

The Power of Place:
Ideology and Ecology in the Bering Strait, 1848-1988

By

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Abstract

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At the Bering Straits, Russia and Alaska share a common ecology: rolling tundra and icy mountains divided by the narrow ocean. Every living thing exists without plentiful solar energy, curtailing the productivity evident in temperate climates. Yet over the course of the long twentieth century, Russians and Americans were drawn north by its potential riches, from the energy in walrus blubber to the currency of gold. They stayed to make converts, fortunes, and states. This dissertation chronicles the environmental, political, economic and cultural revolutions that came in their wake. These revolutions map onto the distribution of energy in arctic space. Europeans began by harvesting whales, moved to hunting walrus on coasts, attempted to farm reindeer on land, sought gold underground, and finally returned to hunting whales at sea. Organized around these spaces, the following five chapters trace a narrative from the stateless meetings of indigenous Yupik, Inupiat, and Chukchi with commercial hunters, to the inception of national borders and ideas of citizenship, through to the region's division along ideological lines. Using ecological and anthropological scholarship and sources from twenty local, regional, and national archives in the U.S. and Russia, it examines how capitalism and communism, which imagine history as universal, progress as inevitable, and production as infinite, met with the constraints of the far north.

The common extremity of the Beringian environment provides a unique space in which to compare the twentieth century's two great economic systems. The resulting insights transcend the peripheral geography, and contribute to major questions in the histories of capitalism, socialism, and the environment. First, comparing how people understood their northern environs, and how they chose to change them, demonstrates how both economies were laced with normative assumptions about the trajectory of people's lives and history. Capitalism was never simply about how commodities were owned and traded, any more than communism was only about collective ownership of the means of production. Rather, both were ideologies that shaped what was thinkable, valuable, and rational. Second, these ideas did not exist outside environmental context. In ways specific to marine, coastal, and terrestrial habitats, local ecologies changed the practice of communism and capitalism. By investigating how intent became action, and action shaped new intents, this project shows instances of socialist rationality, market irrationality, and unexpected resemblance. Above all, both economic and ideological systems were contingent on factors beyond human control. Attention to the non-human, from animal behavior to climate, demonstrates how agency, in the sense of individual or collective will working on the world, was situational. The result is a history of how human intention and action were negotiated in concert with the environments they inhabited.

To Stanley, who taught me how the land speaks.

And to Alex, who understands why I listen.

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There are many ways to begin a dissertation. This one started on the back of a dogsled when I was eighteen. Along the banks of the Porcupine River, I learned to hunt, fish, mush and love the north; even in the dustiest library that landscape and its tastes and smells stays close. As does the wit and wisdom of Stanley Njootli, who kept me alive then and keeps my head filled with questions still.

Wisdom and wit were also the gifts Yuri Slezkine brought to advising this project. I am indebted more than I can say to the years he spent offering written or spoken guidance, always filled with rigor, curiosity, and compassion. I hope to take from his example and never stop adventuring, intellectually and otherwise, or lose the sense of sardonic joy that comes from writing history.

My other intellectual debts are numerous. Brian DeLay enriched my understanding of U.S. history and the historian's profession. Ryan Tucker Jones sent files, comments, and letters from every corner of the Pacific. Alexei Yurchak lent me an anthropologist's perspective. Victoria Frede always asked the impossible but perfect question. Kerwin Klein taught me how to speak. Many other people have read and commented: Robert Chester, Daniel Sargent, Alan Roe, Chris Casey, Erica Lee, Tehila Sasson, Julia Lajus, and Dolly Jørgensen. The Berkeley Russian History Kurzhok suffered insightfully through years of reading about walrus, as did the Berkeley Environmental History working group, the Borderlands Writing Group, and the Global History Workshop.

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I am grateful to all of you.

MAJOR ARCHIVES

APRCA	Alaska and Polar Regions Collections & Archives, Fairbanks AK
BL	Bancroft Library, University of California, Berkeley CA
ChF TFGI	Chukotskii filial, Territorial'nyi fond geologicheskoi informatsii po Dal'nevostochnomu federal'nomu okrugu, Anadyr
ChOKM	Chukotskii okruzhnoi kraevedcheskii muzei, Anadyr
GACHAO	Gosudarstvennyi arkhiv Chukotskogo avtonomnogo okruga, Anadyr
GAMO	Gosudarstvennyi arkhiv Magadanskoi oblasti, Magadan
GAPK	Gosudarstvennyi arkhiv Primorskogo kraia, Vladivostok
GARF	Gosudarstvennyi arkhiv Rossiiskoi Federatsii, Moscow
GWBWL	G.W Blunt White Library, Mystic Seaport Museum, Mystic CT
IWC	International Whaling Commission, Digital Collection
MSA	Memorial Society Archive, Moscow
NARA AK	National Archives and Records Administration, Anchorage, AK
NARA MD	National Archives and Records Administration, College Park, MD
NARA DC	National Archives and Records Administration, Washington D.C.
NARA CA	National Archives and Records Administration, San Francisco CA
NBWM	New Bedford Whaling Museum Research Library, New Bedford MA
PRIPL	Providence Rhode Island Public Library, Providence RI
RGAE	Rossiiskii gosudarstvennyi arkhiv ekonomiki, Moscow
RGIA DV	Rossiiskii gosudarstvennyi istoricheskii arkhiv Da'nego Vostoka, Vladivostok
SI	Smithsonian Institution Archives, Washington D.C.
TsKhSDMO	Tsentr khraneniia sovremennykh dokumentov Magadanskoi oblasti, Magadan
UAA	University of Alaska Archives & Special Collections, Anchorage AK

BERINGIA



The piers are pummelled by the waves;
In a lonely field the rain
Lashes an abandoned train;
Outlaws fill the mountain caves.

Fantastic grow the evening gowns;
Agents of the Fisc pursue
Absconding tax-defaulters through
The sewers of provincial towns.....

Unendowed with wealth or pity,
Little birds with scarlet legs,
Sitting on their speckled eggs,
Eye each flu-infected city.

Altogether elsewhere, vast
Herds of reindeer move across
Miles and miles of golden moss,
Silently and very fast.

- W. H. Auden

INTRODUCTION

THE MIGRATION NORTH

In late spring, the air along the northern Pacific coast fills with beating feathers bearing up the bodies of snow geese. In a cacophony of honking, they rise by the thousands from a night adrift on patches of open water. The flocks turn north. As they strive for the Arctic, the geography of the Pacific Ocean's terminus passes beneath their wings. The North American coast pulls in at Norton Sound, mirrored by the Gulf of Anadyr on the eastern edge of Asia. The Chukchi and Seward Peninsulas reach toward each other through the Bering Sea, with the Diomed Islands rising between them like two fingerprints in the narrow Straits. Twenty thousand years ago, during the last ice age, this water was land. People hunted mammoths and caribou across united continents, over a corridor of earth forgotten by glaciers.¹ Even now, cleaved by fifty miles of ocean, there is a geological and biological unity to the territory roughly encircled by the Mackenzie and Yukon Rivers in North America, the Anadyr and Kolyma Rivers in Asia, and the oceans north of St. Lawrence Island and south of Wrangell Island. The space from river to river and sea to sea is called Beringia.

The white geese fly north over white country: the sun has not yet melted back all that winter froze. The existence of ice here, approaching the Arctic Circle, is the product of a history even older than the glaciation that made Beringia. More than two hundred and fifty million years ago, when all land on earth was a single mass, the climate at the northern pole was temperate. Rich forests grew in the sun of long summers. Then the continents divided. A new polar sea formed along the backs of Siberia, Greenland and North America. Isolated from the warming currents of the world's oceans, the capacity of this intercontinental sea to store heat diminished. The land cooled. Ice and snow accumulated during the winter, piling too thick to melt in summer. The white surface of frozen water refracted rather than absorbed warmth from the sun. For the past three million years, the Arctic land has been so cold that two-thirds of the sun's energy refracts back into space.² Since it is the sun that feeds most life on earth, through the calories fixed in plant tissue and passed on into the muscles of animals, every living thing in the north is adapted to scarcity.

The snow geese manage this paucity by fleeing: they settle in the Arctic to nest and molt, turning the summer's brief riot of growth into new feathers for the return south. But many animals do not leave Beringia with the sun. Seals stay on their icebergs. Caribou migrate through the winter. Bears hibernate. And for some twenty thousand years, Beringia has been home to a procession of human civilizations. The chapters that follow examine a small sliver of this timespan: a long twentieth century starting in 1848 and ending with fading years of the Soviet Union. Over this century and a half, life in Beringia confronted a tide of new migrants. Like the snow geese, these

¹ Recent genetic and linguistic evidence points to long-term human habitation of the now-submerged Beringian land bridge. See Mark A. Sicoli and Gary Holton, "Linguistic Phylogenies Support Back-Migration from Beringia to Asia," *PLoS ONE* (March 12, 2014): DOI: 10.1371/journal.pone.0091722; and Maanasa Raghavan et. al. "The Genetic Prehistory of the New World Arctic," *Science*, (August 29, 2014): DOI: 10.1126/science.1255832.

² Temperate climates, by contrast, absorb about 70% of solar energy. For a concise overview of the geological processes shaping the current polar climate, see G.E. Fogg, *The Biology of Polar Habitats* (Oxford: Oxford University Press, 1998), 27-29. The general cooling of the poles is a longer term process than periodic glaciations, which also influence the severity northern climate. See Thomas Ager and Lawrence Phillips, "Pollen Evidence for Late Pleistocene Bering Land Bridge Environments from Norton Sound, Northeastern Bering Sea, Alaska," *Arctic, Antarctic, and Alpine Research*, Vol 40 No 3 (2008): 451-461.

outsiders came at first for energy. They stayed to make converts, fortunes, and states. Motivated by ideas of making human history – be it one of capitalist democratic freedom, Christian salvation, imperial expansion, or communist utopia – Europeans brought a cascade of revolutions: in local ecology, politics, economy, and values. The revolutions began with of capitalists in the nineteenth century, diverged between Soviet and American ideologies and economies in the twentieth, and, as a coda to this story, collapsed into a neoliberal order in the twenty-first. This is a history of ideas going forth to compose the world and how the world played back.

SPACES OF CHANGE

The deep past has molded scarcity into the earth's poles. But the scarcity lies unevenly across the region's geography.³ Unlike temperate climates, where terrestrial and marine photosynthetic organisms are similarly fecund, the Bering, Chukchi, and Beaufort Seas are far more productive than the land. The polar seas are covered in ice for much of the year, but when liquid the water retains most of what the sun gives. As a result, the seas around Bering Strait support life from microscopic plankton to 200-ton bowhead whales. Some of this richness is only half marine, as walrus, seals, and birds build their bodies at sea and bring them to rest on the shore. Inland, nutrients and energy exist on a visible gradient: from taiga in the south, which can support small trees, to the ice-lined soils of the tundra, in places bare of all but rocklike lichen. Many herbivores and their predators must migrate to make a life off this country. To say that the oceans are richer than the land is not metaphorical: a bowhead whale is fifty percent lipid by volume. A walrus is thirty. A caribou, maybe fifteen.

TERRITORY OF NATIONS

That life grows thin farther from the coast is significant to Beringia's human history, from ice age hunters to the rise of the Thule civilization five thousand years ago through to twenty-first century debates about drilling for oil in the Chukchi Sea. For this narrative, the importance of Beringia's spatial energy distribution begins with how it shaped the political geography of indigenous societies in the immediate pre-contact era. Three peoples, distinguished by their languages, called the region home: the Inupiat and Yupik in North America, and the Yupik and Chukchi in Asia. In Alaska, Yupik speakers lived on St. Lawrence Island and along Norton Sound, while Inupiaq communities extended from the Seward Peninsula north to the Beaufort Sea, west as far as King Island, and east into the Brooks Range. In Chukotka, Yupik peoples lived along the coast, sometimes in villages mixed with maritime Chukchi. The interior of the Peninsula was loosely divided between reindeer herders. Although sharing broad cultural similarities, Beringia's peoples lived in small nations, each with defined territorial spaces, economic strategies, and variations on linguistic and cultural practices.⁴ By the seventeenth century, Alaska Inupiat had some twenty-five

³ Other historians using energy as a way to frame their work include Richard White, *The Organic Machine* (New York: Hill and Wang, 1995); Ryan Tucker Jones, "The Environment," in David Armitage and Alison Bashford eds. *Pacific Histories: Ocean, Land, People* (New York: Palgrave MacMillan, 2014), 121-142; J.R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (New York: W.W. Norton, 2000); Alfred Crosby, *Children of the Sun: A History of Humanity's Unappeasable Appetite for Energy* (New York: W.W. Norton, 2006) and William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton, 1991).

