend include weirs to direct and control the movements of fish depending on whether they are deemed hatchery or wild.<sup>129</sup>

Yet while most Japanese scientists are excited about the chance to shift Hokkaido salmon management practices to support natural spawning, many remain critical of the Euro-American “wildness” discourses that are driving such processes. The scientists with whom I spoke are involved in an international fisheries science community, and many of them routinely attend conferences in North America and publish their work in English-language journals. Although they wouldn’t use these terms, they are intimately aware of what one might call the “world system” of salmon science, in which they have to pay much more attention to North American “centers” than is paid to them. They know that – through the demonization of hatcheries – Hokkaido salmon worlds and their research within them are made “peripheral” to the “big” conversations about wild salmon conservation. As one Japanese scientist explained: “For people who only want to protect wild salmon, Hokkaido just isn’t very interesting.” Japanese salmon managers are critical of how North American salmon experts get to define what count as “best practices,” while Japanese salmon professionals are criticized for failing to conform to the wild-centric values of North

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<sup>129</sup> They also call for habitat restoration to foster natural spawning.

America. To them, such attitudes are ironic, even hypocritical. “You gave us hatcheries,” the same scientist reminds me. Before the West started meddling, the Japanese had their own salmon management systems based around the protection of salmon spawning rivers, he says. The West, this scientist asserted, is not the only place that can stake claims to a history of wild salmon protection. Japan, he shows, has its own genealogy of conservation in which human cultivation is not a constitutive outside.<sup>130</sup>

I heard several Hokkaido fisheries professionals complain about what they saw as an inappropriate “anti-hatchery bias” in MSC’s policies, as well as more generally across North American salmon worlds. Like their counterparts in North America, Japanese salmon managers hope to restore rivers and increase stream-spawning salmon, but they don’t feel a need to demonize hatcheries and hatchery fish in the process. As one fisheries biologist explained to me, the sentiment popular in

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<sup>130</sup> Indeed, according to some Hokkaido scientists, the West is not a “savior” of Japanese wild salmon but one of the chief causes of their decline. Nineteenth century power relations forced Japan to emulate the West’s flawed approaches to natural resources. One scientist showed me a chart that indicated that 19<sup>th</sup> Japanese started to build hatcheries in Hokkaido before salmon populations started to decline. According to the scientist, Japan built hatcheries because they needed to appear *kindaiteki* (modern) rather than because they needed to supplement salmon numbers. The Meiji government desperately didn’t want to be “behind” (*jidai okure*). In an attempt to enact modernity through natural resource management, the Japanese abandoned effective but “passive” (*ukemike*) resource management practices – like protecting spawning grounds – in favor of more “active” (*sekkyokteki*) modes of management, including Western-style hatcheries. This *tanegawa* (“seed river”) system strictly enforced fishing bans in certain rivers to ensure adequate salmon reproduction. Active salmon cultivation was seen as part of rather than in opposition to such efforts. Aoto Buheji, salmon production through improvement of in stream habitat. Although hatcheries created an appearance of modernity, they also likely hastened declines in Hokkaido salmon populations by removing spawning adults from their rivers and putting their gametes into unproductive hatcheries.



places like the Columbia River that “because stream-spawning salmon are good, hatchery fish are bad, well, that argument just doesn’t make sense to us.” As another scientist put it, protecting some wild spawning creates an important genetic reserve “so if anything goes wrong with the hatchery fish” there is some place to turn. “You don’t need a lot [of naturally spawning fish] for that.” Too much focus on the wild just isn’t practical, they say. The world needs to eat. According to the best available estimates, at its peak, pre-hatchery Hokkaido salmon fisheries produced only about 3 million fish per year (Kobayashi 2009: 13). Today, hatchery-based fisheries produce about 60 million fish (Kobayashi 2009: 13). “It’s not that we don’t like wild salmon,” a scientist stresses. It’s just that he doesn’t think “wildness” per se helps to produce workable salmon-human arrangements. “I really think Japan is capable of much better management than the U.S,” he says, in large part because its scientists and fishermen refuse to fetishize the wild. As another Hokkaido salmon scientist pointed out to me, although the anti-hatchery version of salmon-as-wild-nature promulgated in Oregon, Washington, and California claims to be working toward “sustainability,” it is radically unsustainable in practice. “There’s an irony to it,” he said. “So all of you people in Oregon and Washington, the salmon you eat, it’s all coming from hatchery fish in Alaska. You only want to protect your own salmon as wild. To me this is really strange. You only care if your own place is wild, other places it’s whatever goes.” He objects to how people who fetishize wildness refuse to take responsibility for needing to eat. As North American fisheries professionals in the lower 48 criticize the Japanese for neglecting nature, they “outsource” real salmon production to Alaska,

whose chum and pink salmon industries use Hokkaido's hatcheries as a model. To work towards more meaningful sustainability and a better salmon management, "[y]ou have to use a different value system and look at the total picture."

### **Thinking across the trajectories**

These three ethnographic examples show that what, at first glance, appears to be a convergence of Japanese and U.S. salmon management practices around a common principle of "wildness" is instead a much more complex set of connected yet very different negotiations about how to do relations with salmon. The increasing use of "wild" in Japanese salmon management discourses does not signal a simple conversion or acquiescence to North American salmon values on the part of Japanese salmon professionals. Instead, close attention to how Japanese people use "wildness" reveals how Hokkaido fishermen, scientists, and citizen conservation group leaders alternately domesticate, strategically deploy, and resist certain enactments of the wild. The proliferation of wild salmon practices in Japan does not mark the spread of a singular management configuration from the "West to the rest," but rather a multiplication of wilds.

As these examples show, not only are there differences between Japanese and North American approaches to salmon management, but also significant variations within Japan. Attention to the multiplicity of ways that people involved in Hokkaido salmon conservation enact wildness shows us how Japanese ideas about "nature" are far more complex than stereotypes lead us to believe. Clearly, Japanese people are not

incapable of seeing difference between a natural forest and planted cherry tree, or between a hatchery and wild salmon. Hokkaido residents do indeed experience and manage hatchery and wild salmon in ways that differ from those common in the Pacific Northwest, but differences are never preordained – either by some essential “cultural essence” or by East-West power dynamics. As we see in this chapter’s examples, Japanese salmon managers are always caught up in comparisons with the Pacific Northwest, but they do not allow North Americans to completely determine the grounds of comparisons. They present their own practices of “good” salmon management and offer other modes of enacting “sustainable fisheries.” Hokkaido salmon managers are forced to engage with wildness, but they engage it as much through resistance to universals of “nature” and “wilderness” as through efforts to enact them.

Yet, not all wilds are equal, and they do not always “hang together” (Mol 2002). Because salmon migrate, the regional practices of wildness that adhere to fish bodies sometimes come into contact and conflict. In recent years, American salmon managers and scientists have started to complain that Japanese ways of doing salmon are detrimental to their own. The Americans claim that the huge numbers of Japanese hatchery chum, whose feeding zones in the North Pacific and Arctic oceans overlap with “wild” Alaska salmon, are gobbling up all of the food resources and displacing the “real” fish. Although the data on such relations remains contested, they point to an important issue: when fish move and interact, they amp up the stakes of comparison. One cannot divide up the ocean into zones for fish who bear different histories of

comparative management. A scenario of “you do your wildness over there; I do my wildness over here” is impossible. But how, then, will differences among conflicting wilds be negotiated? Japanese scientists worry that Americans may still hold a geopolitical trump card that gives them the ability to determine the shape of the world – including which wilds count. Already, American scientists’ celebration of the genetic diversity of wild salmon and opposition to Japanese hatchery fish has led to informal agreements that have squashed hopes of further expanding Hokkaido salmon production. Japanese scientists fret that if such trends intensify, the claims of “wild” American fish to feed in the north Pacific may eventually displace those of their own fish, who are judged as “inferior” by American standards

However, such Japanese fears about the hegemony of American wildness are simultaneously complicated by sincere Japanese commitments to naturally spawning fish. As this chapter’s three examples show, almost everyone in Japan agrees that protecting salmon-bearing watersheds and stream-spawning fish are important and desirable goals. Indeed, most people in Hokkaido feel a desire to reconnect salmon with watersheds that strongly resonates with the ways that “wild salmon” are done in the Pacific Northwest. But although no one wants to reject the core idea of conserving some salmon populations outside of hatcheries, many Japanese are concerned about wildness discourses that threaten to displace salmon as an important food resource, as an aquatic animal that can be appropriately “ranched” through a hatchery system. The unsolved question is how to manage the comparisons that are needed to negotiate such conundrums.

## Chapter 7 Other Comparisons: Ainu, Salmon, and Indigenous Rights

### Introduction

In the earliest records of the Japanese are found accounts of how those “Yankees of the East” landed on the islands they now inhabit, and how they frightened and drove the Ainos from one island to another out of their way, just as, later on, the settlers in this country drove the Indians before them.

- *The New York Times*, August 9, 1879

Ainu artist Sunazawa Bikky and his brother Kazuo described playing “cowboys” as children in the 1930s. When asked who were the cowboys and who were the Indians, Kazuo answered, “nobody wanted to be an Indian, we knew that Indians were treated the same as us, so we played good cowboys and bad cowboys.”

- As described in *Hokkaido: A History of Ethnic Transition and Development on Japan’s Northern Island* (Irish 2009: 202-203)

Cowboys and Indians: This is the comparative structure of modern nation-making. One is either a “cowboy” on the side of national progress, or an “Indian,” an anachronistic impediment to development. Even as children, Ainu people knew how they had been interpolated into such comparisons. Beginning in the mid-19<sup>th</sup> century, they got caught up in the comparisons of Japanese nation-making; they became Japan’s Indians.

The logics that Marilyn Ivy has called “discourses of the vanishing” have locked Ainu and Indians to similar roles in the narratives of progress. Such narratives demand that the Ainu, like Indians, continually live on the brink of death. They must be continuously “vanishing” in order to serve as a constitutive outside for an endlessly progressive “modernity.” Practices of Japanese modernity seek to suspend Ainu people – along with other people and things deemed “traditional” – in a state of

becoming-disappeared; they call for enactments of Ainu-ness as loss, as a part of the debris that piles up in front of Walter Benjamin's Angel of History (Benjamin 1999: 249).

For centuries, ethnic Japanese exploited Ainu labor, cheated Ainu traders, and raped Ainu women, but in such acts, accumulation of wealth took precedence over concerns about identity. Only after the mid-19<sup>th</sup> century, when the making of a modern Japanese nation-state became a central concern for the Japanese government, did Ainu-ness as such become an object of Japanese concern and something to be eradicated through assimilation policies. Of course, "assimilation" was always intended to be partial; the Ainu became Japanese citizens, but unequal ones. Until 1997, Ainu people were officially classified as "former natives" – a category that at once denied their nativeness and prevented them from ever being fully "Japanese."

The Japanese government pursued the colonization of Hokkaido and the assimilation of the Ainu with such vigor because they were caught up in their own global game of cowboys and Indians. They wanted to make sure that they became the "Yankees of the East" rather than another set of "Indians" for the West. They sought to demonstrate their cowboy/Yankee status in part by staging an already internationally legible Wild West fantasy in Hokkaido. They brought "their" Ainu to display at the anthropological pavilion at the 1904 St. Louis World's Fair – to be compared with Sioux, Patagonian, and Pygmy peoples. The "Japanese" exhibition, in contrast, was located in a zone reserved for national displays (See Carlson 2004, Harris 1975, Medak-Saltzman 2010, and Vanstone 1993).