⁴ The anthropologist Ernest S. Burch Jr. argues, drawing on decades of nuanced and locally detailed fieldwork for the use of the word "nation" to describe the social units of Beringia. See Burch, *The Inupiaq Eskimo Nations of Northwest Alaska* (Fairbanks: University of Alaska Press, 1998), 8.

distinct, named nations, the Alaskan Yupik ten, with another fifteen among the Asiatic Yupik and at least fourteen among the Chukchi.⁵

National distinctions were shaped by the resources of their territories. An Inupiat nation like the Tikigagmit, living on a bowhead migration route, killed enough whales to support a settled village. The Nunamiut nation, with territory spreading into the mountainous tundra, was nomadic. Others, including many Yupik nations, combined months of village life on the coasts with periods of transient hunting. The reindeer Chukchi were nomads but not hunter-gatherers; they owned their domesticated prey. The political precision of borders varied, but few nations had enough territory or people to be completely self-sufficient. Whale hunters needed seal skins. Walrus hunters needed baleen. Reindeer herders wanted fat. The products of nations moved through trade, and trade reduced the capriciousness of life in the north. The necessity of exchange also introduced the caprice of politics: Beringian peoples fought many small wars, for vengeance, power, and profit. But the need to bring goods across ecological and political lines also forged longstanding alliances. On both continents and between them, nations met at annual fairs to present gifts to relatives and bargain with strangers. By the end of the eighteenth century, these networks carried goods from the edges of the Russian and British Empires: tobacco, tea, metal tools. But the landscape of personal connections, familial ties, and political negotiation connecting the Makenzie Delta with the Alaskan coast, and the Alaskan coast with the Chukotka interior, predated European contact by at least half a millennia.⁶

The one constant in this world of small nations was its lack of constancy. Peace could reverse into war on the turn of an insult, a murder, a bad trade. Reindeer populations crashed. Ice bore seals far from shore. Fish runs dwindled in warm years. Whales came late or not at all. For the Yupik, Inupiat, and Chukchi, the inability to completely predict the universe that sustained them was a sign of that worlds' broadly distributed sentience. With considerable variation in practice and emphasis, the peoples of the Bering Straits engaged in taboos, rituals and invocations meant to appease landscapes filled with thinking beings, and seascapes inhabited by animals that judged the morality of human action. From stones to seals, Beringia's non-human world was a reciprocating, constitutive part of the social world. All things had voices, in Chukchi cosmology, and among the Yupik and Inupiat, the animate universe responded to the thoughts of others, making intention and thoughtful action critical to not injuring the minds of other beings.⁷ Such minds could take their life-sustaining energy elsewhere. Thus, alongside the practical business of hunting and the political business of alliance, trade and war, the Inupiat, Yupik, and Chukchi saw human history as balanced

⁵ Ernest S. Burch Jr. "War and Trade" in *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 227-240, 228. For a slightly different map of indigenous nations, see Ernest S. Burch Jr., *Alliance and Conflict: The World System of the Inupiaq Eskimos* (Lincoln: University of Nebraska Press, 2005), 38-39. For more on the Asian context, see Igor Krupnik and Michael Chlenov, *Yupik Transitions: Change and Survival at Bering Strait, 1900-1960* (Fairbanks: University of Alaska Press, 2013) and Igor Krupnik, *Arctic Adaptations: Native Whalers and Reindeer Herders of Northern Eurasia*, trans. Marcia Levenson (Hanover: University Press of New England, 1993).

⁶ For a comprehensive discussion of trade politics, see Burch Jr., *Alliance and Conflict*. Burch disagrees with Glenn Sheehan's argument that resources were key to warfare, seeing nationalism as a larger issue; see Sheehan, "Whaling Surplus, Trade, War, and the Integration of Prehistoric Northern and Northwestern Alaskan Economies, A.D. 1200-1826," in *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, Allen P. McCartney ed. Studies in Whaling No 3, Occasional Publication No 36 (Edmonton: Canadian Circumpolar Institute, 1995), 185-206. More on this will be discussed in chapter one.

⁷ Ann Fienup-Riordan, "Eye of the Dance: Spiritual Life of the Bering Sea Eskimo," *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 256-270., 256 and S. Ia. Serov, "Guardians and Spirit Masters of Siberia" *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 241-255, 244.

on the precarious desires of a will-infused world. Much of what made human history wasn't human at all.

TERRITORY OF STATES

Like the territories of indigenous nations, the geography of energy in Beringia shaped how Europeans came into the country, and why they came at all.⁸ Sustained contact was motivated by the caloric richness of the sea.⁹ A few explorers, from Vitrus Bering and James Cook in the eighteenth century to the voyages of Otto von Kotzebue and British ships seeking the lost Franklin Expedition in the nineteenth, encountered Bering Sea coastal peoples. Trading emissaries from the Russian and British Empires touched the edges of Beringia by land.¹⁰ But it was whaling that brought lasting and consequential European presence to the Straits. Whalers took nearly thirty thousand bowheads, refining their blubber into lamp oil and baleen into corset stays. With the sea mostly emptied of great whales, hunters sought value among icebergs and beaches, killing seal and walrus for the fat, skins, and ivory. The labor of hunting for the market was fed off the tundra's caribou and reindeer. When veined with precious metals, even dirt and stone became valuable. In their pursuit of gold and tin, Europeans reversed the pattern of extracting energy from the arctic, pouring human labor into mines. In the process, Europeans nested themselves among political alliances and conflicts that predated them. It was indigenous trade that supplied ships and mines with fresh meat, fish, and hides, while mines and ships altered the region's political geography with their new diseases, new settlements, and new weapons.

Not all of what came north in trade was as material as guns or syphilis. Europeans brought with them expectations born of temperate climates. As eaters of grain and domestic livestock, they were accustomed to the productive excess that the agricultural revolution lent humanity. Just as consequentially, even the first Europeans in the arctic were familiar with the fruits of the industrial revolution. By 1850, factory towns from New England to the Moscow outskirts turned the energy held in inert things – trees, coal, oil – into propulsion and power. The goods made in such factories changed how people moved, dressed, worked, and understood the world. Industry freed human consumption from the limited productive power of human labor. Far away from Beringia, authors

⁸ I use “European” as a general signifier for all the non-indigenous peoples who ended up in Beringia, including Americans, recent immigrants to America (mostly from Scandinavia and Germany), Russians and Russian subjects from across the Empire and Soviet Union.

⁹ Therefore part of this project is marine, generally, and Pacific specifically. As such it answers calls put forth over the last decade to expand environmental histories onto and beneath the waves; see Ryan Tucker Jones, “Running into Whales: The History of the North Pacific from Below the Waves,” *American Historical Review* Vol. 118 No. 2 (April 2013): 349-377; Helen M. Rozwadowski, “The Promise of Ocean History for Environmental History,” *Journal of American History* Vol. 100 No. 1 (2013):136-139; W. Jeffrey Bolster, “Opportunities in Marine Environmental History,” *Environmental History* Vol. 11, No. 3 (July 2006): 567–597; For works that theorize the Pacific as united historical space, see David Armitage and Alison Bashford eds. *Pacific Histories: Ocean, Land, People* (New York: Palgrave MacMillan, 2014); David Iglar, *The Great Ocean: Pacific Worlds from Captain Cook to the Gold Rush* (Oxford: Oxford University Press, 2013). For particularly fine examples that unites environmental, marine, and Pacific histories, see Ryan Tucker Jones, *The Empire of Extinction: Russians and the North Pacific's Strange Beasts of the Sea, 1741-1867* (Oxford: Oxford University Press, 2014) and Gregory Rosenthal, “Hawaiians Who Left Hawai'i: Work, Body, and Environment in the Pacific World, 1786-1876,” PhD Diss. (SUNY Stony Brook, 2014).

¹⁰ First contact with Europeans varied widely based on location, from the seventeenth century for parts of Chukotka to well into the nineteenth for parts of Alaska. Some of the best accounts of early contact in Beringia have been written by anthropologists; see Burch Jr, *Alliance and Conflict* and Krupnik, *Arctic Adaptations*. For a thorough account of the nineteenth century based in English-language sources, see John R. Bockstoce, *Furs and Frontiers in the Far North: The Contest among Native and Foreign Nations for the Bering Strait Fur Trade* (New Haven: Yale University Press, 2009). For histories of the earliest contact in Chukotka, see N.N. Dikov, *Istoriia chukotki s drevneishikh vremen do nashikh dnei* (Moscow: Mysl', 1989), part one.

from Karl Marx to Andrew Carnegie wrote of the potential for industry to make progress an objective fact. Such ideas shaped, in different ways and to different degrees, the mental landscape and practical choices of the whalers, missionaries, bureaucrats, miners, and other outsiders who came to Beringia. Such ideas also gave some Europeans cause to stay. If human history was bound to universal laws of progress, than even in the arctic people could be saved from the whims of natural history. Alongside the quest to pull things of value – from the energy in whales to the gold in rivers – out of the north, was a desire to put that value into the service of human progress, making life freer or more equal, less filled with toil and the burdens of uncertainty. For missionaries of Christianity, capitalist markets, and eventual communist utopia, not even the arctic was frozen out of salvation.

These concepts of universal progress were introduced, over the course of the long twentieth century, into the particular material and cultural context of Beringia. Ideas inhabit places, and places bring to ideas specific contingencies. The energy-poor ecology of the north, when it confronted the energy-acquisitive ideologies of modern industrial society, makes this back-and-forth especially clear, and especially local. The uneven topography arctic life shaped intention and action. As a result, contact, state-building, and ideological transformation looked different along the boundaries of ecological communities. In each, people native and otherwise worked through ideas about how the world should be organized. What is the right way to produce things, and to consume them? What is valuable? Who ought to labor, and how? The questions ranged from the moral to the political. They were answered differently by shamans, missionaries, prospectors, indigenous whalers, bureaucrats, traders, ideologues, scientists, native hunters, and non-native miners. By the middle of the twentieth century, some answered as communists and others as capitalists. The habits of mind behind these answers came from central places: New York, St. Petersburg, Washington, Moscow. Yet they became real on a northern periphery challenging to anyone trying to make a surplus for sale or for the state. The following chapters are a history of ideologies going native, and of native circumstance transforming the exercise of ideology.

ERAS OF CHANGE

THE YEARS OF ENCOUNTER: 1848-1923

From the perspective of human events, the long twentieth century in the Bering Straits can be divided roughly in half: into a period of encounter, and a period of divergence. The first era lasted from the entry of whaling ships into the arctic in 1848 until the Bolsheviks took control of the Chukchi Peninsula in 1923. During this time, Beringia was a space of movement, transformation, and encounter. People and goods passed back and forth between Asia and North America. Indigenous nations met, traded, fought, married, and saved Europeans. European whalers and traders scrambled to harvest whale oil, walrus ivory, seal skin, and gold. Trade altered the indigenous geography of political power. Market hunting drew away much of the region's biological energy. And it was not only the indigenous nations who were enmeshed in the politics of arctic production. The United States and Imperial Russia were simultaneously cheered by the potential riches of their borderlands, concerned about protecting their sovereignty, and aghast at the human cost levied by an unrestrained market. Beringia's land, sea, governments and local peoples were caught in a similar encounter with foreigners and the demands of global commerce.

Narratives of contact between indigenous peoples and outsiders initiated by trade and imperial prospecting and cemented by nation-making, are an established tradition in North

American histories. This dissertation shares with recent scholarship on the American West a concern for native people's political agency and the contingency of state power at the periphery.¹¹ It also follows a temporal arc familiar to borderlands history, beginning when Yupik, Inupiat, and Chukchi had jurisdictional and territorial sovereignty, and tracing the transfer of those powers from local control to the American and Russian states. A land of many borders between many small nations became a land of one border between two large states.¹²

However, Beringia's borderland has its own illuminating peculiarities. The lack of agricultural potential made the land, except for a few gold-rich beaches and valleys, unappealing to European migrants. For much of the region, Europeans came seasonally, or in boom-bust mining surges, or not at all. There were few settlers to make sovereignty. Moreover, in the nineteenth century the primary space of contact between outsider and native took place on a border without land.¹³ The ocean, running through the center of Beringia, was the conduit for seasonal waves of whaling ships. These ships acted in borderlands that also lacked a border, at least as recognized by European maps. Russia owned Alaska until the territory's sale in 1867, but was an absent landlord on both sides of the Straits. After the purchase, the United States took decades to patrol its far northwest. On the

¹¹ The tradition of frontier or contact histories in North America starts with Fredrick Jackson Turner, but has taken on new analytical depth in recent decades by fusing care for the contingency of European endeavors, the reality of native political power, and the larger political context of border regions. Monographs in this tradition include Richard White, *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-1851* (Cambridge: Cambridge University Press, 1991); Elliott West, *The Contested Plains: Indians, Goldseekers, and the Rush to Colorado* (Lawrence: University of Kansas Press, 1998); Peter Silver, *Our Savage Neighbors: How Indian War Transformed Early America* (New York: W.W. Norton, 2008); Brian DeLay, *War of a Thousand Deserts: Indian Raids and the U.S.-Mexican War* (New Haven: Yale University Press, 2008), among others. Like these works, I see all ethnic histories in Beringia, indigenous and newcomer, as deserving recovery. This is particularly important as most of the work on Beringia's past is anthropological or archeological, and rarely extends much past contact. While not generally using the term *borderlands*, Russian historiography has its own examples; see Yuri Slezkine, *Arctic Mirrors: Russia and the Small Peoples of the North*, (Ithaca: Cornell University Press, 1994); Kate Brown, *A Biography of No Place: from Ethnic Borderland to Soviet Heartland* (Cambridge, Mass: Harvard University Press, 2004); Nicholas B. Breyfogle, Abby Schrader, and Willard Sunderland, eds., *Peopling the Russian Periphery: Borderland Colonization in Eurasian History* (New York: Routledge, 2007). Much of what Americanist scholars call frontier or borderland history falls for Russianists under the rubric of empire; for an example in the North Pacific, see Ilya Vinkovetsky, *Russian America: An Overseas Colony of a Continental Empire, 1804-1867* (Oxford: Oxford University Press, 2011). Alaskan history is generally seen as an extension of western frontier history, and has gone through similar debates; see Roxanne Willis, *Alaska's Place in the West: From Last Frontier to the Last Great Wilderness*, (Lawrence: University Press of Kansas, 2010); Robert Bruce Campbell, *In Darkest Alaska: Travels and Empire Along the Inside Passage*, (Philadelphia: University of Pennsylvania Press, 2007); Claus-M. Naske and Herman E. Slotnick *Alaska: A History of the 49th State*. 2nd Edition. Norman, OK: University of Oklahoma Press, 1987); Stephen Haycox, *Alaska: An American Colony*, (Seattle: University of Washington Press, 2002).

¹² I am using borderlands here not to discuss the borders existing between indigenous peoples, but the imposed imperial and national borders, with all their attendant ambiguity and contest; indigenous borders were by contrast well established. Much of the best work borderlands the U.S.-Mexico border; see for example James F. Brooks, *Captives and Cousins: Slavery, Kinship, and Community in the Southwest Borderlands* (Chapel Hill: University of North Carolina Press, 2002); Andres Resendez, *Changing National Identities at the Frontier: Texas and New Mexico, 1800-1850* (Cambridge: Cambridge University Press, 2005); Samuel Truett, *Fugitive Landscapes: The Forgotten History of the U.S.-Mexico Borderlands* (New Haven: Yale University Press, 2006).

¹³ The lack of attention to marine borders is notable; see Pekka Hämäläinen and Samuel Truett "Oh Borderlands," *The Journal of American History* Vol. 98 No. 2 (2011):338-361. For a rare example of borderlands work that does work on the ocean, see Jean Barman and Bruce McIntyre Watson, *Leaving Paradise: Indigenous Hawaiians in the Pacific Northwest, 1787-1898* (Honolulu: University of Hawaii Press, 2006). The need for historians to pay more attention to the oceans generally been raised in the last few years; see W. Jeffery Bolster, "Putting the Ocean in Atlantic History: Maritime Communities and Marine Ecology in the Northwest Atlantic, 1500-1800," *American Historical Review* Vol. 113, No. 1 (February 2008): 19-47; K. Wigen, "AHR Forum: Oceans of History—Introduction," *American Historical Review* Vol. 111, No. 3 (June 2006): 717-721. A notable exception is Lissa Wadewitz, *The Nature of Borders: Salmon, Boundaries, and Bandits on the Salish Sea* (Seattle: University of Washington Press, 2015).

oceanic margin, the borderland dynamics of dependency, suspicion, occasional violence and frequent exchange played out initially between native peoples and the ragged edge of the global market.

It was this market, and its appetite for Beringia's biological energy, that began to make the transnational border between Asia and North America extant. The reason was energy, and the conflicting values placed on its disposition by states, market hunters, and indigenous peoples. In the last quarter of the nineteenth century, the Russian Empire and the American government found their border in a state of ecological revolution. Or dissolution: whales and other marine animals had been hunted to the quick. Left behind were starving Yupik, Inupiat and Chukchi communities. Faced with dying subjects and sovereign wealth that escaped sovereign control, Russia and the United States tried to regulate commerce. The border was a tool. Policing it was a way to press for the moral economy envisioned by states against the values imposed by the market. The United States and Russia, sometimes in allegiance with indigenous peoples, saw worth in not emptying the entire North Pacific of the energy needed by that region's few permanent residents.

Thus the borderland was a region where value was contested in space. The states involved valued the resources of the ocean, the shore, and the land for their capacity to sustain subjects and citizens. Indigenous peoples valued many of the same resources spiritually and practically, and in part because killing marine mammals and fur species brought access to trade goods ranging from alcohol to metal tools. Commercial whalers, traders, and miners valued commodities. The borderlands were, across the period of encounter, filled with debate over the role of the market, the value of space and animal life, and the proper form of capitalism. Underlying these debates was the mutual dependency of states, indigenous peoples, and market agents on limited northern energy for some combination of their lives, their livelihoods, and their claims to rightful presence. Because of this dependence, the transition of Beringia from a land of multiple borders into nations oriented toward a singular, maritime division required the states involved become fluent in governance over their territory at a level far more granular than assuming jurisdiction over people. Dominion needed to go beyond the human.¹⁴ The Russian Empire and the United States needed to become managers of their respective environments.¹⁵ And the environments were plural. The shape of governance was not identical between ecological regions, making state sovereignty manifest differently at sea than on the shore, and on the shore than on land.

Maintaining the border between the governments of Russia and the United States rested on animals, and on the flows of energy within arctic ecosystems. These resources proved difficult to manage, terminally delaying the attainment of sovereignty. And, countering the implied position of much scholarship that borderlands are at once static and temporary, the problems of the narrow Bering Sea changed rather than disappeared in the twentieth century.¹⁶ Even as the market

¹⁴ Several chapters of this project contribute to animal history, which often overlaps productively with environmental history, has been a field of scholarship at least since Claude Lévi-Strauss called animals "good to think." There are many ways of integrating animals into the human past; generally this work looks at role of other species in human social, economic and cultural change, like the pigs and cows in Virginia DeJohn Anderson's *Creatures of Empire: How Domestic Animals Transformed Early America* (Oxford: Oxford University Press, 2004). For overviews of animal studies, see D. Brantz ed. *Beastly Natures: Animals, Humans, and the Study of History* (Charlottesville, VA: University of Virginia Press, 2010) and Nigel Rothfels ed., *Representing Animals* (Bloomington: Indiana University Press, 2002).

¹⁵ This contributes to a growing body of literature on the environmental management state. Adam Rome, "What Really Matters in History: Environmental Perspectives in Modern America," *Environmental History* Vol. 7 No. 2 (April 2002): 303-318, especially 304-305. See also Paul Sutter's discussion of the environmental management state in "The World With Us: The State of American Environmental History," *Journal of American History* Vol. 100 No. 1 (June 2013): 94-119. Andy Bruno argues for the Soviet version in

¹⁶ Hämäläinen and Truett argue that such an ossified view of borderlands is a problem in "Oh Borderlands," 358. That the border is still of concern is evident in the elaborate security procedures necessary to visit Chukotka.

confrontation in nineteenth century fused into clearer borders in the twentieth, valuable species continued to swim between national waters and through uncontrolled, international killing grounds. And some of the challenge of marine borders was less material. Ideas could migrate alongside hunting parties on the seas. Mining companies in Nome worried about communist agitation. Soviets worried about proselytizers on Big Diomed Island. The ascendancy and relative statelessness of market forces diminished with the close of the encounter period, but even when national borders seemed stable on land, sovereignty, identity, and authority remained troublingly ambiguous offshore. Water made the Bering Straits a permanent borderland.

THE YEARS OF DIVERGENCE: 1924-1988

While the problem of sovereignty never entirely dissolved, its purpose altered over the course of the twentieth century. The advent of Soviet control in Chukotka meant that the two states no longer worried about keeping the market in check, but in keeping each other at bay. In North America, economic practices and debates were domesticated inside national borders. In Asia, the capitalist market of the encounter period disappeared altogether by the 1930s. The longstanding exchange of people dwindled and was finally severed following the Second World War. Migratory animals moving between the two countries found their lives a different risk depending on their continent.¹⁷ The Inupiat, Chukchi, and Yupik were expected to participate in the ideological world of the larger polities around them, an expectation sometimes borne of violence, and made more pressing by the unnerving proximity of ideological difference. The Bering Straits was explicitly the single periphery of two centers.

Yet the United States and the Soviet Union had, from the perspective of non-human things, similar aims. Both states sought to organize their northern regions for maximum human benefit. Both states sought to make citizens by changing the relationship between consumption and production. Both tried to manage the environment in order to extend and prove national and ideological capacity. Doing so furthered, and complicated, the ecological revolutions begun in the nineteenth century. In the process, Beringia became an experiment in how the political, social, and cultural reorganization of consumption and production diverged or ran parallel under the two great industrial economic systems.¹⁸ Did a capitalist reindeer live like a communist reindeer? Was it different to kill whales for the market or the motherland? Was it easier for a Yupik man to become communist than participate in a market economy? Did a Soviet gold mine make a different mess of the earth than a private claim in Alaska?

These questions reflect physical change, what happened to animal, vegetable, and mineral. But the change itself was motivated by contrasting ideologies. For a good American capitalist, markets made freedom, although with much debate over form. For a good Soviet, communism meant transcendent equality, reached through communal property and effort. While the means of both ideologies were material, the ends were metaphysical. They implied an understanding the self and the world, a way of judging the proper relations of people and the uses of resources in a just society. Treating socialism both as an economic system and a tool by which people created a sense

¹⁷ The type of oppositional identity formation described by Peter Sahlin in *Boundaries: The Making of France and Spain in the Pyrenees* (Berkeley: University of California Press, 1989) thus came to the north Pacific very late.

¹⁸ Comparative works are few, although the potential, as Paul Sutter has noted, is considerable; see "What can U.S. Environmental Historians Learn from Non-U.S. Environmental Historiography?" *Environmental History* Vol. 8 (2003):109-129. For comparative environmental works, see Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford: Oxford University Press, 2013) and Paul R. Josephson, *Industrialized Nature: Brute Force Technology and the Transformation of the Natural World* (Washington, DC: Island Press, 2002). In a more political vein, see Peter Kolchin, *Unfree Labor: American Slavery and Russian Serfdom* (Cambridge, MA: Harvard University Press, 1990).

of self, ethics, and propose is not new for Soviet scholars.¹⁹ In the U.S., however, the history of capitalism remains fixated on the material.²⁰ In comparing how people understood their environments in the north, and how they chose to change them, highlights how both were based in assumed normative relationships between people, and between people and things. Does commerce solve problems in society, or make them? Does trade eliminate politics or create productive contest? What makes a good life? The answers to these questions changed, but at no time was capitalism simply about how commodities were owned and traded, any more than communism was only about collective ownership of the means of production. Ideology gave people expectations, shaped what was thinkable, valuable, and rational.

However, in both Asia and North America, norms were strained by similar geography. Especially in the energy-poor and danger-rich far north, ideology could only remain ethereal for so long. Intention and action are bound up with each other, and actions play out in environments that, if not precisely filled with intent, have their own logics and rules.²¹ Along the Bering Straits, both nations and their citizens found themselves dealing with a disruptive climate and a singular lack of employment for modern, industrial people. The winter cold was terrible for man and machine alike. The summer warmth brought clouds of forest-fire smoke and mosquitoes. The supposedly universal ideals of liberty through capital accumulation or equality through communal production met with highly particular Yupik, Chukchi, and Inupiat ideas about what made people good, trade fair,

¹⁹ The role of ideology in individual and social life has been important to Soviet studies since Hannah Arendt's *Totalitarianism*. More contemporary work includes Stephen Kotkin, *Magnetic Mountain: Stalinism as a Civilization* (Berkeley: University of California Press, 1995); Jochen Hellbeck, *Revolution on My Mind: Writing a Diary under Stalin* (Cambridge, MA: Harvard University Press, 2006); and Igal Halfin, *From Darkness to Light: Class, Consciousness, and Salvation in Revolutionary Russia* (Pittsburgh: University of Pittsburgh Press, 2000), to name a choice few. These new works treat ideology as a formative part of creating subjectivity – in the Soviet case, a subjectivity quite opposed to that of the liberal subject theorized most notably by Michel Foucault; see Paul Rabinow, ed. *The Foucault Reader* (New York: Pantheon 1984). Works directing the concern for subjectivity back toward human interactions with the material environment, however, are limited; see Andy Bruno's forthcoming, *The Nature of Soviet Power: An Arctic Environmental History* (Cambridge: Cambridge University Press, 2016).

²⁰ Despite models from Weber to Foucault, treating capitalism as a set of ideological promises that help shape subjectivity has not been embraced by American historians. A recent *Journal of American History* roundtable on the history of capitalism mentions ideology only twice, while Jeffrey Sklansky sees histories of capitalism that treat it as a constructing people's worldviews as a new horizon for the field; see "Interchange: The History of Capitalism," *Journal of American History* Vol. 101 No. 2 (2014): 503-536 and Sklansky, "The Elusive Sovereign: New Intellectual and Social Histories of Capitalism," *Modern Intellectual History* Vol. 9 No. 1 (2012): 233-248. The lack of attention to ideology often reduces capitalism to the exchange of commodities; empties it of possible normative suppositions, pragmatic assumptions, or eschatological expectations; and thus naturalizes it into a historically variable assemblage of supply, demand, labor, and capital. There are notable exceptions, most of them coming from British historians; see for example Margot C. Finn, *The Character of Credit: Personal Debt in English Culture, 1740–1914* (Cambridge: Cambridge University Press, 2003). For examples germane to the United States, see Michael Zakim, "The Business Clerk as a Social Revolutionary; Or, a Labor History of the Nonproducing Classes," *Journal of the Early Republic* Vol. 26 No. 4 (Winter 2006): 563–603; James E. Block, *A Nation of Agents: The American Path to a Modern Self and Society* (Cambridge, MA: Harvard University Press, 2002); Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014); Richard White, *Railroaded: The Transcontinentals and the Making of Modern America* (New York: W.W. Norton, 2011); and Johnathan Levy, *Freaks of Fortune: The Emerging World of Capitalism and Risk in America* (Cambridge MA: Harvard University Press, 2012). The best discussions of this topic are in review essays; see Sklansky, "The Elusive Sovereign," and "Labor, Money, and the Financial Turn in the History of Capitalism," *Labor: Studies in Working-Class History of the Americas* Vol. 11, No. 1 (2014): 23–46; Hannah Farber, "Nobody Panic: The Emerging Worlds of Economics and History in America," *Enterprise and Society*, Vol. 16 No. 3 (September 2015): 686-695.

²¹ Here I am arguing against how much of Soviet subjectivity studies generalizes the experiences of "speaking Bolshevik," as Kotkin puts it, or the self-fashioning of Hellbeck's characters. In Chukotka, many Soviets spoke Bolshevik with a northern accent, one heavily inflected by the inability to make a new world easily in the arctic. Many Chukchi chose not to speak Bolshevik at all.

property personal, and objects valuable. Conversion to either industrial system of belief was uneven. The sheer lack of available energy made the basic stuff of life, food and fuel, existential challenges. The nature of the challenge varied across space: the coastlines posed the problem of migratory species, the tundra the problem of stochastic reindeer populations. As a result, Beringia was home to multiple captialisms, and multiple socialisms. Communist reindeer herders lived differently than their comrades by the sea. U.S. valuation and policy toward the resources of the coast were different than toward resources found underground.²²

In teasing out the comparisons between miners, herders, hunters, bureaucrats, businessmen, and the fates of their quarries, this project challenges a line of argument that runs from influential Soviet histories through to the work of foundational environmental historians: that the Soviet Union was a perversion of the Enlightenment project, its ideology and absence of markets making it more damaging to human life and ecological wholeness than capitalism.²³ At the most abstract, such works contend that while free markets can be destructive of people and places, communism is inherently worse.²⁴ These arguments use vague ideas of what is natural – either a rational market or pure wilderness –as an implicit moral compass. Doing so flattens the very real ironies and inconsistencies that both economic creeds brought to their peripheries. It also ignores the similar desire of both states to make the world better for people by rending as much energy as possible from every possible space: growth was a sign of progress, and progress was the universal outcome of the right economic form.²⁵ This is not to say that there were no differences between people making markets

²² Mapping ideological variance across space and between nations is not common; Brown's *Plutopia* is the nearest example. Although not based in space, Charles Sellers argues for multiple, rival capitalisms in *The Market Revolution: Jacksonian America, 1815–1846* (New York: Oxford University Press, 1991) and Scott Marler sees capitalism as fragmented among consumer, financial, agrarian, corporate, industrial, and proprietary forms; see Marler, "Interchange: The History of Capitalism," *Journal of American History* Vol. 101 No. 2 (2014): 503-536.