The Japanese government had little choice but to engage in such dramas of modern nationhood. Compelled to contend with the models of modernity proffered by the U.S. and European nations, the Japanese government forcibly enrolled the Ainu in its own comparative regimes. The Ainu thus became caught up in comparisons that thrust them into History as the Other's Other – the Indians of the East. The Ainu became the negation of a “secondary” or “derivative” colonial modernity. It was – and is – a doubly fraught position: an Other indigeneity made not in direct conversation with “the West” but in dialog with “the West” refracted through “the East.” For the Ainu, there is no easy “escape” from such regimes of comparison. But despite the absence of a “way out,” the Ainu have never been passively inscribed into the “savage” role. Rather, sucked into a vortex of modern comparison-making, Ainu people both negotiate within and challenge dominant logics by making their own comparisons. These “Other comparisons” – which are at once entangled with and in excess of modern binaries – are the focus of this final chapter.

This chapter is also about the role of multispecies relations in identity-making. Cowboys and Indians narratives have incorrectly turned colonial encounter and imperial domination into a human-only game. No child ever plays buffalo.<sup>131</sup> Within such games, nonhuman landscapes, be they forest or school playground, are merely the background on which the “real” action takes place. This, of course, is never the case; as Anna Tsing's work on mushrooms has shown, “human nature *is* a multispecies relationship” (Tsing 2012). Comparison-making, too, is always a

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<sup>131</sup> For a discussion of bison declines in the U.S. Great Plains, see Andrew Isenberg's *The Destruction of the Bison* (2000).

multispecies act. In this chapter, I will show how salmon are absolutely central to the comparisons that the Japanese state has used to disenfranchise Ainu, as well as how Ainu have used salmon to challenge those very comparisons.

One simply cannot understand either Ainu lives or Japanese-Ainu encounters without attention to salmon. Salmon have shaped how Ainu ethnic identities are lived. Yet at the same time, salmon populations have been remade through their entanglements with Ainu identity politics. Such relations require that we think identity politics and multispecies histories together. The first section of this chapter explores how Ainu-salmon configurations have been shaped by encounters with ethnic Japanese. The second focuses on how such configurations were changed by the 19<sup>th</sup> and 20<sup>th</sup> century comparison-making practices of the Japanese state. The third and final section of this chapter focuses on how, in one Hokkaido town, Ainu and salmon are coming together to make “Other comparisons” that show us the possibilities and perils of world-making within the legacies of modern comparisons. They show us that, within the ruins, there is no escape from powerful structures of comparison, but there are ways to do comparisons otherwise.

### **Entangled with salmon**

Archeological remains indicate that people have inhabited Hokkaido – and interacted with its salmon – for at least 20,000 years (Ono 1999: 32). The question of what name to use to refer to these people, however, poses all kinds of political and historical conundrums. Some contemporary Ainu people are invested in using the



term “Ainu” to refer to all past non-Japanese residents of the island. This is a linguistic choice made to emphasize continuity, and I do not want to betray the Ainu who make it as part of their struggles for indigenous rights. In such contexts, “Ainu” is a term of political necessity that needs to be respected, not undermined. Yet, at the same time, the term “Ainu” is too unitary to describe the diverse ways of life that have flourished in this region over an extended swath of time. For early peoples in particular, “Ainu” is almost certainly anachronistic, as the island’s peoples seem only to have started thinking of themselves as sharing a common, unitary identity through later trade relations with the Japanese. In light of these issues, I have chosen to refer to the island’s early inhabitants with the term “Hokkaido peoples” and later residents as “Ainu” – with much uncertainty regarding when to switch from one to the other. Of course, the former word choice is especially problematic: “Hokkaido” is an ethnic Japanese colonial term and is completely inappropriate for the historical period. However, there is no neutral term to resolve such dilemmas of naming. Neither of the two other place names commonly used to refer to the island – *Ezo-chi* (the Japanese term for “barbarian lands”) and *Ainu Moshiri* (“Ainu homeland,” a term for the island currently favored by many Ainu activists) – offers a perfect solution. Thus, I have chosen to use “Hokkaido” for the sake of legibility, while simultaneously pointing to its temporal problems and colonial resonances.

According to the middens they left behind, most early Hokkaido people appear to have eaten at least an occasional salmon, but until the most recent millennia, the inhabitants of this island do not seem to have been salmon-centric. They hunted

large numbers of marine mammals, ate quite a few deer, and farmed barnyard millet and wheat raised from seeds they acquired through trade with Honshu (Yamaura and Ushiro 1999: 45). Although some of their village sites were located near salmon rivers, many of their communities were located in upland areas away from major salmon spawning grounds.<sup>132</sup> For early Hokkaido inhabitants, salmon seem to have been one species among many: important to be sure, but not indispensable.

But about 900 years ago, however, something dramatic happened. Villages located on non-salmon-bearing streams were abruptly abandoned. At the same time, the number of dwellings located near salmon spawning grounds dramatically increased.<sup>133</sup> Suddenly, people couldn't seem to live without being near salmon. What had changed? Around 1200, Hokkaido peoples established new economic ties with Honshu that transformed their relationships with both salmon and trade goods. Prior to this time, Hokkaido peoples were certainly involved in significant trade relationships that linked them to the Japanese archipelago, the Kuril Islands, Kamchatka, and mainland Asia. By the 10th century, Hokkaido peoples had already obtained seeds, swords, metal products, and glass (Yamaura and Ushiro 1999: 45). The volume and regularity of such trade, however, seems to have been limited, with imported goods serving as supplements to – rather than replacements for – locally-made products (Yamaura and Ushiro 1999: 43). The role of trade goods seems to have been similar to that of salmon: important to be sure, but not indispensable.

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<sup>132</sup> See the work of Takuro Segawa (Segawa 2005 and 2007).

<sup>133</sup> Again, see the work of Takuro Segawa (Segawa 2007).

But around 1200, at the same time when villages relocated to salmon streams, the number and variety of imported goods – particularly from Honshu – skyrocketed. The influx of goods clearly sparked vast transformations across Hokkaido. People stopped making ceramics as they switched to using imported vessels (Yamaura and Ushiro 1999: 45). They developed new ritual forms in which Japanese-produced rice and ornate lacquer vessels played central roles (Walker 2001: 112-117). They began wearing clothes made with fabrics from Honshu and decorated with beads from China and Russia (Sasaki 1999: 90-91).

What were Hokkaido peoples exporting in exchange for all of these new goods? The answer: mostly salmon. Hokkaido peoples discovered that dried salmon – long a valuable winter food source – were also popular with ethnic Japanese. Inexpensive salmon were a popular protein-rich foodstuff amongst farmers and other lower-ranking people in northeastern Japan. As Hokkaido peoples became more and more focused on maintaining these new economic connections, their relationships with salmon clearly changed. They began catching and preserving greater numbers of fish, developing new fishing techniques in the process. They also began to harvest salmon most intensively in river reaches navigable by boat so that they could easily ship the dried fish to distant markets. As salmon became a valued trade good, they also came to take on a larger role in everyday life. Hokkaido peoples began to eat more salmon themselves, hanging them to dry in the rafters of their *chise* (houses). They used salmon skin as fabric for making boots, shirts, and children's toys. Salmon also took on added spiritual significance for Hokkaido peoples. They became *kamui-*

*chep*, or god fish, who served as messengers to the heavens – intermediaries not only in relations with the ethnic Japanese but also with spirit worlds. In short, Hokkaido peoples became increasingly salmon-centric.<sup>134</sup>

With dried salmon as one of their key products, Hokkaido peoples extended their already expansive trade networks. Written records from Tosaminato, an important port city along Honshu’s Japan Sea coast, indicate that between 1185 and 1573, Hokkaido peoples/Ainu arrived there in their own boats to trade kelp, dried salmon, and sea otter pelts (Kikuchi 1999: 77). But Hokkaido peoples’ trade routes did not link them only to Japan; their trade networks stretched across the Okhotsk Sea and deep into continental Asia. When Japan was allegedly “closed” to the world, Hokkaido peoples dealt in sea otter pelts from the Kurils, eagle feathers from Kamchatka, and fabrics from China.<sup>135</sup>

The people and landscapes that emerged from such exchanges were highly cosmopolitan. Ainu dialects contain many loanwords from languages as diverse as Nivhk and Japanese. Recent DNA testing indicates that Hokkaido peoples likely had intimate relations across a wide geographic area, including with people who now identify as Aleuts, indigenous Kamchatkans, Russians, and Mongolians. Furthermore, prior to the mid-19<sup>th</sup> century, the Ainu were already farming crops that originated in the Western hemisphere, including potatoes and two types of American squash (Kohara 1999: 204-205). To borrow a phrase from historian James Clifford, the Ainu

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<sup>134</sup> This paragraph is based on Segawa 2007 and Segawa pers. comm.

<sup>135</sup> For information on the trade in eagle feathers, see the work of Takuro Segawa (Segawa 2007).

were cosmopolitans who were “dwelling in travel” (Clifford 1997). Both humans and nonhumans were on the move.

But such multiethnic and multispecies relations in Hokkaido have been characterized by crisis as much as by cosmopolitanism. In the 16<sup>th</sup> and early 17<sup>th</sup> centuries, challenges began to mount for Ainu peoples. In 1604, the Tokugawa shogunate granted the Matsumae *han* a charter that gave them exclusive rights to trade with the Ainu (Siddle 1999: 69). The Matsumae domain invited traders from Honshu to set up offices at the southern tip of Hokkaido and work as their agents, bringing profits to *han* coffers. Matsumae traders took advantage of their monopoly – backed up by substantial military might – to exploit Ainu peoples. First, they blocked Ainu peoples’ direct access to other trading partners. According to one scholar, “[a]fter 1644, Ainu boats were no longer to be seen in Tohoku ports, an indication of the success of Matsumae attempts to monopolize trade” (Siddle 1999: 69). No longer able to “shop around” for favorable terms of exchange, Ainu peoples were at the mercy of Matsumae traders – who were not particularly merciful. Seeking to maximize their profits, Matsumae traders significantly reduced the amount of rice that they paid Ainu people for dried salmon. While Matsumae traders initially paid 66 pounds of rice for 100 dried salmon, they later cut the exchange rate to about 25 pounds of rice for 100 fish.<sup>136</sup> Ainu peoples protested these unfavorable rates of exchange, eventually waging a war against the Matsumae domain in 1669. For Ainu, the goal of this conflict (called Shakushain’s War) was not to drive ethnic Japanese

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<sup>136</sup> Information from an exhibit at the Historical Museum of Hokkaido (*Hokkaido Kaitaku Kinenkan*).

completely out of Hokkaido or to sever relations with Japan (Howell 1999: 97). Their goal was to end the Matsumae domain's monopoly and return to more just trade relations. Unfortunately, the Ainu were defeated, and afterwards, they became subject to progressively more exploitive Japanese demands.<sup>137</sup>

In the early 18<sup>th</sup> century, the Matsumae domain began subcontracting trading posts – located along the coast of Hokkaido – directly to Honshu traders.<sup>138</sup> This system, called *basho ukeoi*, put ethnic Japanese in direct control of salmon harvests. Although they continued trading with the Ainu, these posts also directly engaged in salmon harvest and production with Ainu as laborers. The Japanese traders forced the Ainu into such positions by reducing the amount of rice they would pay for dried salmon until the Ainu were in such dire economic straits that they had little choice but to work for the Japanese. Violence and threats of violence were also clearly part of the situation. Sometimes ethnic Japanese traders relocated entire Ainu villages to camps next to trading posts. At other times, they rounded up Ainu men and shipped them to distant parts of Hokkaido to labor in the fisheries there (Walker 1999: 103). Ethnic Japanese traders also engaged in extensive sexual relations with Ainu women, and many of those relations do not appear to have been consensual. In 1858, a Japanese official noted that “of forty-one Japanese fisheries supervisors in Kushiro, thirty-six had taken Ainu women as ‘concubines’ after sending their husbands to work at the neighboring Akkeshi fishery” (Walker 1999: 103). Overall, the *basho*

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<sup>137</sup> At the same time, the Ainu were also contending with smallpox epidemics (Walker 2001).