²³ Stephen Kotkin and Martin Malia both write from this perspective about the Soviet project generally; see *Magnetic Mountain* and Malia, *The Soviet Tragedy: a History of Socialism in Russia 1917-1991* (New York: Free Press, 1994). Although less interested in reifying markets, Ronald Suny takes socialist environmental destruction for granted in *The Soviet Experiment: Russia, the USSR, and the Successor States* (New York: Oxford University Press, 1998). Many environmental histories of the Soviet Union sharpen this point, starting with Douglas Weiner's path-breaking *Models of Nature: Ecology, Conservation, and Cultural Revolution in Soviet Russia* (Bloomington: Indiana University Press, 1988) and *A Little Corner of Freedom: Russian Nature Protection from Stalin to Gorbachev* (Berkeley: University of California Press, 1999). See also Paul Josephson's *Resources Under Regimes: Technology, Environment, and the State* (Cambridge: Harvard University Press, 2005). These Soviet histories make explicit a line of critique present in North American historiography at least since Donald Worster's *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, [1979] 2004).

²⁴ Histories damning, often with cause, Soviet policy on environmental grounds, include Philip Pryde, *Conservation in the Soviet Union* (Cambridge: Cambridge University Press, 1972); Boris Komarov [Ze'ev Vol'fson], *The Destruction of Nature in the Soviet Union* (White Plains: M.E. Sharpe, 1980); Philip Pryde, *Environmental Management in the Soviet Union* (Cambridge: Cambridge University Press, 1991); Murray Feshbach and Alfred Friendly, *Ecocide in the USSR: Health and Nature Under Siege* (New York: Basic Books, 1992); D. J. Peterson, *Troubled Lands: The Legacy of Soviet Environmental Destruction* (Boulder: Westview Press, 1993); Ann-Mari Sätre Åhländer, *Environmental Problems in the Shortage Economy: The Legacy of Soviet Environmental Policy* (Brookfield: Edward Elgar Publishing Company, 1994); Murray Feshbach, *Ecological Disaster: Cleaning Up the Hidden Legacy of the Soviet Regime* (New York: The Twentieth Century Fund Press, 1995); Oleg Yanitsky, *Russian Greens in a Risk Society: A Structural Analysis* (Helsinki: Kikimora Publications, 2000); and Paul Josephson, ed. *An Environmental History of Russia* (New York: Cambridge University Press, 2013).

²⁵ John McNeill sees both socialist and capitalist development as part of a modernization project with similar environmental consequences in *Something New Under the Sun*; a view shared with Dipesh Chakrabarty's "The Climate of History: Four Theses," *Critical Inquiry* Vol. 35 No. 2 (Winter 2009): 197-222. Several recent publications add significant nuance to the orthodox view of Soviet development's sins; see especially Stephen Brain, *Song of the Forest: Russian Forestry and Stalinist Environmentalism 1905-1953* (Pittsburgh: University of Pittsburgh Press, 2011); Alan Roe, "Into Soviet Nature: Tourism, Environmental Protection, and the Formation of Soviet National Parks, 1950s-1990s," PhD Diss., Georgetown University, 2016.; and Pey-Yi Chu, "Mapping Permafrost Country: Creating an Environmental Object in the Soviet Union, 1920s-1940s," *Environmental History* Vol. 20 No. 3 (2015): 396-421. Kate Brown critiques both systems

and people unmaking them. The following chapters are filled with such divergences. Many of them stem from the relatively undogmatic nature of capitalist ideals. The United States tended to debate more and compel less than the Soviet Union. For every miner buying up gold claims for his Alaskan company, there was a progressive worried about monopoly, and their resulting debates often tempered action. Soviet citizens had a far clearer Marxist-Leninist canon to motivate their plans, even if the final dimensions of utopia were indeterminate. As the following chapters elaborate, these differences shaped how the Soviet and American states took to making citizens and managing their environments.²⁶

Thus tracing the history of how the U.S. and the Soviet Union learned to inhabit their arctic periphery highlights differences between the two governments, and how their citizens participated at a local level. Yet the compelling challenges of the region retained importance that transcended national difference. Sometimes U.S. and Soviet policies diverged, and sometimes they were more in congruence with each other than with internal ideals. As a result, the following chapters contain examples of socialist rationality, market irrationality, and unexpected resemblance. While not collapsing the critical and often ethically forceful differences experienced in the American and Russian Bering Straits, this project illuminates how ecological context shaped and compromised both the assumed rationality of freedom based on market valuation and equality based on collective production. Both ideologies were in practice variable, and capable of diverse interactions with local ecologies, even as they lent new meanings to people's lives and brought new changes to land and sea. Above all, both systems were contingent. Neither was inevitable or innately better at adapting to an environment itself subject to continual alteration. In Beringia, markets proved no more natural than nature itself: both were the product of histories filled with chance, connection, divergence, and the unruly wills of non-human things.

HUMAN HISTORY AND NATURAL HISTORY

The non-human stuff of the arctic has its own past. These natural histories, the trajectory of changing species and entire ecosystems, emerge where the geological and evolutionary past meet with the conditions of the present. Change came to Beringia because the U.S. bought Alaska, because Lenin took a train, because of world wars and world markets. But these changes played out in landscapes and seascapes that were never static. Populations change. Species evolve. Climates cycle warmer or colder. Especially in the far north, this point runs against centuries of representation, which casts the polar world as cold, remote, uninhabited, and inoculated against change. Even contemporary discussions of anthropogenic climate change posit a static past rapidly undone.²⁷ Yet, from a knot of wind-blown poppies on the summer tundra to fish schooling off the

unsparsingly in *Plutopia*. For accounts of capitalism that use material conditions to decenter the rationality of markets, see Cronon, *Nature's Metropolis* and Timothy Mitchell *Carbon Democracy: Political Power in the Age of Oil* (New York: Verso Books, 2011).

²⁶ For further discussion of the weakness of the U.S. state in the face of capitalist interest, see Brian Balogh, "Scientific Forestry and the Roots of the Modern American State: Gifford Pinchot's Path to Progressive Reform," *Environmental History* Vol. 7 No. 2 (2002): 198-225 and William Beinart and Peter Coates, *Environment and History: The Taming of Nature in the USA and South Africa* (London: Routledge, 1995).

²⁷ For excellent recent work that remove arctic history from the ice-box, see Andrew Stuhl, *Unfreezing the Arctic: Science, Colonialism, and the Transformation of Inuit Lands* (Chicago: University of Chicago Press, 2016) and "The Politics of the 'New North': Putting History and Geography at Stake in Arctic Futures," *The Polar Journal* Vol. 3, No. 1 (2013): 94-119. Stuhl writes against contemporary scientific, journalistic, and some historical accounts that bifurcate arctic time into a frozen, changeless past and a future made apocalyptic by thanks to climate change. For a particularly strident example, see Charles Emerson, *The Future History of the Arctic* (New York: PublicAffairs, 2010). More measured views on arctic

coast, the polar world does stand still. Natural history is filled with happenstance as well as pattern. It has no closure.

Identifying the agents of change in the far north depend on the scale of time involved. From the perspective of multiple decades, even millennia, the climate is the Arctic's ultimate sovereign. It rules the rise and fall of species, their distributions in space, and their numbers. On land especially, the lack of abundant energy keeps most terrestrial life just a few blizzards away from collapse or a few thaws from booming. Populations ebb and increase in arcs matching those of warming and cooling. In the short *durée*, however, these arcs are often invisible. The number of caribou in a mountain valley is similar across three winters, but will prove quite different over the course of a century. What changes that count in the short term is far more likely to be some sentient thing: a wolf, a bear, a person. Or the mess of human wills, ideals, and power we call a state. This project is a history of people and their concerns, tracing how individuals, revolutions, governments, and markets have all hurled their desires at the Bering Straits. The long twentieth century saw radical changes in the way people's daily life was lived, in the value of places and species, in how some species' lives came almost to the end of living altogether. Much of the transformation is decidedly human in origin and appears indelible in consequence.

Yet the revolutions this project details nested inside, and sometimes battered against, things quite independent from human influence. Over a century, events that seem driven by people alone turn out to have an underlying tie with the climate. Over fifty years, species pushed nearly to the brink of extinction prove resilient. Over a decade wolf populations begin to chew into human plans. Investigating the diverse causes of change requires moving between time scales. And at these different scales, distinct actors emerge: individual species, ecological interactions, geology, and climate were all influential, if not always with intent, in determining the course of the long twentieth century.²⁸ Just as human history is the lumpen conglomerate of individual actions, natural history is the amalgamated effect of distinct non-human things. Often the two are inseparable. History, as a whole, emerged from moments and spaces where human and natural pasts coalesce.²⁹ Whales

modernity can be found in John McCannon, *Red Arctic: Polar Exploration and the Myth of the North in the Soviet Union 1932-1939* (New York: Oxford University Press, 1998); David G. Anderson and Mark Nuttall, eds., *Cultivating Arctic Landscapes: Knowing and Managing Animals in the Circumpolar North* (New York: Berghahn Books, 2004); Liza Piper and John Sandlos, "A Broken Frontier: Ecological Imperialism in the Canadian North," *Environmental History* Vol. 12, No. 4 (October 2007): 759-795; Stephen Bocking, "Science and Spaces in the Northern Environment," *Environmental History* Vol.12, No. 4 (October 2007): 867-894; John McCannon, *A History of the Arctic: Nature, Exploration, and Exploitation* (London: Reaktion Books, 2012). Some recent collections are also countering the idea of the arctic as timeless and isolated; see Arctic histories that emphasize its connection include Michael Bravo and Sverker Sörlin, eds. *Narrating the Arctic: A Cultural History of Nordic Scientific Practices*, (Canton, MA: Science History Publications, 2002); Dolly Jörgensen and Sverker Sörlin eds. *Northscapes: History, Technology, and the Making of Northern Environments*, (Vancouver: University of British Columbia Press, 2013).

²⁸ This *longue durée* approach owes much to Fernand Braudel; for an overview, see Braudel, *Afterthoughts on Material Civilization and Capitalism* (Baltimore: Johns Hopkins, 1977). See also Peter Burke, *The French Historical Revolution: The "Annales" School, 1929-89* (Stanford: Stanford University Press, 1990).

²⁹ Many historians call this "hybridity"; see White, *The Organic Machine*. Taking non-human things as actors is now such a truism in North American environmental history that a recent review article requested scholars trouble their use of the concept; Sutter, "The World With Us." For a good overview of agency in U.S. historiography, see Linda Nash, "The Agency of Nature or the Nature of Agency," *Environmental History* Vol. 10 No. 1 (January 2005):67-69.; and John Herron, "Because Antelope Can't Talk: Natural Agency and Social Politics in American Environmental History," *Historical Reflections* Vol. 36 No. 1 (Spring 2010):33-52. Russian historians are still catching up, as Zsusa Gille pointed out in "From Nature as Proxy to Nature as Actor," *Slavic Review* Vol. 68, No. 1 (Spring 2009): 1-9. Some recent works do bring in material actors: see Diana Mincyte, "Everyday Environmentalism: The Practice, Politics, and Nature of Subsidiary Farming in Stalin's Lithuania," *Slavic Review* Vol. 68, No. 1 (Spring 2009): 31-49; Stephen Collier, *Post-Soviet Social: Neoliberalism, Social Modernity, Biopolitics* (Princeton: Princeton University Press, 2011); Julia Fein, "Talking Rocks in the

learned to avoid market hunters after a few years of pursuit. Reindeer populations rose and fell over the course of decades, mostly due to climate but also because of political upset. Soviet collectives bent to accommodate walrus; the tundra bent to accommodate gold mines.

Taking into account the role of a changeable material world troubles the modernist narrative of rational competence, of the ability for intent to precede a specific result. People had intentions for seals, or for wolves, and for tin. But the properties of animals and elements often changed the outcome.³⁰ As a result, the next five chapters are a history not of conquest over the environment, either failed or successful, but how human intention and action were negotiated in concert with things human and otherwise. Thus the world, peoples' ideas about it, and practical engagement with it, are mutually constitutive. In Beringia, ideas taken from far away— ideas about capital and communes, about yeoman farmers and peasants becoming comrades, came to rest. These ideas shaped part of what many people understood as rational. Ideology gave content to intentions. But the form rationality took in practice was hardly universal. It depended on place, other species, and the long arm of time. Human agency, in the sense of individual or collective will imposing choices on the world, was and remained situational. Taking the natural history seriously inverts the lessons of the cultural turn. Nature may be a cultural construct, but humans are a natural construct. The capacity to act is *made*.

FROM SEA TO SEA

The geography at the center of this narrative is both small enough to nest inside larger ecological, economic, political, and social geographies, and large enough to require division. The organization of the chapters follows the distribution of energy in arctic space and European contact in arctic time: from ocean to coast, coast to land, land to underground, and finally back out to sea.³¹ Divisions between these regions are a useful artifice. The communities of people and other living things on the seashore are different than those on the tundra, but in practice they shade into each other. The borders are ragged. Within them, the archeology of the Bering Straits holds in its middens a long history of political will and technological innovation. Where fitting, the chapters give context for this long human past before turning to the encroachment of empire, the indigenous encounter with the foreigner, the manufacture of nation, the contortions of ideology, and the needs of modern

Irkutsk Museum: Networks of Science in Late Imperial Siberia,” *The Russian Review* Vol. 72, No. 3 (July 2013): 409-426; and Andy Bruno, *The Nature of Soviet Power*.

³⁰ In my thinking about agency I am influenced by Timothy Mitchell, “Can the Mosquito Speak?” in *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002), 19–53. See also Nash, “The Agency of Nature or the Nature of Agency” and Tim Ingold, *The Perception of the Environment: Essays in Livelibood, Dwelling, and Skill* (London: Routledge, 2000). Their ideas about the compound nature of agency are similar to those of Bruno Latour and his ideas of the assemblage; see Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (New York: Oxford University Press, 2005).

³¹ Thus this project is in dialog with histories of the “spatial turn,” a line of analysis considerably influenced by Michel de Certeau’s *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984) and Henri LeFebvre’s *Production of Space*, trans. Donald Nicholson-Smith (New York: Oxford University Press, 1991). In U.S. historiography the best works using spatial themes are environmental or economic histories. See Kenneth Jackson, *The Crabgrass Frontier: the Suburbanization of the United States* (New York: Oxford University Press, 1985); Rhys Issacs, *Transformation of Virginia 1740-1790* (Chapel Hill: University of North Carolina Press, 1982); White, *Railroaded*; and Cronon, *Nature’s Metropolis*. Recent examples for Russia include Brown, *A Biography of No Place*; Nick Baron, “New Spatial Histories of 20th-Century Russia and the Soviet Union: Exploring the Terrain,” *Kritika* Vol. 9, No. 2 (Spring 2008): 433-447; Mark Bassin, Christopher Ely, and Melissa K. Stockdale, eds., *Space, Place, and Power in Modern Russia: Essays in the New Spatial History* (DeKalb: Northern Illinois University Press, 2010).

production to feed modern consumption. Across these spaces, the emphasis on encounter and divergence are not always the same; themes from the former cut often into the latter.

The first chapter traces the arrival of market whaling into the Bering Straits. Sailors shipping from New Bedford met indigenous whalers living in Asia and North America. Examining the lives of these newcomers at sea, and the labor through which they turned whales into commodities, offers a study in capitalist rationality and motivation in the common space of the ocean. The need of whalers to make a living in the short term led to the near total destruction of the bowhead stock, spreading famine among indigenous whaling communities. As the twentieth century approached, the United States and the Russian Empire saw their stakes in the North Pacific undermined by the presence of market value untethered from a larger project of civilization. Whalers brought commerce, but they were failing at progress, what with the famines and venereal disease left in their wake. The two states tried to discipline the energy flowing from their frontiers. Formal governance was a partial substitute for a radically altered ecology.

The second chapter, as with the third, begins with nineteenth-century commerce and ends after the Second World War, with the Soviet Union and United States firmly established. In the 1870s, market whalers turned to walrus and seals to supplement their diminishing cetacean catch. But unlike whales, the United States, Imperial Russia, and some indigenous groups came to see these coastal animals as critical to sovereignty. The desire to preserve coastal species as a way to preserve coastal peoples and with them national claims led to the U.S. to advance a shifting series of protections starting in the early twentieth century. The Russian Empire was less successful than some of its indigenous peoples in managing the market demand for ivory. Preservation efforts gave way after the Soviets took control, often with support from Yupik and Chukchi along the coast. Yet, following intensive and ideologically-oriented hunting during the Stalinist years, the Soviets also instituted successful conservation programs based on an instrumental desire to keep the species abundant for indigenous use.

The third chapter brings the contrast between Soviet and U.S. environmental management to the tundra, where both states sought to make the arctic agrarian through reindeer pastoralism. In the United States, this required importing domestic reindeer from Chukotka, starting in the 1890s, in order to create yeomen herders from semi-nomadic Inupiat hunters. Thirty years later, the Soviets attempted to reverse that dynamic by making collective reindeer herds from the private property of Chukchi. In the U.S.S.R., the drive for ideological consistency produced violence altercations between the Chukchi and the Soviets, whereas in the United States the lack of market commitment to the value of reindeer meat made the Inupiat often skeptical of participation. In the end, the Soviet willingness to subsidize the making of collective farms, and collective farmers, made their reindeer project more expansive than the U.S. version. Yet both countries were frustrated by wolves, and by the climate-derived flux in reindeer populations that resisted technological intervention.

Like the fifth chapter, the fourth slants toward the experience of newcomers to Beringia and the period of capitalist and communist variance. The narrative begins before the Soviet Union, however, with the Nome gold rush in 1900. Thousands of outsiders came north not for energy, but for an element containing only cultural value. Gold could not feed, warm, or move anyone directly, but the hope of currency turned the Seward Peninsula into testing ground for ideas about capitalism, ownership, and the rights of laborers. In Chukotka, the Imperial-era search for gold was mostly futile. But by the 1940s, decades of exploration yielded Soviet mines for tin and gold, some worked by gulag labor. This chapter presents a particularly stark contrast between the states. The US managed gold exploration through chaotic influxes of prospectors and litigation over private property. The Soviet Union managed it, at least initially, through the denial of private interest in the use of prison labor. Yet the daily experience of working the mines was often similar in difficulty, and in outcome. While mining required engineering and geological savvy, it was less mitigated by the

contingencies of harvesting animals. Gold and tin were a static challenge; with enough effort and lives, extracting their value turned the landscape inside out.

The final chapter returns to the ocean. Tracing the history of whaling in the North Pacific from the early 1930s until the 1980s, it contrasts the Soviet desire to exploit whales with the growing American view of the animals as deserving preservation. By examining the Soviet rationale for whaling, it shows how the socialist conception of the arctic retained an emphasis on the national need for resources. The value in a whale was in its contribution to Five Year Plans, to individual promotion, and to the assertion of Soviet rights on the seas. The result brought whale populations back to the brink of extermination. In the United States, where the postwar years brought economic boom, whales became an object of scientific inquiry and environmentalist adoration. Cetaceans were a moral reflecting pool, a way of proving national enlightenment by letting them live. Environmental groups requested a full ban on whaling. Yupik and Inupiat whalers asserted indigenous rights over those of animals. The resulting conflict over cetaceans locally, at the International Whaling Commission, and in the press, ties the themes of this project together: what is of value in the far north, who decides it, and what are the limits of sovereignty and ideology in the face of environmental factors.

TURNING SOUTH

In autumn, when the great flocks of snow geese take wing, ten or twenty or a hundred thousand birds seethe together like a single being. The arc of their flight looks like it will continue in one united direction, forever. Then the animals change course, suddenly. The collective body splits, half rising, half dropping. Their flight is contingent on a host of things seen and unseen: the wind, the warmth of the day, the growth of the grass, and the flight miles ahead. But for every living bird, the flight path is a path south. The wealth of summer has leached from the tundra. The flocks wheel away from Beringia. Under their wings passes a world never at rest. There is no one historical moment when this land and sea were in perfect, unchanging balance.³² Yet this land and sea are also in the process of ceasing to exist in the form described herein. Climate change has put the arctic in the hands of new revolution. As the poles of the earth warm, the departing cold takes with it a familiar set of instabilities and replaces them with melting ice, vanishing permafrost, new opportunities and dangers for man and beast. Like the political, social, and ecological changes begun by Europeans in the mid-nineteenth century, it is not the presence of change in the arctic that is new. It is the pace.

The next five chapters put this present the context of a less abrupt past. Taking natural history seriously shows a world agnostic to the success of the human species. Climates have changed before, and life adjusted. Species die, and others arise. Even in the course of the short century and a half in this narrative, the long arcs and short downbeats of the climate often thwarted the best laid human plans. Yet saying that nature is always changing, that humans are part of nature, and therefore human changes are all naturally occurring, is not to say they are humanly desirable or ethical. Nature may be agnostic towards *Homo sapiens* but people need not be agnostic toward nature.

³² For an accessible discussion of how “balance” is an outmoded concept in the face of the demonstrable contingency of ecosystems, see Emma Marris, *Rambunctious Garden: Saving Nature in a Post-Wild World* (New York: Bloomsbury, 2011); for a different view, see Hayden Washington, *Human Dependence on Nature: How to Help Solve the Environmental Crisis* (New York: Routledge, 2013). The difference between these two ecologists’ approach is summed up by their use of “garden” and “crisis” respectively, and mirrors a larger argument among ecologists about the ethical relation of humans to a nature that cannot be taken as pure. For an example, see the debate in *Conservation Biology* Vol. 28 No. 3 (June 2014):633-645.

The past uncovered in this project gives many examples of political debates over what *is* wanted, and what is morally permissible, in the human intercourse with the non-human world. It is a vocabulary of possibilities, and outcomes.

The complexity of understating what is valuable is only more pressing as the influence of the non-human grows more irregular. That such irregularity is the result of human action is not mollifying. Climate change in arctic is, in the abstract, the unintended result of the same energy acquisitiveness that lies at the center of this story, played out across the globe and fueled by oil and coal rather than whales and reindeer. It is the problem of intent writ large: even if humans can now take up the title of geological actors, able to alter the very bones of the earth, people do not direct the full course of change.³³ Yet what the human side of this history shows a species able and willing to contest over the value of things. It does not put the future in the hands of a singular vision governed by the assumed rationality of economic laws, any more than it describes a prelapsarian past. It is the story of people working up a vision of an ideal world and sometimes bringing a version of it to life.

³³ I am alluding to the term *Anthropocene*, coined by Paul Crutzen and Eugene Stoermer, who proposed that human-caused change to the global environment is significant enough to warrant a new geological epoch; see “The Anthropocene” *IGBP Newsletter* Vol. 41 (2000):12. The term has been embraced, to varying effect, by humanist scholars and scientists, and motivates three journals. Among scientists, the primary debate is over when and if human impact on the earth became so profound as to register in the geological record. Some possible dates include human mastery of fire; agriculture; European colonization of the Americas; industrialization; and the creation of atomic weapons. For an overview of these debates, see Richard Monastersky, “Anthropocene: The human age,” *Nature* Vol. 519 No. 7542 (March 2015): 144-147; Simon Lewis and Mark Maslin “Defining the Anthropocene,” *Nature* Vol. 519 No. 7542 (March 2015): 171-180; Colin N. Waters et. al. “The Anthropocene is Functionally and Stratigraphically Distinct from the Holocene” *Science* Vol. 351, No. 6269 (January 2016): DOI: 10.1126/science.aad2622; and Will Steffen, Jacques Grinevald, Paul Crutzen and John McNeill, “The Anthropocene: Conceptual and Historical Perspectives,” *Philosophical Transactions: Mathematical, Physical and Engineering Sciences* Vol. 369 No. 1938 (13 March 2011):842-846. The difficulties of using the term whose periodization (and indeed existence) is still debated can be seen in Chakrabarty’s “The Climate of History,” which equates the Anthropocene with climate change, and climate change with post-Enlightenment industrial civilization. Given the lack of geological consensus, basing an argument for the unification of geological and human histories on this periodization makes even Chakrabarty’s most provocative arguments intellectually leaky. The Anthropocene might be, after all, a much more general part of the human condition than the industrial period. Moreover, humans are not the only species to have changed the climate, as Chakrabarty implies; we share that distinction with blue-green algae. Among scientists and humanists, the best Anthropocene scholarship shares an implicit or explicit concern with the ethical relationship between humans and the non-human world. See for example the essays in Ben A. Minteer and Stephen Pyne’s *After Preservation: Saving American Nature in the Age of Humans* (Chicago: University of Chicago Press, 2015). Generally the term Anthropocene is an excellent catalyst for debate, while lacking analytical precision. Thus while engaging many of the concerns of Anthropocene scholarship, I do not use the term.

CHAPTER ONE: THE SEA

1848-1900

THE COUNTRY BELOW

Sometime in at the end of the eighteenth century, a bowhead whale was born along the southwestern edge of the Bering Sea. Here in the later winter, his mother and thousands of other bowheads spent the winter breathing and diving between open leads in the pack ice. As the frozen ocean retreated north with the spring sun, the calf followed his parent up the western coast of Alaska and through the Bering Strait, sometimes swimming, sometimes resting on her back. They sang as they swam, listening for how the echoes mapped the thickness of the sea ice, warning the danger of entrapment. Often they joined with other bowheads, following patches of bubbles exhaled by their fellow *Balaena mysticetus*, a trail of marine breadcrumbs leading north. By June, the pair and their herd swam toward the Beaufort Sea, north of Alaska and Canada. As the summer waned, the cow and calf probably migrated westward, spending September and October in the Chukchi Sea, where the sound of their playful flipper slaps carried for miles across the ice and water. When the storms and dark of early winter closed leads and polynyas in the ice, the whales swam south through the Strait, moving with long deep dives and brief, blasting gasps for fresh air at the surface.