<sup>138</sup> For more on this subcontracting system, there is an excellent edited volume in Japanese on the topic (Hokkaido/Tohoku Rekishi Kenkyu Kai 1998).

*ukeoi* system made it hard for Ainu people to survive. While many men were virtual slaves in Japanese salmon fisheries, women, children, and the elderly struggled to catch and preserve enough salmon for subsistence use and trade. Furthermore, intensified interactions with the fishing posts brought Ainu people into contact with all kinds of new diseases, including smallpox and syphilis that decimated their communities (Walker 1999).

The introduction of ethnic Japanese salmon harvesting also had major consequences for the fish. Ainu peoples typically harvested the majority of their salmon at or near the fishes' spawning sites, after they had laid their eggs and released their milt. Because most of these salmon had already reproduced and were on the verge of death, one could harvest a large number of such fish without endangering future generations of salmon. In addition, Ainu people chose these fish because post-spawning salmon made for longer-lasting dried salmon. Because salmon consume most of their fat reserves as they produce gonads, migrate upstream, and dig redds, post-spawning salmon are exceptionally lean. Salmon caught in the ocean had such a high fat content that they could not be effectively dried; they would spoil too quickly. Post-spawning salmon, however, had non-oily flesh that could be easily dried and that could last more than a year without becoming rancid. The duration that the salmon remained edible mattered, as Ainu people could then trade these long-

lasting fish in the spring following their harvest, a time when ocean waters were much calmer and allowed for safer boat travel.<sup>139</sup>

Ethnic Japanese, however, harvested salmon in a completely different way. They typically caught salmon in bays or at river mouths, long before the fish reached their spawning grounds. The salmon not only did not have a chance to reproduce before capture, they also had a very high fat content. Their oiliness required a different kind of processing – one that involved large quantities of salt. The Japanese transported salt from what are now Hyogo and Hiroshima prefectures to their remote Hokkaido trading posts in order to sustain their salmon industry (Segawa pers. comm.). Once they had their own source of salmon, the Japanese continued to trade with Ainu people to further increase their exports to Honshu, but they were able to demand even harsher exchange rates.

Ainu people were caught in a terrible bind; they had fewer salmon at their upriver fishing sites, as more fish were harvested at river mouths by the Japanese, and they had fewer people to harvest them, as more of their men were forced to labor at Japanese fishing stations, yet they still needed trade goods beyond the minimal rice that Ainu men received in exchange for their work. Furthermore, Honshu residents tended to prefer Japanese-style salted salmon to Ainu-style dried ones. In general, Hokkaido salmon were considered to be low-quality products. Prior to the 20<sup>th</sup> century, Hokkaido salmon were a staple protein source for poor Tohoku farmers and

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<sup>139</sup> The information in this paragraph is largely from interviews, but see also Shigeru (2004: 16)



lower-class urban residents, rather than a “fish of kings.”<sup>140</sup> By the time they reached markets, processed Hokkaido salmon were as hard as rocks – so tough that they could not be cut with a knife. In order to eat the salmon, one had to first soak it in water or broth. Among Hokkaido salmon, Japanese-style salted salmon was a bit softer and thus considered a bit higher quality. Ainu salmon producers, however, did not have access to the salt resources needed to produce that form of preserved salmon. Unable to compete with the salted fish, they had to sell their unsalted dried and smoked fish for even lower prices. The new Japanese forms of harvest and consumption radically reconfigured salmon lives and marked a huge blow to salmon reproduction. Salmon had thrived within Ainu multispecies worlds, but they did not within ethnic Japanese ones.

### **Caught up in comparisons**

Within the *basho ukeoi* system, ethnic Japanese did not care who the Ainu were, only what they could make the Ainu do – namely, procure trade goods and perform forced labor. Japanese traders and merchants sought to enroll Ainu in relations of economic dependency, but did not engage in projects of Ainu identity-making. Their goal was to produce profit, not citizens or state territory. As long as the

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<sup>140</sup> Although Hokkaido salmon were consumed predominately by the poor, partially fermented salmon produced in Honshu’s Niigata region were a delicacy eaten primarily by the upper classes. Tokohu residents sent their own salmon off to the tables of Edo elites while they gnawed on tough, imported Hokkaido salmon. By the 17<sup>th</sup> century, at least in terms of salmon, Tohoku people were already failing to “eat local”! (Segawa pers. com.).

Ainu assisted in the production of cheap salmon and herring without protest, traders and merchants didn't particularly care what the Ainu did with the rest of their lives.

After the formation of the Meiji state, however, the goals of ethnic Japanese engagements with the Ainu and Hokkaido landscapes shifted from commercial exploitation to governance. With Western imperial nation-states as their model, the central Japanese government wanted Hokkaido to be more than a place within a loose Japanese sphere of economic influence; they wanted it to be specifically Japanese territory, to lie within the body of the nation. With this new project, the Japanese state was no longer content to simply exploit Ainu people; they wanted to make them into national subjects. Beginning in 1869, the central Japanese government began its campaign to make Hokkaido "Japanese" by aggressively promoting both ethnic Japanese settlement of the island and Ainu assimilation.<sup>141</sup>

Desires for intensive resource use alone did not require such changes. The *basho ukeoi* system did a brutally outstanding job of extracting salmon and herring from Hokkaido's waters. Because its Ainu laborers were able to partially feed themselves through gathering, hunting, and fishing, ethnic Japanese didn't even have to compensate the Ainu at the level necessary to reproduce them as laborers. It is entirely possible to imagine a scenario in which the mercantile firms operating in Hokkaido would have convinced the new government to help them maintain such a profitable state of affairs. But although capitalist greed did not require making Hokkaido (including the Ainu) "Japanese," European models of nationhood did. Such

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<sup>141</sup> For more on Japanese state projects and Ainu identity, see Morris-Suzuki 1994, 1996, and 1998, as well as Howell 1994 and 2004.

models of nationhood defined the boundaries of states firmly, demanding clear territorial sovereignty. The Japanese feared that, if they didn't make a strong claim to Hokkaido, Russia soon would. In order to bring Hokkaido into the fold of the Japanese nation, they needed to make it undeniably Japanese. This move required populating Hokkaido with Japanese citizens and converting its wild forests into Japanese landscapes.

As we saw in Chapter 2, the Japanese government could and did promote ethnic Japanese migration to Hokkaido. But they still needed to “deal” with the Ainu. If the Ainu were going to live in “Japan,” they had to be somehow “Japanese.” But the kind of Japanese the government wanted the Ainu to become stopped short of full “Japanese-ness.” While the Japanese government wanted to make the Ainu “Japanese” so that they did not become Russian, they also needed the Ainu to remain second-class citizens in order to justify the colonization of Hokkaido and the extirpation of Ainu land that colonization entailed. Morris-Suzuki describes how such paradoxical goals shaped citizenship in Japan's colonies: “The ruling state's urge to exalt and spread the values of its own ‘civilization’ contended with its desire to maintain the differences that justified unequal access to power” (1998:161). While the government sought to assimilate the Ainu, they actively pursued measures, including special land policies and financial controls, that ensured that the Ainu were “assimilated” as relatively powerless, impoverished citizens.

Crafting Ainu identity clearly became a critical state project – one that the Japanese government enacted through countless comparisons. Immediately after

annexing Hokkaido, the Japanese government banned the *basho ukeoi* system and “freed” the Ainu from forced labor. They then turned to the American West to try to figure out how to fashion the Ainu into citizens. In dealing with the “Ainu problem,” Hokkaido colonial officials drew on a particular strain of U.S. Indian policy – that which stressed assimilation – as they tried to convert Ainu into Japanese. As we saw in Chapter 2, they solicited the opinions of Horace Capron, one of the American advisors to the *kaitakushi*, who had previously served as a U.S. government Indian agent in Texas (Medak-Saltzman 2008: 97). Capron was an enthusiastic supporter of U.S. efforts to convert Indians into farmers; he was also a proponent of the Dawes Act, which broke communal Indian lands into individual allotments for native families (freeing up “excess” lands for white settlers) (Medak-Saltzman 2008: 102, 104). In building their own policies, Hokkaido officials drew on Capron’s opinions as well as on U.S. institutional forms.

But there were also other comparisons at play. The Japanese were also comparing the Ainu with themselves. In that bizarre world where “colonizer” was a status that marked a nation as “civilized,” the Japanese sought to prove that they were cosmopolitan citizens by constructing the Ainu as their inverse – as people to be colonized. The making of Japanese cosmopolitanism required materially and discursively stripping the Ainu of their own cosmopolitanism. Through brute force, unjust policies, and narratives of Ainu “primitiveness,” the Japanese turned the Ainu – a prosperous and worldly trade society – into the poor and “dying” people that their progress story needed. They needed to create impoverished and struggling Ainu in

order to “save” them – and that is exactly what they did. The Japanese had been materially disenfranchising the Ainu for centuries (see Walker 2001); in the Meiji period, they drew on Euro-American Christian phrasing to perfect their narratives of colonial salvation. Erasing histories of violence, the Japanese turned Ainu assimilation policies into a moral imperative to uplift poor primitives, helping them to achieve a more civilized form.

Although the primitive/civilized story is a common one, the Japanese state had its own civilizational ideals for the Ainu; they needed to be at once “civilized” and “Japanese.” In the Meiji period, ideals of “Japanese-ness” were tied to a very specific multispecies formation – that of rice paddy agriculture. As Emiko Ohnuki-Tierney (1993) has shown, the Japanese have consistently used rice to negotiate boundaries between self and other. Rice ideologies were particularly strong during the Meiji period, when boundary-making was occurring at a fevered pace. Claiming “rice as *our* food” and “rice paddies as *our* land,” ethnic Japanese defined “Japan” as fundamentally “agrarian” (regardless of the actual occupations of most Japanese) (Ohnuki-Tierney 1993: 4). Within this logic, making a landscape Japanese meant “transformation of wilderness into a land filled with succulent heads of rice. In short, rice paddies created ‘Japanese land’”(Ohnuki-Tierney 1993:132). Places and people without rice paddies were “Other.” Within the logic of “rice as self,” non-agrarian minority groups within Japan were seen as non-“Japanese” (Ohnuki-Tierney

1993:134).<sup>142</sup> The ideal way to make the Ainu “Japanese” would have been to turn them into rice farmers. However, rice cultivation was difficult in Hokkaido until the development of cold-resistant rice strains in the 1930s (Irish 2009: 220). Everything in Hokkaido – including Ainu policy – represented a compromise between Japanese agrarian ideals and the realities of Hokkaido climates. In the face of long, frigid winters, the Hokkaido government decided to turn the Ainu into farmers, but with wheat, corn, sugar beets, and beans as substitutes for rice.