On this surface, the seas about the Bering Strait seem barren – ice choked, desperately cold, sunless for much of the year. But the North Pacific is the terminus for the world’s deep ocean circulation, its depths containing ancient waters that originated in the North Atlantic and have gathered a rich burden of nutrients over centuries of global churn through the deep. At the Strait, the undersea topography creates turbulence, mixing waters old and new, warm and cold, across deep submarine layers. These currents, roiling minerals and nutrients from the world’s great rivers with the sunlight of polar summer, make the waters of the Bering Strait some of the most productive and biologically diverse on the planet. Over two hundred species of photosynthetic phytoplankton and three hundred different species minute, fatty, swarming zooplankton form the primary form of productive life in the ocean, giving sunlight physical form. Bowheads, their mouths filled with feet of sieve-like baleen, concentrated this krill into their blubbery bodies.¹

¹ For information on whale biology and their role in ecosystem dynamics, see Lloyd F. Lowry, “Foods and Feeding Ecology,” in *The Bowhead Whale*, ed. John J. Burns et al. (Lawrence, KS: Special Publication Number 2, The Society for Marine Mammology, 1993), 203-238; Joe Roman, James A Estes, Lyne Morissette, Craig Smith, Daniel Costa, James McCarthy, JB Nation, Stephen Nicol, Andrew Pershing, and Victor Smetacek “Whales as Marine Ecosystem Engineers,” *Frontiers in Ecology and the Environment* Vol. 12 No. 7 (September 2014): 377–385; Craig R. Smith, “Bigger is Better: The Role of Whales as Detritus in Marine Ecosystems,” in James A Estes, Douglas P. Emaster, Daniel F. Doak, Terrie M. Williams, and Robert L. Brownell, Jr. eds. *Whales, Whaling, and Ocean Ecosystems* (Berkeley: University of California Press, 2006), 286-302. For information on the oceanography of the Bering Strait, see N.J. Niebauer and D.M Schell, “Physical Environment of the Bering Sea Population,” in *The Bowhead Whale*, ed. John J. Burns et al. (Lawrence, KS: Special Publication Number 2, The Society for Marine Mammology, 1993), 23-43; Committee on the Bering Sea Ecosystem Polar Research Board, *The Bering Sea Ecosystem* (Washington, D.C.: National Academy Press, 1996), 28-71.

In their annual migrations through the dynamic medley of arctic waters, bowheads and other large whales were, two hundred years ago, the primary consumers of North Pacific krill, scooping up over half of the region's primary marine production.² In doing so, they changed the ocean's physical composition. The mechanical energy of their dives and ascents churned nutrient-rich deep waters upward and increased the fertility of the ocean's surface.³ In life, whale digestion moved critical elements, from nitrogen to iron, through aqueous levels, making photosynthetic organisms more abundant. In death, whales brought their tonnage of fat and protein to the ocean floor, hosting blooms of organisms on the sunken carbon.⁴ As long-lived animals, their populations limited in density by their demanding intake of calories, bowheads and other large whale species increased the stability of the Bering Strait marine ecosystem, dampening the shocks of weather, predation, and yearly shifts in the productivity of the region through their ability to adjust their consumption spatially and in intensity, making them insulation against the stochastic arctic environment.⁵ Whales had value to life throughout the levels of consumption and production that make up the marine world, from the communities of organisms that feed on carcasses to the plankton enriched by plumes of dung to the dozens of fish and marine mammal species in-between, unconscious participants in a world partly supported on the broad back of the largest cetaceans.

As massive as they are, the great whales are also prey. Especially when he was young, the eighteenth century bowhead was at risk of orca attack.⁶ As the whale grew and packed on tons of blubber, his primary predators were the humans living along the Asian and North American coastlines from Cape Dezhnev to the Diomedes, St Lawrence Island, Point Hope and Cape Prince of Wales, and north toward the Mackenzie River Delta.⁷ As prey, bowhead evolution has made them particularly desirable: they are energy condensed, an adult's body weighing up to a hundred tons, forty percent of it pure lipid, more calories per pound of flesh than any other arctic species on land

² Croll, et al., give the figure of 53-85% consumption of primary production by great whale species in the general North Pacific region. See D.A. Croll, R. Kudela and B.R. Tershy, "Ecosystem Impacts of the Decline of Large Whales in the North Pacific," in Estes et al. eds., *Whales, Whaling, and Ocean Ecosystems*, 202-214.

³ W.K. Dewar, R.J. Bingham and R.L. Iverson et al., "Does the Marine Biosphere Mix the Ocean," *Journal of Marine Research*, Vol. 64 (2006): 541-61.

⁴ J. Roman and J.J. McCarthy, "The Whale Pump: Marine Mammals Enhance Primary Productivity in a Coastal Basin," *PLoS ONE* (October 11, 2010): DOI: 10.1371/journal.pone.0013255; C.R. Smith "Bigger is Better," 286-302; L. Lundsten, K.L. Schlining, K. Frasier, et al., "Time-Series Analysis of Six Whale-Fall Communities in Monterey Canyon, California, USA," *Deep-Sea Research Part I* Vol. 57 (2010): 1573-1584. Whales move so much carbon to the ocean floor that restoring whale populations to pre-commercial harvest levels could increase carbon fixing at a rate comparable to proposed iron-fertilization climate engineering projects. See A.J. Pershing, L.B. Christensen, N.R. Record et al., "The Impact of Whaling on the Ocean Carbon Cycle: Why Bigger Was Better," *PLoS ONE*, August 26, 2010, DOI: 10.1371/journal.pone.0012444

⁵ See for example, Specer Apollonio, *Hierarchical Perspectives in Marine Complexities: searching for systems in the Gulf of Maine* (New York: Columbia University Press, 2002).

⁶ Great whale species may have been the primary diet of killer whales. See A. M. Springer, J. A. Estes, G. B. van Vliet, T. M. Williams, D. F. Doak, E. M. Danner, K. A. Forney and B. Pfister, "Sequential Megafaunal Collapse in the North Pacific Ocean: An Ongoing Legacy of Industrial Whaling?" *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 100 No. 21 (Oct. 14, 2003): 12223-12228 and A. Sinclair, S. Mduma and J.S. Brashares, "Patterns of Predation in a Diverse Predator-Prey System," *Nature* Vol. 425 (18 September 2003): 288-290.

⁷ Owen K. Mason and S. Graig Gerlach, "The Archaeological Imagination, Zooarchaeological Data, the Origins of Whaling in the Western Arctic, and 'Old Whaling' and Choris Cultures," *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, Allen P. McCartney ed. (Edmonton: The Canadian Circumpolar Institute, Studies in Whaling No. 3, Occasional Publication, 1995), 1-31, 5.

or sea. Even the smaller whales sometimes hunted in the Strait, the greys and humpbacks, weigh up to forty or fifty tons and are more than twenty percent fat.⁸ For humans in the arctic, never far from the specter of non-being through non-eating, even a very small bowhead, a yearling of less than ten tons, could feed a village for more than six months.⁹

The killing is no easy thing; to do so humans must transcend terrestrial lungs, cold-averse flesh, and the puny reach of weak limbs. Yet, the peoples of the Bering Strait have been landing whales of various species for thousands years. The oldest of these cultures, emerging some five thousand years ago, is known now only in traces: harpoon points, graveyards of whalebone.¹⁰ In the thirteenth century, the richness of whale flesh created a civilization. The Thule, a whaling-centered, technologically adept culture stretched from their origins along the Bering Strait to Eastern Greenland in a string of permanent villages.¹¹ Their geography mapped onto bays and inlets freed of ice by a centuries-long warm fluctuation in the arctic climate, bringing more whales into boat range. Thule unity collapsed along with this warmth, in a five-century cold period that, before ending in the mid nineteenth century, reshaped the distributions and populations of bowheads and choked accessible hunting grounds with ice.¹² But while the Thule did not subsist as an arctic culture, humans as an arctic species did, forming, around the Bering Strait, the most recent whaling societies: the Yupik, Inuit, and coastal Chukchi. By the time these peoples enter the written record, they had reinvented and perfected the technologies and practical knowledge necessary to take human mind and muscle into the perilous habitat and habits of their cetacean prey.¹³

The bowhead survived these dangers and continued to map with his annual migrations the edges of ice and flows of biotic energy in the Bering Sea. Born when the United States had not yet purchased Louisiana and the Russian Empire owned Alaska, with Adam Smith's *Wealth of Nations* only a few decades off the press and the publication of Karl Marx's *Capital* more than fifty years in the future, this whale survived our species' dreams of utopia and courting of nuclear apocalypse, saw the ideological and technological capacities of capitalist and communist modernity intermesh, at the Bering Strait, with their ecological byproducts.

That the whale survived these upheavals is remarkable, for *balaena mysticeus* was the lure that drew a world just beginning to conceive of itself and its actions as modern into the North Pacific. Harnessing energy was the essence of the industrial revolution, and harvesting the singular fattiness of bowhead flesh brought the first vanguards of the revolution to the Bering Strait. And revolutions

⁸ Peter Whitridge, "The Prehistory of Inuit and Yupik Whale Use," 103.

⁹ Peter Whitridge, "The Prehistory of Inuit and Yupik Whale Use," 108.

¹⁰ Roger Harritt argues that whaling in the Bering Strait goes back as far as the Denbigh Flint complex of 5500 years ago, and gained intensity with the Birnirk, Punuk and Thule social forms during the past 1500 years. See Harritt, "The Development and Spread of the Whale Hunting Complex in Bering Strait: Retrospective and Prospects" in *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, ed. Allen P. McCartney, Studies in Whaling No 3, Occasional Publication No 36 (Edmonton: Canadian Circumpolar Institute, 1995), 33-50, 33.

¹¹ Igor Krupnik and Sam W. Stoker, "Subsistence Whaling," *The Bowhead Whale*, ed. John J. Burns et al. (Lawrence, KS: Special Publication Number 2, The Society for Marine Mammology, 1993), 585.

¹² For a full discussion of Thule expansion and contraction, see Krupnik and Stoker, "Subsistence Whaling," 580-586.

¹³ Information about the practices of the coastal Chukchi, as distinct from Yupik populations, is often indistinct in the historical literature, where both groups are called "Eskimo," and most contemporary anthropology focuses on the Asian Yupik specifically. The rest of this section will therefore be dealing primarily with the Yupik and Inupiat. Krupnik and Stoker, "Subsistence Whaling," 582, and Igor Krupnik, *Arctic Adaptations: Native Whalers and Reindeer Herders of Northern Eurasia*, trans. Marcia Levenson (Hanover: University Press of New England, 1993), 76

are known to eat their children: in the case of the industrial appetite for whales, the devouring was nearly complete. In 1848, when the first American ship hunted off the Diomed Islands, there were probably more than 23,000 bowheads in the Bering Sea population. When the industry sputtered to an end in the early twentieth century, perhaps 3000 remained. How this happened is partly technological, but distinctly ideological. People had to learn how to kill whales so efficiently it rendered obsolete the reproductive capacity of living organisms, and they needed to not care: human needs had to be so independent of cetacean existence that latter could perish and the former persist. The value of a dead whale in the present had to supersede live whales in the future. For the so-called Yankee whalers shipping from New England ports, such independence was a given consequence of civilization; they lived in a world of new industrial marvels and the certainties of agriculture. In the Bering Strait, long home to cultures whose geography and cosmology were shaped by whales, independence from marine energy was a revolutionary concept.

The following chapter is a history of these interlocking transformations in ideology, ecology, and society, initiated in the tripartite encounter between Yankee whalers, indigenous whaling societies, and the whales themselves. It begins with two communities of whale-killers – people who knew bowheads and other species through the labor of hunting, and follows how their interactions profoundly altered relationships between man and man, and between man and beast, along the Asian-North American cusp. Whaling ships did not come to the Bering Strait to create a new order, but rather to feed the markets of the industrializing seaboard towns half a globe distant. Yet, in doing so, they altered the physical, not just the conceptual, relationships between organisms, human and otherwise. The Yupik, Chukchi, and Inupiat adapted – sometimes gleefully, sometimes skeptically, and sometimes violently– by joining commercial crews, changing the loci of political power, fighting with whalers, intermarrying, and linking their trade networks to the global commodities market. Bowhead whales, for their part, tried to adapt, with fleeting success. As whale energy flowed south as barrels of oil, many indigenous communities along the Bering coastline found themselves hungry: the market had taken the blubber that sustained them and traded it back for empty metal pots.

Commercial whaling created a void in the marine ecosystem, one that echoed from the sea floor to the *yaranga* roof. What filled the void was the state: the United States and the Russian Empire came north in no small part because the presence of the untamed market and the absence of whales undermined their sovereignty. What good, after all, is a country that cannot discipline the ravaging of its own resources, and what claims to progress and civilization can be made among starving people? Modernity along the Bering Strait began after the market appropriated so much energy from the marine biome that the state became its replacement.

THE COMMUNITY OF TRADE, 1800S-1850S

In 1852, when the bowhead was about sixty years old, two groups of whale-killers met on Chukotka's northern coast. The first were indigenous hunters, probably Yupik, who in late September found thirty-three worn, unshaven people limping their way southeast across the frosty tundra. The bedraggled men were refugees from the wreck of the *Citizen*, a ship from New Bedford

come to join in the fifth season of industrial whaling. The crew's communication with their discoverers was limited to gestures, but their desperation was clear. From the remnants of their vessel they had salvaged a few supplies: biscuits, rum, molasses, flour, the cooked remains of their pet pig, and a makeshift tent. Winter was already bearing down from the mountains, and with little food, no furs, and armed only with a few knives, a broken whale lance, and a shovel, they would not last its first weeks. The Yupik men led the group back to their settlement, where the ship's captain, Thomas Norton, described their hosts as showing "a degree of sympathy for us in our destitute and dependent condition wholly unlooked for, and altogether unexpected."¹⁴

The crew of the *Citizen* spent nine months in Chukotka, divided among Yupik families living in a cluster of twenty-odd circular walrus-hide huts. The crew must have seemed like absurd, comical burdens to their hosts: constantly trying to shave with a dull knife, singing odd songs, scraping out figures on bits of salvaged copper, and woefully ignorant of proper dress and food. The village would have been familiar, from rumor if not direct experience, with the occasional trading vessel of the Russian American Company, and with the goods and mores of the Russian and Cossack merchants who traded along the Kolyma River. But these pale, inefficient men brought no rum, beads or tobacco, and the salvaged molasses and flour, although delicious, required substantial augmentation from the local supply of blubber and meat. The men of the *Citizen* were openly grateful for these provisions, but found the daily ration of raw, slippery, tough whale fat nearly inedible, especially since it was served, as Norton recalled, with no "further change in the promiscuous and offensive elements than what time itself would produce."¹⁵ Yet, despite their differences in taste, it was blubber that brought these unlikely people together: both the rescued men and their hosts made their livings from the bodies of whales.