Breaking the link between Ainu and salmon wasn’t critical for getting control over fisheries resources – the Japanese already had plenty of control – but it was critical for turning Ainu into farmers. Ainu couldn’t become proper citizens as long as they remained in relation to salmon. Proper citizens lived within the borders of private property; they were not hunters and gatherers who ignored demarcations. The Japanese wanted the Ainu to stay in place. As long as they possibly could, the Ainu wanted to maintain their own ways of life. They abandoned the farm lots to which they were assigned, in favor of salmon fishing, hunting, and foraging.

In the late 19<sup>th</sup> century, the Japanese government clearly recognized that Ainu livelihoods required salmon. As long as the Ainu had continued access to salmon and other resources, they were not likely to “assimilate” well. As a result, the Hokkaido Colonization Commission sought to eliminate Ainu culture by specifically breaking

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<sup>142</sup> Such formulations of “rice as self,” however, miss a key point: that “Others” were essential in the making of rice culture in Japan. The expansion of rice paddies in Tokugawa Japan required fish fertilizer made from Hokkaido’s herring, which were harvested by the Ainu. So-called “barbarian” lands and people thus made this form of “Japanese-ness” possible. “Purity”-oriented rice nativism is thus itself a multi-ethnic and multi-species relation.

the bond among these people and fish. In 1879, the Colonization Commission banned salmon fishing in Hokkaido's rivers, claiming that such an act was necessary to protect the island's salmon populations from overharvest (Aoyama 2012: 119). The ban, however, was a barely veiled attempt to eliminate Ainu lifeways and did nothing to conserve fish. Because Japanese commercial fishermen harvested salmon in the ocean and in the mouths of rivers, rather than in the rivers themselves, the new freshwater salmon fishing ban had no effect on their activities. The Japanese fishermen continued to harvest huge numbers of salmon with abandon, while all Ainu fishing was rendered illegal. Ainu people had no access to the capital necessary for large coastal fisheries operations, and they were completely dependent on upriver fisheries, where they could harvest easy-to-preserve low-oil fish. The Japanese claim that river-harvest bans were necessary to preserve salmon spawning was a ruse: because Ainu people typically harvested salmon after they spawned, their fishing activities had minimal impacts on salmon populations. In reality, the intent of such laws was to force Ainu people to stay on government-assigned plots and to participate in assimilation programs. Without access to salmon, the Japanese government realized, Ainu people could not be Ainu. In his memoir, *Our Land Was Once Forest*, prominent Ainu activist Kayano Shigeru writes that the "law banning salmon fishing was as good as telling the Ainu, who had always lived on salmon, to die. For our people, this was an evil law akin to striking to death a parent bird carrying food to its unfledged babies" (Shigeru 1994: 59). After the ban, Ainu people tried to continue salmon fishing, but they became "poachers" in their own rivers. The Japanese

government began to crack down on Ainu salmon fishermen, arresting them and putting them in jail. Ainu people who tried to remain Ainu – who tried to feed their families with salmon – became “criminals” (See Shigeru 1994: 57-61).

At the same time that they banned river-based salmon fishing, the Japanese government also used hatcheries to further disassociate salmon from the rivers and Ainu communities. As I described in detail in Chapter 2, the Meiji era government undertook an ambitious campaign to move salmon spawning out of rivers and into hatcheries. As we have seen throughout this dissertation, such artificial propagation regimes have radically remade Hokkaido’s salmon and watersheds, modifying salmon genetic population structures and altering regional ecologies by removing the nutrient inputs that salmon carcasses provide. But moving salmon into hatcheries also aided policies aimed at assimilating Ainu people. Hatcheries made enforcement of river fishing bans easy; they virtually eliminated salmon from Hokkaido’s rivers.

Hatcheries used weirs to block upstream salmon migrations, capturing brood stock for their programs near the mouth of rivers. With the advent of hatcheries, Hokkaido’s Japanese commercial fishermen no longer needed rivers and their salmon spawning grounds. They simply didn’t care if there were fish in the rivers as long as there were fish in their coastal nets. Ainu people cared deeply, but they could do nothing but watch the numbers of salmon spawning in Hokkaido’s rivers plummet as more and more waterways were either used for hatchery production, blocked by dams, or degraded by channelization and pollution. These changes did not only damage Hokkaido’s environment; they also fractured the multispecies relationships at the core



of Ainu culture.<sup>143</sup> In sum, Meiji era fisheries policies produced not only “salmon without rivers” but also Ainu without salmon (Lichatowich 1999).

As salmon were forced into hatcheries and Ainu people onto farms, what happened to Ainu culture? The answer is not a simple story of “survival” against all odds and in the face of great hardship. For more than a century, Ainu-ness was legally erased from the public sphere. The Japanese government designated Ainu people as “former natives” – simultaneously denying them recognition as Ainu while marking them as not fully Japanese (Morris-Suzuki 1998). “Former natives” were stuck in a limbo produced by the Japanese imperial nation-state – they were forced to assimilate, but denied the opportunities to actually do so by a state that permanently labeled them as lesser Japanese. While all kinds of laws and policies were targeted at “reforming” the so-called “former natives,” racial prejudices largely prevented them from pursuing educational opportunities or obtaining mainstream jobs.<sup>144</sup>

In the face of such challenges, Ainu-ness was sometimes transformed, sometimes forgotten, and sometimes actively expunged. Many Ainu people hid their identity, adopting Japanese customs and speaking only Japanese. They often did not tell their children about their Ainu heritage to try to spare them the stigma of being

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<sup>143</sup> As a Hokkaido University professor has noted, Hokkaido salmon hatcheries have endangered species, such as the kingfisher owl that are dependent on river-caught salmon for their survival. In many ways, the struggles of the kingfisher owl (whom Ainu consider to be a god who guards villages) and those of Ainu people are parallel – both lose their ways of life when they lose access to salmon (Ono 1999: 38)

<sup>144</sup> In addition to the ban on salmon fishing, female lip-tattoos and poison tipped hunting arrow – both critical parts of Ainu-ness – were also prohibited. The Japanese government also sent Ainu children to special segregated schools in which they were forced to speak in Japanese instead of in their native tongues.

Ainu.<sup>145</sup> One acquaintance of mine who suspects that she may be of Ainu descent said her now-deceased parents refused to tell her anything about her grandparents – even their names. Within this context, Ainu peoples’ relationships with salmon did not completely disappear, but significantly changed. Over time, in lieu of salmon fishing and bear hunting (which had become difficult to enact), less resource-intensive activities, such as dance, song, clothing, and art became the hallmarks of Ainu-ness.<sup>146</sup> Some Ainu people became so-called “museum Ainu” – people who performed “culture” for tourists. Through such performances, Ainu people forged a new form of Ainu identity that did not require routine interaction with natural resources – a form of Ainu-ness that could be done in a museum setting and at least partially abstracted from access to salmon, rivers, and forests. Other Ainu took a different approach. By publically hiding their roots, they were able to garner Japanese commercial salmon fishing rights and maintain a direct connection to salmon, albeit a significantly changed one.

In the process of developing an Ainu-ness that could exist within the confines of Japanese colonization, many relationships – human and non-human – were

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<sup>145</sup> Ainu practices of hiding and asserting identity resonate with those of the Sami people in northern Scandinavia. See, for example, Ween and Lien 2012.

<sup>146</sup> Many of these activities were based on long-standing Ainu practices, but others were invented specifically within the context of the tourist trade. For example, although Ainu people had a history of wood carving, they did not typically carve animal figures. However, in 1922, a Japanese farmer who travelled to Europe saw poor Swiss farmers making bear carvings to sell to tourists to supplement their earnings. He thought a similar product might sell well in Hokkaido, a place whose bears were famous, so he brought home some samples and gave them to struggling Ainu farmers who were looking for a way to make some extra income. Wooden bear carving quickly caught on, and such bear carvings are now a “classic” Ainu art form (See Ohtsuka 1999: 93).

irreparability broken. Over time, most Ainu people forgot how to craft sea-going boats and how to make certain styles of hunting bows; they forgot how to spear salmon with *maleks*. They found that they could not speak Ainu languages fluently or recall the words to many *yukar*, or Ainu song-poems. They could no longer remember rituals, including those related to salmon harvesting, as they had come to buy salmon at a grocery store or not at all, when their low-wage jobs left them too poor to buy increasingly expensive fish. Again and again, Ainu people were forced into forgetting.

### **Other Comparisons**

*An Ainu man once asked me if I had heard about how the Japanese divide the world into two kinds of people – rice people (Japanese) and bread people (Westerners). It's wrong, he told me. The world as he saw it had three – not two – kinds of people: rice people, bread people, and salmon people. The Ainu, he explained to me, occupied a third space.*

I begin this final section with this anecdote because it illustrates so many of the issues that are at its core. First, it shows how Ainu people are active participants in making comparisons that are at once entangled with – yet distinct from – those common among ethnic Japanese. The Ainu man above simultaneously accepts certain comparative premises – those that render much of Asia invisible by juxtaposing Japan and the West – while also attempting to undo the binary logics that underpin them. This comparative predicament shows the profound challenges of doing the world otherwise within inescapable hegemonic logics. Second, this anecdote highlights the multispecies nature of identity-making. Rice, bread, and salmon matter as more than

symbols; they are ecological formations that are inseparable from identity politics. Third, it draws our attention to how Ainu people are forced to constantly negotiate – and explain – their identities in the course of everyday life and how salmon often play a critical role in such practices.

Throughout experiences of colonial violence, the Ainu have always been making Other comparisons – comparisons that are at once engaged with and distinct from those made by the modernist Japanese state. Their Other comparisons do not come after – but are rather contemporaneous with – those of Japanese nation-making. At the 1904 World’s Fair, for example, the Japanese explicitly brought Ainu people to the event to demonstrate their own ability – as a modern imperial nation – to engage in the uplift of primitive peoples (See Medak-Saltzman 2010). But the Ainu were not merely “objects” displayed by the Japanese. They interacted with other indigenous peoples and must have reflected on the civilization-making projects in which they were enrolled.<sup>147</sup> One photograph from the 1904 fair documents a meeting between an Ainu woman named Santukno Hiramura and a Patagonian Tzoneca woman named Lorenza (Medak-Saltzman 2010). As she bent curiously towards the seated Patagonian woman holding her dog, the Ainu woman in the photograph was clearly enacting Other comparisons within and against the modern/primitive ones that were the explicit frame for the 1904 World’s Fair. In light of such encounters, which were likely far more common than their documentation, I do not think it is a stretch to

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<sup>147</sup> Indeed, they almost certainly had their own agendas for participating. In the case of domestic Japanese events modeled after World’s Fairs, Ainu explicitly saw the event as an opportunity to promote their own causes and raise money for an Ainu school (Ziomek 2011).

claim that Ainu conceptions of themselves within a framework of global indigeneity did not come “after the fact” of Japanese imperialism but were born within it.

In the 1970s and 1980s, during a period of intense Ainu activism, Ainu peoples continued such alter-comparisons, transforming themselves from “barbarians” to “indigenous people” and significantly challenging myths of Japanese homogeneity (Siddle 1996:2). Some Ainu established connections with and drew inspiration from the American Indian Movement (AIM). Others attended international indigenous conferences in Greenland, China, and Alaska (Dietz 1999: 361). Throughout, the Ainu were trying to negotiate what it means to be simultaneously Ainu, Japanese, and indigenous – a struggle that continues today. An encounter I had with a middle-aged Ainu woman highlights these challenges. She was recounting her recent experience of struggling to fit herself into the boxes of the Japanese national census:

I asked [the census taker] about the nationality question and about being Ainu. I mean, of course my nationality is Japanese, but I wish there was also an Ainu box. But even if there were, and I could only pick one box, I would pick Japanese. I wish I could pick both. I see myself as always Japanese and sometimes as Ainu. (*Nihonjin, tokidoki Ainu*).

To borrow a phrase from American Indian writer Sherman Alexie, many of the Ainu I met experience themselves as “part-time” Ainu (Alexie 2007). When I was trying to find Ainu commercial fishermen to interview for this project, an Ainu man told me not to bother looking for them at the local fishing cooperative. In the context of the fishing cooperative, no one is Ainu. If I want to find Ainu fishermen, he said, I needed to go to local Ainu events and ask who fishes.

Sometimes, not being Ainu is the result of discrimination and fear. For example, one woman told me about a recent Ainu festival at which a number of Ainu people came before the event to help set up chairs and show their support, but left before the festival started because they didn't want to be publically associated with being Ainu. Yet in other situations, not being Ainu is less about fear than about simply not feeling Ainu in a given context. For many people, Ainu identity is situational and relational in ways that challenge “Western” conceptions of a unified and universal self. Yet other Ainu – who sometimes draw on metaphors of “coming out” – see Ainu identity as “full-time,” as something essential to their core being which should be present in all of their interactions. They see part-time Ainu-ness as only a product of repression. Ainu people also have very diverse opinions about what it means to enact “Ainu-ness.” For some people, being Ainu is about “culture” – about song, dance, handicrafts and festivals. For others, it is about economic opportunities, about making money by being a *kanko Ainu* (tourist Ainu). For still others, being Ainu is about indigeneity and rights. Questions abound: Is being Ainu about “culture” (*bunka*) or “rights” (*kenri*) or both? Are Ainu an indigenous nation, a domestic Japanese minority, or both? (Siddle 1996).<sup>148</sup>

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<sup>148</sup> At the same time that they have questioned Ainu identity, Ainu people have also questioned what it means to be Japanese. As Morris-Suzuki has shown, from the Meiji era, Ainu have had different and multiple ideas about what “becoming Japanese” might mean. Meiji era Ainu who petitioned to become Japanese offered a vision of Japanese-ness that was different from that of the emerging Japanese state – “a vision of ‘becoming Japanese’ as being a matter not of homogeneity but precisely of autonomy – the right to control resources, the right to be taken seriously, the right to be left alone” (1998: 170).

This is where the fish come back in: such tensions are negotiated within relations with salmon – and such negotiations also have profound impacts on the fish themselves. As we have seen throughout this chapter, salmon have long been central to Ainu culture. Recent revitalization efforts are no exception. Intertwined with cultural forms such as the first salmon ceremony, but also linked to issues of natural resource access, salmon sit awkwardly on the border of “culture”- and “rights”- oriented Ainu discourses. Salmon were key parts of an Ainu renaissance that began to flourish in the 1970s and that continues today. Through public *ashiri-chep-nomi*, or first salmon ceremonies, Ainu people seek both to foster Ainu community and increase their visibility within a Hokkaido dominated by ethnically Japanese.<sup>149</sup> Especially since the passage of the Ainu Cultural Promotion Act in 1997, Hokkaido prefecture and various city governments have been supportive of these festivals as displays of “Ainu culture.”<sup>150</sup> But these ceremonies also challenge the idea of a “cultural identity” separable from rights because the ceremonies require access to salmon, a natural resource. With their mucus-covered scales, salmon are slippery, and they create an important slippage between *bunka* (culture) and *kenri* (rights).

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<sup>149</sup> For a comprehensive history of Ainu first salmon ceremonies, see Nomoto and Iwasaki-Goodman (2001). They point out that Ainu first salmon ceremonies as currently practiced are “invented traditions.” Prior to the 1970s, first salmon ceremonies were small, private family prayers, not large public festivals.

<sup>150</sup> The 1997 law finally replaced the 1899 Ainu protection law that designated the Ainu as “former natives.” Although the 1997 law eliminated the worst discriminatory language and provided significant funding for projects related to Ainu language, arts, and culture, most Ainu argue that it “has no meaning for the vast majority of the community” because it does not address issues of economic empowerment or indigenous rights (Dietz 1999: 363).

In recent years, the Hokkaido government has allowed very limited and circumscribed Ainu salmon harvests under the rubric of “cultural promotion,” but some Ainu are seeking to use such ceremonial catches to make broader claims to natural resource rights.<sup>151</sup> As one Ainu man explained to me, Ainu people began asking the government to allow them to catch a few fish from the river in the name of cultural authenticity, rather than in terms of rights. Their ceremonies would be more “authentic” if they could use salmon that they caught with traditional tools rather than with fish purchased from the grocery store. Within this frame, the Hokkaido prefectural government allowed limited “Ainu-style” salmon harvests not through an idiom of indigenous rights, but through languages of historical preservation and cultural promotion, attempting to avoid any acknowledgement of actual Ainu rights.<sup>152</sup>

Yet Ainu access to salmon, even in this limited form, brings Ainu people into conversation with all kinds of rights movements. Salmon rights struggles link Ainu to

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<sup>151</sup> Although “special harvest” regulations are obviously aimed at Ainu people, they do not officially recognize “Ainu” as a category linked to any kind of special rights. Legally, anyone, regardless of ethnicity, can apply to catch salmon for cultural promotion. The sale of fish caught under special harvest regulations is also prohibited.

<sup>152</sup> Although some Ainu are OK with this system, many complain that the limits on the number of fish they can take are too restrictive. They must apply to the prefecture for a permit that only allows them to fish on a specified river within a specified time window. The numbers of fish they are licensed to take are typically very small – 3-8 fish a person, although they can sometimes be 50-100 for a big group ceremony. Originally, the documentation required for such permits was quite onerous, but in the past few years, permits have become easier to obtain and the number of fish allowed has increased somewhat. There remains some friction with salmon hatchery operators who don't like having their fish taken by Ainu people who do not pay into the hatchery system.



U.S. and Canadian histories of salmon-focused indigenous activism, both bolstering their rights claims within Japan and connecting the Ainu to transnational indigenous networks. However, in contrast to North American salmon conflicts where “commercial fishermen” and “tribal fishermen” are distinct and opposed interest groups, Ainu people cut across these categories. Many Ainu are Japanese commercial fishermen; as such they grapple with conflicting allegiances and identities that tie them both to ethnic organizations and to commercial fishermen’s cooperatives.

In a historical moment when indigeneity is strongly linked to rights and full-time native identity, many Ainu struggle to negotiate the relations between being Ainu and being indigenous. In one sense, Ainu people sometimes feel that they need a rights struggle in order to be properly “indigenous” within global discourses and movements. But many part-time Ainu are not interested in making the land claims characteristic of so many indigenous struggles. For Ainu people, salmon serve as a “boundary object” for diverse community members who have different experiences of Ainu-ness in relation to categories such as rights, culture, indigeneity, Japanese-ness, and nation.<sup>153</sup>

I turn now to a detailed discussion of one particular encounter between Ainu and salmon. I focus on the Pi-nay Salmon Sanctuary project, an attempt to block the construction of an industrial waste disposal site along a salmon-bearing river, which began in 2009.<sup>154</sup> In the Pi-nay case, Ainu people, urban environmentalists, and local

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<sup>153</sup> See Star and Griesemer (1989) on the concept of “boundary object.”

<sup>154</sup> Pi-nay means “pebble river” in the Ainu language. The Japanized version, used for the name of the city at the mouth of the river is Hinai. See Kagami 2009.

residents have come together to obtain the first pollution control agreement that protects wild salmon and recognizes Ainu rights. The agreement itself is significant, but it is not the only outcome of opposition to the waste dump. Indeed, through this project, the Hinai Ainu community, Ainu rights discourses, salmon conservation policies, and even the evolutionary trajectory of salmon genes have been fundamentally re-made through their re-articulation.

### **Hinai Ainu**

Hinai, its Ainu community, and its salmon are literally and figuratively marginal. Perched along the northern edge of Hokkaido, facing out toward the Okhotsk Sea, it also sits on the edge of an economic precipice: its once thriving downtown has been reduced to a bus depot, a grocery store, a fish restaurant, and a small strip of snack bars. The train line to Hinai shut down over a decade ago. Depending on one's desired destination, buses are infrequent at best, non-existent at worst. Despite attempts to coin Hinai the crab capital of Japan – and the town's construction of the world's largest crab claw sculpture – its tourist industry is basically bust. For a few weeks every winter, buses packed with metropolitan tourists still arrive to see the drift ice, but it isn't enough. Depending on the winds, odors of rotting seafood and dairy cows – indicative of Hinai's primary industries – alternate wafting through the town. But unfortunately, such industries do not seem to spread their profits as widely as their scents.

Sato-san, as I'll call him, is the head of the Hinai Ainu organization and its most vocal member. Indeed, Sato-san takes up so much space that it often seems that he is the entirety of the Hinai Ainu branch. In his late-60s, Sato-san – with his thick neck, square jawline, and booming voice – is the region's most visible and outspoken Ainu. Growing up in Hinai, Sato-san always felt marginalized. A descendent of a local Ainu leader who governed several small villages in the late 19<sup>th</sup> century, Sato-san was born in an Ainu *kotan*. Because everyone knew about his family background, he faced such serious bullying as a child that he dropped out of school before completing the 7<sup>th</sup> grade. After facing discrimination in his youth, he spent most of his adult years trying to distance himself from his Ainu heritage, refusing to attend Ainu festivals or related events. Occasionally, his Ainu heritage continued to dog him. For example, when Sato-san became a fisherman, the local fishing cooperative initially refused to admit him as a full member, relenting only after Sato-san had an official from the Ainu Association's Sapporo headquarters pressure the co-op to drop their discriminatory stance. For decades, Sato-san did his best to hide his Ainu-ness – to be as Japanese as possible. But about 13 years ago, he decided to publically “come out” as Ainu after his older brother died. Sato-san's brother had embraced their Ainu heritage – attending festivals in other towns with more active Ainu communities and making a death-bed request for an Ainu funeral. But even those gestures did not convince Sato-san to return to the Ainu fold. After his brother passed on, Sato-san decided to “quit being Ainu” once and for all (*Ainu wo yameru*). But Sato-san's

deceased brother objected to this plan. He visited Sato-san in a dream, urging his younger brother to reclaim his Ainu-ness.

Sato-san decided that a request from the other world was not to be ignored. In 2002, he rekindled the local Ainu branch and began organizing *ashiri-chep-nomi*, or first salmon ceremonies, in Hinai. But although Sato-san knew quite a bit about hiding Ainu-ness, he didn't know anything about how to display it. He didn't know any prayers or songs. He didn't know how to use an Ainu fish spear. When Sato-san wanted to hold a first salmon ceremony, he had to invite Ainu elders from other parts of Hokkaido to lead the event because neither he nor anyone else in Hinai knew how.

Such a situation is not uncommon. In the wake of intensive assimilation pressures, Ainu often turn not only to each other, but also to ethnic Japanese scholars to teach them “how to be Ainu.” Many of the Ainu I met produce their “traditional ecological knowledge” through close collaborations with Japanese scientists who research Ainu culture. But while most Ainu try to base their cultural practices on detailed oral histories with elders and carefully researched historical data, Sato-san doesn't have much interest in getting the details right. For example, while the other Ainu people I observed took great pains to harvest their salmon allotments with *malek* spears and wooden traps, I once watched Sato-san conduct his ceremonial fishing with a mini-tractor. Sato-san makes it clear that he is far more concerned with activism than authenticity. He's not interested in “getting it right”; he's on a mission to get rights.