THE YANKEE WHALERS and their indigenous counterparts both hunted whales, but they had little else in common. Even how whales were known and valued was markedly different. Nelson and his crew could certainly see that whales were important, the "the staff of life," to their hosts.¹⁶ They also observed some of the practicalities of indigenous whaling, noting the use of *umiaks*, open boats large enough to carry five to ten men, made from walrus hide dried taught and tough over a wood or whale-baleen frame. But, Nelson was wrecked in the midst of people with whom he shared nearly nothing: not language, clothing or attitudes toward cooking, bathing, sexual propriety, religion, or ownership. Thus separated from understanding what his hosts valued in the whales they ate and the world they inhabited, existence on the Chukchi coast was, for Nelson, nothing more than blank survival fed by whale fat, "listless and unprofitable [...], it was simply the endurance of life..."¹⁷

Whales certainly did enable the endurance of life, and the geography of their migrations had been forming human geography for several millennia by the time *Citizen* wrecked. Nor was Nelson wrong in his observation that his host's existence was hardly assured. The biological resources that sustained human life in the mid-century Western Arctic were then, as now, caught up in a highly

¹⁴ Lewis Holmes, *The Arctic Whalers or Winter in the Arctic Ocean* (Boston: Thayer and Eldridge, 1861), 84. Holmes based his book on interviews with Captain Nelson and other members of the *Citizen*'s crew.

¹⁵ Holmes, *The Arctic Whalers*, 119.

¹⁶ Holmes, *The Arctic Whalers*, 182.

¹⁷ Holmes, *The Arctic Whalers*, 115.

contingent ecology, one that made dependable access to calories uncertain. The scales of time at which these contingences flexed into the human domain were variable: the polar climate pulsed warmer or colder across decades and centuries and eons, altering flows of sea ice, blooms of photosynthetic plankton and growth of mosses, and the movements of animals through aquatic and terrestrial space. The weather, temperamental from year to year, routed flows of plant and animal life according to the timing of blizzards and thaws, windstorms and wildfire. Beyond meteorology, animals preyed upon each other, upon the scrum of hardy flora, overkilled both, or fell subject to the thousand natural shocks visited by migration, infection, and reproduction. It is climate where learning how to consume every remotely palatable organism was critical. Bowheads, however, were comparatively stable, and brought the diffuse energy of the ocean close enough to literally taste.

It was a taste that the decedents of the coastal Chukchi, Yupik and Inupiat groups from Enurmino, Uelen, Naukan, Ungazik, Chechen, Sireniki, Sinrak and Ninligan in Chukotka, to St. Lawrence Island and the Diomedes, to Cape Prince of Wales, Kotzebue, Sisualik, Kivalina and Point Hope and north toward Barrow in Alaska, cultivated. Across these communities, with adaptations based on the particularities of waterscape and shoreline, whales were known to the indigenous hunters by the labor of their killing: intimate, physical, dangerous knowledge accumulated across generations and amended according to the inconstancy of the seasons. In a landscape of scarce energy, every hunt is a balance between the risks of an exhausting, potentially deadly failure against the massive gain of success. The oral tradition of Tikigaq, or Point Hope, Inuit described hunting as “the acquisition, on each safe return with meat, of / knowledge: the path of each journey, worked in with the knowledge pattern / passed vertically down kin lines.”¹⁸ Hunting was a process of dealing with the contingencies of the present moment and a pulling an inherited past into the future, the pursuit of energy become an expression of historically resonant cultural meaning. They embodied survival.

PART OF WHAT was passed down along kin lines was a theory of mind in which not all minds were human. With the same local variations as the coves and bays they inhabited, each whaling community engaged a set of non-empirical technologies – taboos, rituals and invocations – that related to cetaceans as non-human persons: reciprocating, constitutive parts of the social world.¹⁹ Whales were part of a universe without a dividing line between object and subject; all things had voices, in Chukchi cosmology, and among the Yupik, the animate universe responded to the thoughts of others, making intention and thoughtful action critical to not injuring the minds of other

¹⁸ Tom Lowenstein, *Ancient Land: Sacred Whale: The Inuit Hunt and its Rituals* (New York: Farrar, Straus and Giroux, 1993), 84.

¹⁹ To generalize in writing about how whales were known and hunted in across the many cultural variations of the Bering Strait is analogous to describing an improvisational jazz performance and expecting the reader to hum the tune. Most of us simply do not regularly live in a world of sentient, moral animals capable of acting upon us should we transgress. My knowledge of the pre-contact worldview of the Yupik and Inupiat is deeply indebted to generations of indigenous oral historians and anthropologists, and much of what is now known comes from those beliefs durable enough to survive into the twentieth century. Thus, use of the past tense is stylistic rather than denoting the expiration of these beliefs.

beings.²⁰ As a result, hunting the moral, sentient whales began long before the migratory arrival of the animals themselves, with the right mental attitude and physical actions.²¹ Among the Alaska Inupiat, women were responsible for welcoming the bowheads by clearing away the past year's meat and organizing the boat crews.²² It was also women, particularly the wife of the *umiak* captain, who would call the whale through shamanic rites, emerging sometimes with a whale's tail in place of a tongue.²³ The Yupik brought in a new season by feeding the whales that fed them, bringing offerings to the sea in an act of thanksgiving and blessing for the coming year and singing in low, pleading voices.²⁴ And the *umiaks* were cleaned, the kits of harpoons, ropes, floats, and spears readied. Without the right preparations, the whales would say to each other, in the stories of some Alaskan Inupiat, that the humans were not ready to hunt, and would stay far away, in their own country.²⁵

When the whales did come, in the spring in Western Alaska and the spring and autumn along the Chukotka coast, hunting from an *umiak* was not solitary work. Sometimes flanked by kayaks, multiple crews took to the open leads in the sea ice with precise urgency when the spout or rounded back of a whale came into view. Whales have sharp hearing, so hunters moved on muffled feet and with few words. Some captains would wait for the steamy rush of a whale's exhalation before launching the boats, the breath masking the scrape of the hull against the shore ice. Although approached in silence, bowheads were believed by the Yupik to speak to their pursuers, signaling with the direction of their turns and dives how long the captain would live.²⁶ And the hunters spoke back; Paul Silook, a Yupik hunter, described how the captains would call "out the name of the ceremonies, asking them (sic) to go ahead of the whale and stop it."²⁷ Whalers wore light-colored

²⁰ Ann Fienup-Riordan, "Eye of the Dance: Spiritual Life of the Bering Sea Eskimo," *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 256-270, 256 and S. Ia. Serov, "Guardians and Spirit Masters of Siberia," *Crossroads of Continents*, ed. William Fitzhugh and Aron Crowell, 241-255, 244.

²¹ The concept of human-animal reciprocity has been noted by contemporary anthropologists in both Yupik and Inupiat communities. See Ann Fienup-Riordan, *Eskimo Essays: Yup'ik Lives and How We See Them* (New Brunswick: Rutgers University Press, 1990), 66-67 and Chie Sakakibara, "Kiavallakkikikut Agviq (Into the Whaling Cycle): Cetaceousness and Climate Change Among the Inupiat of Arctic Alaska," *Annals of the Association of American Geographers* Vol. 100 No. 4 (2010): 1003-1012. Precise descriptions of hunting practices prior to and during contact is hardly complete, but contemporary practice and the lateness of European influence provide a rough guide.

²² Lowenstein, *Ancient Land: Sacred Whale*, xxv, and Lyudmila S. Bogoslovskaya, "The Bowhead Whale Off Chukotka: Integration of Scientific and Traditional Knowledge," *Indigenous Ways to the Present: Native Whaling in the Western Arctic*, ed. Allen P. McCartney (Edmonton: Canadian Circumpolar Institute Press, 2003), 209-254, 237.

²³ Edith Turner, "American Eskimos Celebrate the Whale: Structural Dichotomies and Spirit Identities among the Inupiat of Alaska," *TDR (1988-)*, Vol. 37, No. 1 (1993): 100.

²⁴ Versions of these rites are described in Chukotka. See Charles Campbell Hughes, "Translation of I.K. Voblov's 'Eskimo Ceremonies,'" *Anthropological Papers of the University of Alaska*, Vol. 7 No. 2 (1959): 71-90, 78. For descriptions from the Yupik on St. Lawrence Island and the Chukchi coast, see Anders Apassingok, Willis Walunga and Edward Tennant eds. *Sivunqam Nangagbnegha Siivanlemta Ungipaellghat, Lore of St. Lawrence Island, Echoes of Our Eskimo Elders, Volume 1: Gambell* (Unalakleet: Bering Strait School District, 1985), 205-207, 223.

²⁵ Tom Lowenstein, *The Things that Were Said of Them: Shaman Stories and Oral Histories of the Tikigaq People* (Berkeley: University of California Press, 1992), 91.

²⁶ Anders Apassingok, Willis Walunga, Raymond Oozevaseuk and Edward Tennant eds. *Sivunqam Nangagbnegha Siivanlemta Ungipaellghat, Lore of St. Lawrence Island, Echoes of our Eskimo Elders, Volume 2: Savoonga* (Unalakleet: Bering Strait School District, 1987), 145.

²⁷SI, Henry Bascom Collins Collection, Unprocessed Box 3, File: Collins 1930.00A, p. 4-5. These are the field notes of Paul Silook, a Yupik historian and ethnographer who worked as the key informant for multiple anthropologists on St. Lawrence Island, and provide a particularly rich first-person perspective on Yupik practices. Silook warns that

clothing to appear, to underwater eyes, like part of the sky and ice, and the boat's hide was often bleached white, a color believed by the Inupiat to be beloved to the bowhead. On St. Lawrence Island, women sent their husbands to sea with a prayer "that the hunters would go out as if transparent, casting no shadow."²⁸

Each boat's captain coordinated the hunt, watching for the vulnerable moment when the dark body surfaced to breathe. If the whale offered up a flank or back, the boats moved in with harpoons poised. These harpoons, with backward-curving barbs, were designed to twist into the wound, anchoring deep in a whale's flesh. Bound by a cord to a seal-skin float, each harpoon pinned the great struggling body to the surface. In the churning panic of frigid water and hot blood the hunted worked to escape the hunters. Even with multiple boats, it could take up to nine hours and dozens of strikes to kill a whale: a dangerous day's labor spent dodging lashing fins and enraged flukes or the whole great back coming up from under an *umiak* to plunge it into the spray. There were reasons to pursue large whales, for the prestige, for their baleen and bones, and for the sheer tonnage of calories. But the pragmatism of seeing tomorrow and surviving the winter frequently led hunters to take yearlings or even calves, which were less risk to the whaleboats died more quickly by a lance to the heart or exsanguination.²⁹ Once dead, the whale's fins were pinned to its body, or cut away along with the tail, to reduce drag in the water. During the spring hunt, a ramp was chipped into the shore ice to haul the great bleeding body free of the water. If the whale was taken in the autumn, boats would drag it to shore at high tide and wait for the waters to recede. Spring or fall, once the animal was made terrestrial it became the site of focused communal effort to separate skin from blubber from meat from bone.

WHAT A WHALE became in death was multiple. At the site of butchering, as the great body came apart, the order of the community was assembled. Cuts and quantities of the kill were allotted according to rank in the *umiak* and hunters' performance on the water. The captain of the striking

ceremonies varied between families and clans, not to mention between continents, and were often carefully kept secrets – so any description is highly partial and local. See Carol Zane Jolles, "Paul Silook's Legacy" in *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, ed. Allen P. McCartney. Studies in Whaling No 3, Occasional Publication No 36 (Edmonton: Canadian Circumpolar Institute, 1995), 221-252.

²⁸ Anders Apassingok, Willis Walunga and Raymond Oozevaseuk ed. *Sivugam Nangaghnegha Siivallemta Ungipaellghat, Lore of St. Lawrence Island, Echoes of our Eskimo Elders, Volume 5: Southwest Cape* (Unalakleet: Bering Strait School District, 1989), 157.

²⁹ Bobby Kava from St Lawrence Island reported that elders specifically targeted immature whales; see Apassingok et al., *Sivugam Nangagnegha Siivallemta Volume 3*, 15. Igor Krupnik and Sergei Kan argue that killing immature whales was safer and more efficient for hunters and potentially served a role in controlling whale populations. "Prehistoric Eskimo Whaling in the Arctic: Slaughter of Calves or Fortuitous Ecology?" *Arctic Anthropology* Vol. 30 No. 1 (January 1993): 1-12. The technologies and rituals of whaling societies are quite heterodox. The Asian whaling cultures tended to be more sedentary, while in North America whaling was often supplemented with nomadic activities. See Krupnik, *Arctic Adaptations*, 44. The description of whaling here is compiled from multiple anthropological sources. In addition to those already cited, see Stoker and Krupnik, "Subsistence Whaling," 579-629; James W. VanStone, *Point Hope: An Eskimo Village in Transition* (Seattle: University of Washington Press, 1962); Froelich Rainey, "The Whale Hunters of Tigara" *Anthropological Papers of the American Museum of Natural History* Vol. 41 No. 2 (1947): 231-283; Igor Krupnik, "Morskoi promysel korenogo naseleniia Providenskogo raiona: problem i perspektivy" in V. Zemskii and A. Yablokov eds. *Morskii mlekoopitainushchie* (Moscow: Nauka, 1984), 212-223; Sergei A. Arutiunov, Igor Krupnik and Michael A. Chlenov "Kitovaia alleia" *Drevnosti ostrovov proliva Seniavina* (Moscow: Nauka, 1982); Carol Zane Jolles, *Faith, Food, and Family in Yupik Whaling Community* (Seattle: University of Washington Press, 2002); Ernest S. Burch, Jr., *The Inupiaq Eskimo Nations of Northwest Alaska* (Fairbanks: University of Alaska Press, 1998).

boat and his wife could, in acknowledgement of their skills shamanic and otherwise, could become powerful, at least as long as they could muster whales. To assure a successful hunt the next season, there were more ceremonies. Some Yupik would puncture the whale's eye, mixing the liquid with charcoal to paint, to the lead boat with the symbol of a whale's tale.³⁰ On St. Lawrence Island, captains and their friends would retreat to a special, individual place of worship and burn the whale's flukes, and in the symbolically brush away disease and death.³¹ A dead whale meant human lives. A bowhead is forty percent fat, with another forty-six percent edible flesh and viscera, and their skin prevents scurvy when eaten raw, as the delicacy *mucktuck*.³² Beyond the ingestion of calories, bowhead fat, in a landscape with few or no trees, was fuel to hold back long winter cold and dark. The baleen, which becomes malleable when heated, transformed into sleds and straps. In Chukotka and parts of Alaska, people inhabited the heads of whales, the great arches of bowhead jawbones forming the struts of half-subterranean houses.³³ Known through the labor of their deaths, cetaceans were valued as the generative origin of the human world. At Tikigaq, this potential is told into the history of the community itself, which sits on the site one bowhead's ancient, mythic expiration.³⁴

Thus, the geography of human life in the Bering Strait mapped itself onto the geography of bowhead life, plotting a world around this organism's capacity to land sunlight absorbed into Pacific Ocean, condensed by way of algae and krill, in human bellies. Yet as critical as baleen whales were in constituting the physical lives and social universe of their hunters, they did not isolate people from the rest of the arctic ecosystem, from the world of persons and beings beyond the shoreline. Whale skin was good eating, but was not the stuff of boots, parkas, tents, sleds, boats or rope.³⁵ Coastal villages, which became increasingly sedentary and whale-dependent from the thirteenth century on, needed resources that were difficult to find close to home, mostly due to the natural history of migratory whales and the inconsistencies of arctic topography. In space, whales follow their own needs through the ocean; the best places to hunt them are often poor in other organisms. In time, seasonal migrations sometimes overlap with those of caribou and other species. The great benefits of hunting bowheads came, often, at the cost of harvesting reindeer or walrus or seal.