Consider the 2010 Hinai first “salmon” ceremony. Sato-san scheduled it for August, so that it would coincide with an Earth Day event hosted by ethnic Japanese environmental activists who seemed like potential allies in his struggle to prevent the construction of the waste dump. Sato-san was undaunted by the fact that there are no chum salmon in the Hinai river in August – only pink salmon, which are considered “trout” within both Ainu and Japanese classificatory systems. Sato-san simply turned the first “salmon” ceremony into a first “trout” ceremony, with a different silver fish body upon the ritual altar. When few Ainu showed up for the unseasonal event, Sato-san didn’t hesitate to draft non-Ainu to fill ceremonial roles, including an earnest young ethnic Japanese from Sapporo with an imitation jade Maori-style necklace, a Frenchman currently living in Kyoto who says he is studying native shamanism, and this anthropologist. Even if most of the Hinai Ainu community had shown up for the event, there still wouldn’t have been many “Ainu” there. Many of Sato-san’s most active local supporters do not identify as indigenous. One regular participant, wearing an Ainu motif pendant on a cord around his neck, explained to me that he is a “nise-Ainu” – a fake Ainu – who is nonetheless essential to performing Ainu-ness here.

Sato-san and his group are on the margins of the Ainu community. Not only are they geographically far from its centers in southern Hokkaido (especially Sapporo and the Hidaka region), they are also considered “nonaligned” Ainu – people who do not follow either written or unwritten “rules” and who do not work through the

established channels of the Ainu Association (Dietz 1999: 364).<sup>155</sup> Although officially an independent entity, the Ainu Association has close ties to the government, and it receives government funds for cultural revitalization activities. Constrained by their desires for such much-needed funding, its leaders are typically rather conservative in the demands that they make on the Japanese state. More “aligned” Ainu often try to distance themselves from Sato-san who they see as rogue, inauthentic, and “dangerous” (*abunai*) to mainstream Ainu political activities. Overall, many Ainu say, Sato-san is an “Ainu-come-lately” who doesn’t know his own traditions. There are also plenty of rumors that Sato-san deploys his Ainu identity strategically for personal gain; some people say he only wants to be Ainu now because he thinks he can use that identity to gain additional access to financially valuable salmon.

Instead of the Ainu Association, Sato-san works primarily with ethnic Japanese NGOs in Sapporo and Tokyo who focus on social justice and environmental protection. Although Sato-san has generally been the darling of such Japanese leftist groups, he doesn’t always fit their yearnings for an urban-chic eco-friendly “noble savage.” Sato-san is rabidly pro-whaling and for a short time worked on one of the Antarctic whaling ships that are the sworn enemy of global environmental groups like Greenpeace and Sea Shepherd. On occasion, before he picked up the rhetorics of “wildness,” Sato-san suggested that the Ainu establish their own high-value salmon

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<sup>155</sup> Typically, scholars who study “the Ainu” barely acknowledge the existence of groups like the Hinai Ainu, instead focusing on places such as Nibutani and Shiraoi, which are considered “centers” for Ainu culture.

hatcheries by introducing chinook and coho from the United States. Sato-san also doesn't fit these groups' narratives of indigenous dispossession and poverty. On the whole, Ainu people are less well off than the general Japanese population. According to a 2006 government survey, 38.3 percent of Ainu people were receiving government assistance, while Ainu under 30 were half as likely as their ethnic Japanese peers to have entered college.<sup>156</sup> But there is much unevenness in Ainu wealth and educational achievement. When Sato-san struggles to read kanji characters because he dropped out of school at an early age, he certainly fits with NGO images of disempowered native peoples. But Sato-san is also a smart businessman with his own commercial fishing boat who likely makes a very solid income. This success – coupled with his assertiveness – sometimes pushes the limits of such NGO groups' conceptions of the “ideal” oppressed indigene whom they are supposed to help.

### **Hinai salmon**

Like the town's Ainu community, Hinai's salmon are also marginal. Officially, they are not part of any hatchery system. The Pi-nay River and its tributaries are not designated “salmon culture” rivers with hatcheries that artificially reproduce their fish. Because Japanese salmon management practices have focused almost exclusively on hatchery production, the hatchery-less Pi-nay salmon have largely existed outside of both state and co-op management schemes. The Pi-nay

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<sup>156</sup> <http://www.ainu-assn.or.jp/english/eabout03.html>

salmon are also invisible to conservationists interested in protecting “wild” salmonids. When fisheries professionals seek to protect “wild salmon,” they are typically seeking to conserve genetic specificity. Because salmon return to the place of their birth, salmon populations are generally closely adapted to their river’s particularities. For example, the salmon of two neighboring rivers typically show marked genetic differences and exhibit special adaptations to the specifics of their river.

The Pi-nay salmon, however, are thought to lack genetic specificity and purity. Although the exact history of the river is unknown, records indicate that hatchery-reared juvenile salmon were released into the river prior to 1994. These fish, along with countless strays from nearby hatcheries, have almost certainly reproduced with its once genetically unique and locally adapted strain, creating fish that are weedy admixtures. The Pi-nay salmon are potentially “wild” under Hokkaido law, which defines salmon as wild once they have spawned outside a hatchery for at least two generations. But such genetically mixed fish are not considered “wild” by many salmon biologists (especially those outside of Japan) because their specific genetic link to their place has been fundamentally broken. Within salmon management discourses, Pi-nay salmon have become “former natives”– too degraded to be seen as wild, but no longer a valued part of hatchery programs. As a result, major international salmon groups have had no interest in Pi-nay salmon, who don’t seem worth conserving. When an international environmental group decided to invest in salmonid conservation in Japan, they picked a mostly free-flowing river to the west of



Hinai that had a population of IUCN red-listed Sakhalin taimen that had never been subject to artificial propagation.<sup>157</sup> For years, the Hinai salmon didn't count – and didn't get counted – within tallies of either artificial or wild salmon production. The places where the Pi-nay salmon spawn are also far from ideal. The mouth of the Pi-nay River flows between concrete slabs. The tributary directly threatened by the waste disposal site is essentially an agricultural drainage ditch. Looking at the river, I am almost certain that during agricultural reclamation, salmon were once extirpated from this stretch of water, and I am awed that even a handful of salmon have been able to re-inhabit such a damaged place.

### **Waste Disposal Controversy: Remaking Ainu and salmon**

In June 2008, just days before Hokkaido played host to that year's G8 Summit, the Japanese government announced that it would officially recognize the Ainu as indigenous people. Because Japan had already signed the UN Declaration on the Rights of Indigenous Peoples the previous year, this meant that – in theory – the Japanese government would be bound by international law to recognize Ainu rights. But in the months following the recognition of the Ainu, nothing changed. The Japanese government set up a committee to “study” Ainu issues – a time-honored approach for stalling. It took no immediate actions.

Sato-san was excited by the recognition but frustrated that it seemed to be a “paper-only” victory for the Ainu. He wanted real “rights recovery” (*kenri kaifuku*).

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<sup>157</sup> IUCN is the acronym for the International Union for Conservation of Nature.

In 2009, he began sending formal letters to the Hokkaido governor, petitioning the Hokkaido prefectural government to live up to the central government's announcement and recognize Ainu rights. At first, Sato-san cast his net widely, making broad appeals for scholarships for Ainu youth, Ainu participation in natural resource management, indigenous fishing and whaling rights, and economic empowerment programs. Sato-san's primary goal was to assert that indigenous rights cannot merely be enacted through empty and abstract words at a "national" level, but must be meaningful in the everyday lives of Ainu people. Such efforts, unfortunately, went largely unnoticed. The Hokkaido government didn't even bother to respond to Sato-san's letters; he was one man from the margins of Hokkaido.

But in 2009, Sato-san encountered a specific "test case" for his rights – a project that allowed him to forge powerful collaborations. In that year, a Japanese company submitted an application to construct an industrial waste disposal site along one of the tributaries of the Pi-nay river. From the beginning, Sato-san opposed the project as both a fisherman and an Ainu. The Hinai watershed was already a mess. Its mixed conifer and broadleaf forests had been heavily logged in the mid 20<sup>th</sup> century and replanted with a non-native pine species. Its waters had been polluted by an upstream gold mine that continued to leach chemicals into the river. In Sato-san's opinion, the Pi-nay simply didn't need another risky insult. It was already a river on the edge.

Normally, one of the most effective tacks for stopping this kind of project would have been the fishermen's cooperative. In Japanese environmental politics,

fisheries cooperatives – who have recognized stakes in maintaining water quality – have played important roles in demanding improved pollution control and resisting the construction of seaside nuclear power plants. But this time, the co-op was not on the side of the Pi-nay River and its salmon. The fishing co-op had been co-opted as one of the alleged “beneficiaries” of the new waste dump. In addition to mixed industrial waste from throughout Japan, the proposed waste disposal site was slated to be a repository for scallop shells, the primary byproduct of the fishing co-op’s most valuable species. In Hinai, scallops trumped salmon, and – as a result – the co-op did not oppose construction of the disposal site, despite its potential to leach dangerous chemical compounds into local waters.

Sato-san was frustrated by the fishing cooperative’s shortsightedness. He began to wonder if he could use his Ainu-ness to block construction of the waste dump while simultaneously advancing Ainu rights. “I’m not doing this *as Ainu for Ainu*,” he once told me. His goal was to show that Ainu rights could be used to protect the environment and benefit the larger Hinai community. He wanted to show that Ainu rights were not about “taking” – snatching resources from others or asking for handouts – but about using rights to contribute, give back, and enrich the town. The Hinai City government, however, was not impressed when Sato-san argued that the UN Declaration of the Rights of Indigenous Peoples (UNDRIP) required that they consult with him before ruling on the waste dump’s construction permit. Ignoring his demands, the city council approved construction in February 2010, without consultation with local Ainu. A few months later, the Hokkaido prefectural

government commission, whose consent was also required, gave its approval without any Ainu representation.

Incensed, Sato-san drew on the kinds of scale-jumping practices that indigeneity makes possible. Upset by the way he was treated by the city council, he appealed to the United Nations. With the help of a Tokyo-based NGO with UN special consultative status, he sent a letter protesting that the Hinai and Hokkaido governments were violating his UNDRIP rights. In October 2012, when the UN Convention on Biodiversity Conference of the Parties (COP10) was held in Nagoya, Sato-san attended, claiming that indigenous rights were an essential component of biodiversity conservation. Through such acts, he completely transformed the practice of “local” politics by conjuring global connections.

Sato-san’s practices indeed required many acts of conjuring; to do politics on a “big” stage, he needed internationally legible “natives” in the form of wild salmon and indigenous elders. Initially, Sato-san and his allies simply talked about Pi-nay fish as generic *sake*, or chum salmon. But over time, they came to call the fish *wirudo saamon*, a transliteration of the English term “wild salmon,” and began stressing their non-hatchery origins. The salmon became “biodiversity.” Overtime, Sato-san himself also became more “indigenous.” In the words of a recent English-language grant proposal written by one of the NGO staff members, Sato-san became “the Ainu elder” who is using his “Ainu wisdom for achieving the local sustainable development.” The river became an “Ainu sacred site” while the salmon became “sacred fish.” Sato-san came to inhabit such rhetoric, making it his own.

Clearly, everyone involved with the project got better at doing indigeneity in certain kinds of internationally legible ways. But this is not what is most interesting about the Pi-nay Sanctuary Project. What is more important are the ways that this collective has engaged in other worlding.<sup>158</sup> The people involved in this project did not simply learn to perform “wild” or “Ainu” in ways that meet the expectations of pre-established categories; they have actively engaged in remaking those categories. They are trying to do such categories otherwise as they live in the ruins of modernity. Sato-san is trying to build a more livable world for Ainu and salmon out of the mess that he’s got: UNDRIP, ethnic Japanese NGOs, a motley Hinai Ainu group, and a Hokkaido prefectural permit system that allows for river-based salmon harvests for “cultural promotion.” The last is of particular relevance here. For almost a decade, Sato-san and the Pi-nay Ainu group have applied for and received permits for “cultural promotion” harvest salmon in the Hinai river. The law that makes this possible is a product of an amazing government effort to promote a version of “Ainu culture” divorced from any real rights. The Hokkaido government carefully crafted the law so that it does not acknowledge indigenous rights or even ethnic difference. The law is written such that, even as a foreigner, I was able to be part of an application for one of its permits to harvest salmon for “cultural purposes.”

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<sup>158</sup> I borrow the concept of “other worlding” from Donna Haraway (2008) who is borrowing it from Isabelle Stengers (who uses the term *autre-mondalization*).

But Sato-san has been able to torque this law – specifically designed to be legally impotent – to make nascent rights claims.<sup>159</sup> He claimed that the Hokkaido government’s permit for ceremonial salmon fishing constituted their acknowledgement that Hinai Ainu people have stakes to those fish and their river. On such grounds, he sued the waste company and city over their failure to engage in consultation with Ainu people. In March 2012, rather than engage in a protracted court case, the company slated to build the waste disposal facility signed a pollution control agreement (*kougai boushi kyoutei*) directly with the Pi-nay Ainu group. This regulation has major significance for both Ainu and salmon: until the Pi-nay case, only local government authorities had been considered legitimate signatories of pollution control agreements. This case marks the first time that an Ainu group has been formally recognized as a political entity with legal rights. Importantly, the agreement also protects the water quality on which the salmon depend, giving them a chance to readapt and remake the river.

The Pi-nay project, however, has had even larger effects. It has helped bring new Ainu and salmon subjectivities into being together. The articulation of Hinai Ainu and Hinai salmon has made everyone different. Since the project began in 2009, I have watched Sato-san’s transformation. Sato-san has come to make Other comparisons – comparisons in opposition to the Japanese state and in contrast to other Ainu. His ways of being in the world – his understanding his Ainu-ness, his ways of speaking, his bodily practices – all have been transformed through his interactions

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<sup>159</sup> My understanding of the legal issues is based on Ichikawa (2001) in addition to several interviews.

with the Pi-nay salmon. Through the project, Sato-san – once a fisherman and a person of Ainu descent – has become an “Ainu fisherman.” This switch is not merely a matter of language, but a change that has altered the way he interacts with the world. Through his work with the salmon, he has researched his family history, made connections with other indigenous groups in Canada, the U.S., and New Zealand who are also working to recover fishing rights, and reinvented the Pi-nay Ainu “first salmon ceremony.” He has changed salmon management in the Pi-nay River and advanced wild salmon conservation more generally in the Okhotsk region. In short, as he has explored how to be Ainu-with-salmon, he has become a person who intervenes in the lives of fish.

Sato-san’s way of doing Ainu cannot be divorced from multispecies relations; the salmon are not mere accessories to this story. Sato-san’s maneuvers are completely dependent on salmon; without their bodily presence in the river, he would have no stakes, no ground on which to fight against the waste disposal site. Sato-san needs these specific “wild” salmon because hatchery salmon are largely produced by private hatcheries and are widely conceptualized as private property. Only salmon that have slipped outside systems of industrial production are available for rights claims.<sup>160</sup> Without these salmon, this kind of identity-making project would not have come into being. Through their tenacious bodily presence and their ability to escape colonial hatchery systems, the salmon are providing a way into more rights-centered

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<sup>160</sup> Although I exclusively focus on salmon here, I intend for them to stand for a whole web of multispecies life in the Pi-nay River watershed, especially the macroinvertebrates that managed to make it in the agricultural drainage ditches.

discourses of Ainu indigeneity – discourses that have the possibility of remaking Japanese approaches to ethnicity more generally.

Although I have focused here on the Pi-nay River watershed, I must also mention that its nonhumans are not the only ones who matter to this story. Chilean salmon matter, too. Without the Chilean farmed salmon industry – without the massive imports of such fish into Japan – Hokkaido salmon would be too valuable, too important for food security, for the Pi-nay Sanctuary project to have come into being. Without Chilean salmon to drop the value of Hokkaido fish, the Pi-nay would likely have remained an artificial production river. In all likelihood, there would have been no wild salmon there. Even if there had been, if the price of Hokkaido salmon was still sky-high – as it was prior to Chilean salmon imports – the prefectural government would have been unlikely to allow any harvest of salmon for ceremonial purposes. Such a system would have been too unpopular with commercial fishermen (seeking profits) and hatcheries (seeking brood stock). There is a certain irony to the fact that Chilean salmon production – which has both damaged Chilean landscapes and adversely affected its indigenous people – has also created the conditions within which conjoined Ainu revitalization and Hokkaido salmon conservation have become possible.

I want to stress that it is not merely the case that salmon have shaped Ainu identity. Ainu politics are also remaking salmon. Without their articulation to Ainu rights, the feral salmon of the Pi-nay River would never have been candidates for conservation. They would have been ignored by mainstream environmental groups as



a site for restoration, and they would not have become *wirudo saamon*. Yet because of their connections with Sato-san and the Pi-nay Ainu, the river and its salmon are on the radar of several metropolitan NGOs, as well as the Hokkaido government. As they continue to assert their indigenous rights, the Hinai Ainu are also likely to take an increasingly involved role in direct watershed management, bringing new conservation practices to the river. Such changes will undoubtedly affect the watershed and its salmon. Already, the pollution control agreement has protected the river's water quality, significantly increasing the odds that fish will survive there. As a result, salmon will be able to continue inhabiting the Pi-nay River, adapting to its specificities and developing unique place-based genetic traits. In short, Ainu politics are fundamentally changing the population structure of these salmon.

The relations of Ainu and salmon in Hinai have much to teach us about living with the ongoing legacies of modernist (and statist) comparative practices. They show us that both salmon and identity are slippery. Despite its best efforts, the Japanese state has not been able to completely control either the fish or Ainu-salmon relations. If everything had gone according to state plans, there would be no Ainu or free-spawning salmon in the Pi-nay region – only homogenized “Japanese citizens” and industrialized hatchery fish. But both are there. Persistence, though, has not been easy. The Hinai Ainu and the Hinai salmon cannot “escape” the comparative structures that the state has used to render them marginal in multiple ways. However, they have shown us how marginality can also produce possibility. Precisely because they are people outside of the Ainu Association and fish outside of existing

management regimes, they have been able to forge new connections with each other. They show us possibilities for building better worlds from positions of exclusion. In the process of working from margins made by hegemonic comparisons, Hinai Ainu-salmon relations challenge Japanese discourses of a “multiculturalism” divorced from indigenous rights. By asserting the role of salmon in Ainu identity – in claiming Ainu culture as a multispecies relation – they are demanding that the Japanese state take Ainu salmon rights seriously. For them, the “cultural” in multiculturalism is not – and cannot be – human-only.

Such connections between identity politics and multispecies politics are not limited to indigenous peoples. It is not some romantic, primordial “oneness with the land” that brings these forms of politics together. Instead, all of us – be we rice people, bread people, or salmon people – do identity politics within engagements with other species. The comparison-making practices that craft human identities only happen within multispecies relations. Comparison-making – and identity itself – are always multispecies practices. The inverse, of course, is also true. As we have seen through Hokkaido’s salmon landscapes, multispecies relations are invariably shaped by identity politics.

## Chapter 8

### Conclusion: Toward a more comparative STS

Multispecies anthropology has many genealogies. Consider Evans-Prichard's *The Nuer* (1940), a classic study of an African cattle culture, and Roy Rappaport's *Pigs for the Ancestors* (1967), a pioneering text in cultural ecology. But contemporary multispecies anthropology is also undoubtedly intertwined with science and technology studies, a field that has grown up in the interdisciplinary interstices of the social sciences. STS – especially in its ANT-focused variants – has provided important conceptual resources for a diversity of anthropological projects focused on medicine and the body, nature and the biological sciences, and engineering and technological projects. Its attention to undoing binaries such as nature/culture, subject/object, and human/nonhuman, as well as its efforts to deconstruct alleged Western universals such as Man, science, and modernity have jived with similar trends in anthropology. Thus, it should come as no surprise that ANT's analytical moves have also been essential in shaping multispecies scholarship. Indeed, this dissertation, like the majority of more-than-human anthropology is imbued with an ANT sensibility in its attention to material-semiotic co-constitution and to practices of doing, rather than to states of being. It is precisely because ANT has been so important in anthropology over the past two decades that its practices merit careful scrutiny. As anthropologists increasingly turn to STS for intellectual inspiration, we must reflect on ANT's limitations and blindneses as well as its powerful possibilities. Such critical reflection has been one of the major goals of this dissertation, which has sought to remind us what attention to world systems, political

economy, colonial history, and cultural practices can bring to studies of multispecies relations. In this conclusion, I explicitly focus our attention on this issue by telling a story of a missed moment in the history of the development of ANT and STS.

At the moment, I am not interested either in tracing the development of ANT or in providing a comprehensive chronology of anthropological work on science. Instead, I want to focus our attention on one moment in the late 1980s and early 1990s when two different science studies projects were emerging – one in relation to Japan and another in relation to Europe. During those years, three anthropologists – Sharon Traweek, Joan Fujimura, and Pamela Asquith – were undertaking important comparative research on the differences between scientific practices in Japan and the United States. Traweek focused on communities of physicists, Fujimura on genomics research teams, and Asquith on primatologists. All were interested in the multiplicities of science; transnational comparison, they all felt, was key. How, they asked, did science look different outside of Euro-American centers? Japan provided an ideal site for such research because its science was undeniably “modern,” yet also not “Western.” Across the board, Japanese sciences were made to be at once “international” and “Japanese.”

For all three of these scholars, their fieldwork in Japan made them alert to the constitutive power of comparative practices. When Traweek conducted ethnographic research with high-energy physicists, she immediately picked up on their relentless comparisons, which are not dissimilar from those that permeate this dissertation:

Some Japanese said American physicists act like children; some Americans said Japanese male physicists act like women. Some Japanese physicists said

Americans thought like people from a third-world country; some Americans called Japan a backward country. Some Japanese called Koreans devious; Americans said Koreans are “like us.” And so on. (Traweek 1992: 105).

For Traweek, such comparisons required that she attend to the political economy of science – to the transnational inequalities within which multiple forms of physics come into being. With echoes of Wallerstein, she described “the high-energy physics community’s discourse on center and periphery, on domination and subordination” and showed how “colonialist discourse” shaped the emergence of national scientific communities in an international arena (Traweek 1992).<sup>161</sup>

Asquith encountered similar relations of power in her work on Japanese primatologists whose approaches did not fit with “international” standards set by American and European scholars. Although the Japanese primatologists engaged in novel work with unique perspectives and commitments, they found themselves forced to hew to Euro-American theoretical trends and aesthetic preferences in order to get their journal articles published (Asquith 2000). When the Japanese scientists did not actively work to make their articles comparable, their pieces were dismissed as too “descriptive” and “atheoretical” and subjected to radical editing (Asquith 2000). Asquith’s work demonstrated how Japanese primatologists (like Spivak’s “subaltern”) could not speak within discourses dominated by Euro-Americans, as well as how such demands for legibility shaped enactments of Japanese science.<sup>162</sup>

Lastly, Fujimura recognized how Japanese genomics scientists consciously engaged in practices of comparison and citation; she describes how the Japanese

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<sup>161</sup> See also Traweek (1988).

<sup>162</sup> See also Asquith 1996 and 1999.

human genome project “was planned with specific reference to, and in direct competition with, the American project” (Fujimura 2000: 79). But the genomics scientists’ comparisons, Fujimura noted, challenged American hegemonies at the same time that they cited American categories. The scientists’ acts of reference to the American project did not mark a tacit acceptance of a U.S.-centric world ordering. Instead, the Japanese scientists cited an “American” science laden with layers of imperial history and binary comparisons in order to remake those legacies into something else.<sup>163</sup> When the Japanese scientists compared "Japan" and "the West," they did so not simply to create a distinction between the two, but also to create “a larger discourse where Japan is transgressing the borderline between the ‘Modern/West’ and the ‘Pre-modern/East’” (Fujimura 2000).

The insights about practices of science beyond Euro-America and about the critical role of comparison within them that these women’s research produced were of utmost importance. These scholars were developing a form of STS attuned to global political economy, colonial relations, and the generative force of comparative practices. Unfortunately, however, their work did not become part of the dominant narratives of STS. I think there are two reasons for this. First, the Japan-focused STS scholars did not speak in a way that Europe-focused STS scholars could hear. Traweek, Fujimura, and Asquith all wrote in ways heavily inflected by the languages of Japan area studies. Clunky categories of “national culture” and pervasive

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<sup>163</sup> By working through contaminated categories they are engaging in a project similar to the kinds of political work that Haraway calls the “promises of monsters” (Haraway 1992).

discourses of Japanese uniqueness have long isolated social science work on Japan and limited its impacts on disciplinary trajectories. The same was true for this trio's work on Japanese science. As scholars writing in the shadow of the *Chrysanthemum and the Sword* (Benedict 1946), comparisons between U.S. and Japan seemed so "natural" to them that they did not adequately examine and theorize the apparatuses of comparison at work in their ethnographic accounts. Because comparison was so taken-for-granted in the context of Japan, they failed to fully articulate its significance, and the insights about it that lurked in their ethnographic work went largely unnoticed.

Second, even if these three Japan-focused anthropologists had more clearly articulated their innovative analytical contributions, STS scholars in Europe were unlikely to have paid much attention. During the late 1980s and early 1990s, another threesome of scholars – Latour, Callon, and Law – were developing their own strand of STS scholarship, that which would come to be labeled as ANT, by using European science and engineering practices as the grounds for their theoretical moves. These European scholars wanted to follow world-making "action" through actor-networks, and it seemed like a given to them that such action would be found in Europe. They admirably sought to reimagine the West as more diverse and less coherent, but as they did so, they did not question Europe's centrality. For their projects of deconstructing Europe from within, they simply didn't need to pay attention to the rest of the world. As a result, these European theorists were deaf to the potential contributions of women ethnographers working on the periphery. Indeed, they never

even paid enough attention to the Japan-focused scholars' call for an explicitly transnational STS – one alert to unevennesses and inequalities – to actively dismiss it. Rather, the European scholars built ANT with blinders on – developing modes for studying networks that they cropped to stay within Euro-America. For ANT scholars, Japan-focused anthropology of science was treated much like the Japanese scallops in Michel Callon's piece – as stuff to be mentioned in passing, but not to be seriously engaged. In addition to Japanese bivalves, scholarship in Japan – or almost anywhere beyond Euro-America – was outside the borders of their networks. As ANT became increasingly dominant, the transnational and comparative work of the Japan-focused scholars – though not ignored by everyone – was cast to the margins of STS theory.

I tell these stories to highlight a moment of missed possibility and a legacy for reengagement. What if the trio of Traweek, Fujimura, and Asquith (rather than that of Latour, Callon, and Law) had been allowed to define the dominant approaches to STS? Might STS have been more attuned to unevennesses and practices of comparison from the get-go, rendering my entire argument unnecessary? Situating myself in the legacy of these Japan-focused scholars, I am pushing for a different set of foundational narratives for STS in order to do it otherwise. Fortunately, I am not alone in such efforts. Over the past decade, an increasing number of STS scholars, including Itty Abraham (1998), Warwick Anderson (2006, 2008), and Vincanne Adams (1998), have intervened in the field's Euro-American-centric biases and called for an infusion of postcolonial theory in science studies. Collectively, their work – embedded in the colonialist histories of India, Papua New Guinea, and the Himalayas,



respectively – has demonstrated that postcolonial STS demands forms of analysis that are more responsive to transnational inequalities than ANT has hitherto been.

Yet, as important as postcolonial STS is, it is not a substitute for the work of Traweek, Fujimura, and Asquith, which brings us more directly into the questions of comparison that we must consider as we address ANT's deficiencies. The fact that these three scholars conducted their research in Japan is highly relevant here. While I argue that one must attend to comparisons regardless of location, comparisons are especially foregrounded in Japan. Certain places have long been associated with specific kinds of theoretical interventions in anthropology, and, as this dissertation has shown, comparisons are so ubiquitous and fundamental in Japanese life that Japan area studies is primed to contribute to our thinking about comparison within postcolonial STS. I worry, however, that the forms of comparison that scholarship on Japan brings to our attention run the risk of once again slipping from our grasp. To date, Japan – where colonial processes have looked very different from those of India or Africa – has fallen outside the purview of postcolonial studies, which has largely built its theories out of the ruins of British imperial forms. As we expand postcolonial science studies, can we simultaneously expand the “postcolonial” so that there is room for Japan and its comparative insights?<sup>164</sup>

As this dissertation has shown, the ability of work in Japan to sensitize us to questions of comparison is of utmost importance: it both helps us notice and gives us

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<sup>164</sup> Bringing Japan area studies into conversation with postcolonial STS would also enliven Japan area studies itself. For too long, Japan area studies has been mired in region-specific discourses and has failed to make theoretical contributions to broader disciplinary and transdisciplinary conversations.

tools to begin to address ANT's ongoing limitations. Busying themselves with deconstructing "science" and "modernity" from within Europe, ANT scholars have largely missed the processes of exclusion that go into the formation of their unmarked categories.<sup>165</sup> They – and the European scientists and engineers they study – have built for themselves seemingly self-referential and self-contained worlds. The comparisons that "Japanese science" or "Japanese modernity" bring into view, however, evert these worlds of European exceptionalism, and, in turning them inside out, open them up. The actors whom I encountered in Japan bring us into a kind of space-time analysis for which there is no room in European-centric ANT. When we follow my informants into their reflexive apparatuses of comparison, we begin to see STS practices and networks as full of uneven comparisons and transnational connections. In this way, ethnography shows us that, while STS needs Strathernian comparisons – those that use outlandish juxtapositions – to stop us up and make us question scholarly knowledge categories, such kinds of comparison are not enough. We must also pay serious attention to the comparisons toward which Anderson, Stoler, and the people whom I encountered in Hokkaido point us – comparisons that are alert to the geopolitical histories of how categories are made in uneven encounters. When we do so, we transform STS and allow our curiosities to enlarge.

I so strongly claim a need for attention to these kinds of comparisons because they play such a critical role in the making of Japanese salmon, the fish at the center of this document. Without attention to such comparisons, we simply cannot

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<sup>165</sup> Recently, a few ANT scholars have indeed started to notice and write about such issues. See, of example, Law and Lin 2011 on the politics of doing STS in Taiwan.

understand the bodies and lives of these salmon or the watersheds in which they spawn. In the course of this dissertation, we have observed many times over how comparisons shape Japanese salmon and their watersheds by creating new relations; we have seen how these fish are done-in-comparison. Each chapter has shown us how comparisons produce practices that remake salmon populations and metapopulation structures within and beyond Hokkaido. Attuned to comparisons, we noticed how those between Hokkaido and the American West compelled the introduction of specific kinds of hatchery techniques and the development of a form of scientific fisheries management that led to particular practices of transferring and mixing salmon gametes in Japan. We noticed how Japanese desires to create a postwar economy comparable to that of the United States, as well as Japanese assumptions of Latin American underdevelopment, aided the formation of the Chilean farmed salmon industry – an industry that, in turn, has completely reconfigured Chile’s ecologies. Back in Hokkaido, we noticed how salmon populations were remade by the changes in global fish markets that comparisons between Japanese salmon and Chilean farmed fish engendered. We saw how the island’s fish have been shaped by the management practices of Japanese fishing industry professionals with commitments to being legibly and comparably “modern.” We noticed how comparisons that track through “wildness” and “indigeneity” have generated new conservation initiatives and fostered practices of river restoration. Because these kinds of geopolitically-inflected comparative practices have caused such major changes in salmon morphology, genes,

and population structures, noticing geopolitical apparatuses of comparison is an essential part of noticing Japanese salmon.<sup>166</sup>

Yet, while attention to such comparisons is required for noticing Japanese salmon, it is equally important for noticing how salmon are done in places like the Columbia River. If I were going to do research in the Columbia River now – after my encounters with Japanese salmon – I would approach the question of how salmon are done there with a different sensibility. I would pay far more attention to the erasure of transnational connections, and I would not take the largely self-referential quality of doing Columbia River salmon at face value. Instead, I would try to notice the practices of exclusion through which the unmarked categories and ostensibly uncomparative worlds in the Columbia River are made, and I would ask about how the U.S. Pacific Northwest has been able to become such a self-referential salmon world. I would also listen more closely for “spectres of comparison,” asking how salmon worlds in other parts of the world haunt those who spawn in the Columbia River basin. Although they are not made overt in everyday practices of doing salmon, within American hatcheries, restoration projects, and laboratories, there are hints of

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<sup>166</sup> We can see the effects of comparison merely by looking at salmon population numbers. Overall, the number of salmon in Hokkaido has spectacularly increased in the past 50 years as a result of hatcheries. However, within Hokkaido, salmon distributions have dramatically changed. Many waterways once filled with fish are now nearly void of salmon, while others – those with hatcheries – now have a super-abundance of fish. If we look beyond numbers, we can see even more changes in Hokkaido salmon populations. Fishing net configurations have exerted selective pressures that have decreased salmon body size, while increased feeding competition from larger numbers of hatchery fish has lengthened the time salmon spend in the ocean. Repeated hatchery propagation of the earliest returning fish has moved up the timing of salmon spawning season.

hauntings that more attuned eyes and ears might catch and query: American scientists who dismiss Japanese work as irrelevant, Pacific Northwest tables filled with salmon from Alaska and Chile, and hatchery salmon feed that contains protein from Peruvian anchovies. If we are going to enact forms of multispecies anthropology and STS that do not simply reproduce the erasures and blindnesses of Euro-Americans (including those of most ANT scholars), we must be alert to geopolitical apparatuses of comparison in all of our sites. While ANT-inflected STS has clearly shown that “we have never been modern,” it is now time to acknowledge that “we” – not only scholars, but also the people and salmon of Hokkaido and the Columbia River region – have always been caught in comparisons.

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