THE SOLUTION WAS trade. A good network could transform whale blubber into the walrus hides necessary for *umiaks*, soapstone for carving, wood for harpoon handles, or reindeer hides for clothing.³⁶ Annual trade fairs dotted the North American and Asiatic coastlines and up river valleys, bringing together the surplus of one community with the needs of people hundreds of miles distant.

³⁰ Apassingok et al., *Sivugam Nangagnegna Siivallemta Volume 1*, 237.

³¹ SI, A. Hrdlicka Collection, Box 97, File: "Riley Moore Materials on St. Lawrence Island, 1912."

³² Peter Whitridge, "The Prehistory of Inuit and Yupik Whale Use," *Revista de Arqueologia Americana No. 16, Los Modos de Vida Maritimos en Norte y Mesoamerica: El Estado De La Cuestion* (1999): 99-154, 108.

³³ In some Alaskan communities, whale heads were returned to the sea. See Lowenstein, *Ancient Land*, xxiv.

³⁴ Lowenstein, *Ancient Land*, 9.

³⁵ For a detailed discussion of unequal access to trade goods, see Glenn W. Sheehan, *Proto-Historic Social Organization of the Coastal Whaling Communities of North and Northwest Alaska*, PhD Diss., Department of Anthropology, Bryn Mawr College, 1992.

³⁶ Glenn Sheehan, "Whaling Surplus, Trade, War, and the Integration of Prehistoric Northern and Northwestern Alaskan Economies, A.D. 1200-1826 in *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, Studies in Whaling No 3, Occasional Publication No 36 (Edmonton: Canadian Circumpolar Institute, 1995), 195.

By the mid eightieth century, tobacco originating with Cossacks in the Siberian interior made its way to Alaska through these fairs and exchanges, which also moved manufactured goods from the Russian and British Empires long before sustained, direct contact.³⁷ Exchange between mostly sedentary whalers and primarily nomadic hunters or herders made both methods of existence less open to the caprices of climate and migratory species.

When Thomas Nelson spent his winter in the walrus-hide tents, he found his hosts to be remarkably peaceful, noting no recent or past “fighting, or war between the different tribes in that region.”³⁸ He saw a world without politics, unmotivated by the desires for material betterment that produced historical change and thus doomed the Eskimo to remain “in the same condition of mental ignorance, moral blindness, and physical degradation.”³⁹ It is an observation that speaks more to Nelson’s linguistic and cultural isolation from his rescuers than to their political reality. Interdependence between persons, human and otherwise, did not produce harmony. Instead, the reality of the Arctic’s uneven energy geography made trade a biological necessity and controlling it politically desirable. The origin of struggles over the dispersion of cetacean energy was in the surplus produced by whalers and in the highly coordinated act of whaling itself, since the hierarchies of the whaling boat often translated into larger influence. *Umiak* captains had the blubber to cultivate trade relationships, and sometimes the leadership to protect, expand or seize control of lucrative routes.⁴⁰ Most of the goods traded along the Beringian rim passed through multiple villages, giving some locations highly exploitable power over the movement of calories and raw materials. Trade could make or unmake the small nations of Beringia. By the seventeenth century, the broad cultural and linguistic commonalities of the Yupik and Inupiat were subdivided into small nations with defined territorial spaces, names, particular economic strategies, and, sometimes, political ambitions.⁴¹ As whale flesh sustained increasingly large populations, it filled small nations with need, and with bodies ready for war. Along the Bering coastlines, the nationless marine migrations of cetaceans shaped the geography of miniature nations, and an international form of politics in which, for boat captains with powerful alliances, plunder could be more profitable than trade.

INDIRECTLY, THEN, WHALE flesh inflected the human social world with violence, leaving behind graves filled with arrow-pierced bodies that Nelson, in his brief winter, could not have seen. Men trained constantly for war, and designed elaborate body armor - in Chukotka made from metal plates

³⁷ Kotzebue observed cross-Strait Inupiat and Chukchi trade in the 1815-1818, noting that the Chukchi bought skins from North America in exchange for manufactured trade goods bought further inland in Siberia. O.V. Kotzebue, *A Voyage of Discovery into the South Sea and Beerings Straits, for the Purpose of Exploring a North-East Passage. Undertaken in the years 1815-1818*, Vol. 1 (London: Longman, Hurst, Reese, Orme, and Brown, 1821), 228. More on trade fairs will be discussed in chapter 2 and 3. For an account of the tobacco trade from Siberia into Northwest Alaska, see Lowenstein, *The Things That Were Said*, 151.

³⁸ Holmes, *The Arctic Whalemens*, 135

³⁹ Holmes, *The Arctic Whalemens*, 138

⁴⁰ Sheehan, “Whaling Surplus, Trade and War,” 202-203. For a discussion of trade and violence in the years just prior to sustained European contact, see Ernest S. Burch Jr., *Alliance and Conflict: The World System of the Inupiaq Eskimos* (Lincoln: University of Nebraska Press, 2005).

⁴¹ The anthropologist Ernest S. Burch Jr. argues, drawing on decades of nuanced and locally detailed fieldwork for the use of the word “nation” to describe the social units of northwestern Alaska. See Burch, *The Inupiaq Eskimo Nations*, 8. See also Ernest S. Burch Jr. “War and Trade” in *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 228.

traded from western Siberia, and across the Strait from thick sealskin and wood. In these suits, from boats and across ice and land, the Diomed Islander fought with Yupik and Chukchi from the Asian coast against King Islanders allied with Kotzebue, Port Clarence and Cape Prince of Wales.⁴² Warfare also shaped the designs of the tsars; maritime Chukchi and Yupik fought alongside tundra Chukchi against the Russian Empire, which spent over sixty, bloody, futile years attempting to gain territorial control of the Peninsula before surrendering in 1771.⁴³

However unwilling the indigenous peoples along the Kolyma River were to pay imperial tribute, they were interested in adding manufactured goods to their trading networks. The Chukchi spent the first half of the nineteenth century commanding the movement of knives, tobacco, and beads eastward from the trading fairs of the Kolyma, across the Strait into Alaska, where they were exchanged for furs at the annual Sheshalik trade fair in Kotzebue Sound and other. These furs were then hauled by boat and reindeer sleigh back west, traded and re-traded on their journey to markets from Europe to China. Like the trade in raw calories and hides, manufactured luxuries did not produce harmony; the Chukchi warned Otto von Kotzebue that the inhabitants of the Alaskan shore “robbed and murdered strangers without hesitation, if they were strong enough.”⁴⁴ For their part, the Chukchi and Yupik protected their monopoly on trade in and out of North America with vigor. In 1819, when the American brig *General San Martin* went prospecting for furs along the Bering Strait, she was repelled from Big Diomed Island by more than two hundred coastal Chukchi and Yupik, uninterested in losing control of the island’s strategic place in the movement of people and things.⁴⁵ In the borderlands between indigenous nations and expanding empires, trade and violence were interlinked, sometimes forcing allegiances between the Europeans and indigenous groups, but also often internecine.⁴⁶ On St. Lawrence Island, raids from the Yupik on the coastline had “a reputation for cruelty from way back,” including kidnapping children into slavery.⁴⁷ Taking adult prisoners, however, was rare, while torture was apparently normal and indiscriminate; triumphant warriors brought home heads trophies or fed the organs of the vanquished to

⁴² Edward W. Nelson, an early anthropologist in the Bering Strait, observed that “In ancient times the Eskimos of Bering strait were constantly at war with one another,” Edward W. Nelson, *The Eskimo about Bering Strait: Annual Report for 1896-97*. (Washington, D.C.: United States Bureau of American Ethnology, 1899), 330. For information on population expansion see Stoker and Krupnik, “Subsistence Whaling,” 594, and Sheehan, “Whaling Surplus, Trade, War,” 202. For a discussion of weapons and technologies of warfare, see Hans-Georg Bandi, “Siberian Eskimos as Whalers and Warriors,” in *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic*, Studies in Whaling No 3, Occasional Publication No 36 (Edmonton: Canadian Circumpolar Institute, 1995): 165-183. The authoritative account of Chukchi warfare is A.K. Nefodkin, *Voennoe delo chukchei* (Saint Petersburg: PV Press 2003).

⁴³ Igor Krupnik, *Yupik Transitions: Change and Survival at Bering Strait, 1900-1960* (Fairbanks: University of Alaska Press, 2013), 208.

⁴⁴ Kotzebue, *A Voyage of Discovery* Vol. 1,262.

⁴⁵ For an excellent account of this early attempt to open trade by Americans, see John R. Bockstoe, *Furs and Frontiers in the Far North: The Contest among Native and Foreign Nations for the Bering Strait Fur Trade* (New Haven: Yale University Press, 2009), 3-40.

⁴⁶ Here I am using the definition of borderlands as a place of contested sovereignty and competing legal/moral codes set out in Brian DeLay in *North American Borderlands* (New York: Routledge, 2013), 9-10. Nefodkin describes cases of the Russian Empire siding with its tribute-paying “small peoples” against the Chukchi, not always with success. See *Voennoe delo chukchei*, 257.

⁴⁷ Apassingok et al., *Sivugam Nangagbnegha Siivanlemta Ungipaqellghat, Volume 2*, 125.

themselves or their dogs.⁴⁸ Warfare, like hunting, was for its Yupik and Inupiat practitioners dependent on technologies and skills that transcended the empirical world of arrows and armor. Some *umiak* captains were also powerful shamans, able to manipulate the temperamental world of non-human beings. But individual social and spiritual influence frequently had their origins in whales and their killing, since the leaders of Yupik and coastal Inuit war parties were also the captains of successful whaling boats. The capacity to attain and control the flow of biological energy created political power. A whole human history, containing centuries of victory and defeat, expansion and retraction, trade and hardship, with all the meanings of alliances and recriminations, linked back to the natural history of cetaceans.

FOR THE PEOPLE living that history, the value of a whale was part spiritual abstraction and part concrete need. A whale was, in Yupik, Inupiat, and Chukchi life, a thing that could make the darkness of the polar nights visible, the cold bearable, and stomachs satiable. Their flesh could become all manner of things, their minds could speak of the future, and in dying they could make men and women powerful. Their death in a successful hunt signaled another pass at a year of living and giving that life meaning. And contained in the intimate labor by which whales were known, through the killing and the prayer, was a theory of history. It was not, as Captain Nelson assumed from the desperate isolation of his walrus-skin hut, a changeless slog through blubber and grime. The Inupiat, Yupik and Chukchi lived a world that could be counted upon for its continued unpredictability: routine in that summer would follow winter but alive with non-human beings and very human politics that could alter the course of any moment or season.⁴⁹ There were many minds at work, and whales were valuable because in this sentient and stochastic world they responded to the thoughts of humans. They were also, apparently, infinite in time: given to a pattern of return, present in hope even when absented by season or weather. What the whales knew of their hunting, of the inflection points of danger along the Bering Strait coastline evades records oral or written, but enough came that some ten to fifteen bowheads were killed every year in Chukotka and 45-60 in Northwest Alaska.⁵⁰ Killing more bowheads and greys might well have been desired; dead, these animals assured survival and abetted political power. But *umiaks* were small and to the land. Technology put a boundary on thinkable destruction. And it was enough. The energy gotten from the shared bodies of whales animated an entire universe, predictable only in its constant iteration.

⁴⁸Jean Malaurie, "Raids et esclavage dans les sociétés autochtones du Détroit de Behring," *Inter-Nord: revue internationale d'études arctiques et nordiques* No. 13-14 (December 1974): 129-156, 141-142. Malaurie argues that the brutality of warfare enabled an almost feudal level of social control on the part of victors. However, this control seems like it was often fleeting, due to the ecological factors that also influenced political formation and human populations; see Krupnik, *Arctic Adaptations*, 259-260.

⁴⁹In addition to the works already cited, this discussion of indigenous Bering Strait cosmology, draws on Fienup-Riordan, "Eye of the Dance," 256-270; Serov "Guardians and Spirit-Masters of Siberia," 241-255; Waldemar Bogoraz, *Chukchi chast 2* (Leningrad: Glavsevmorput', 1939), 1-45; Herbert O. Anungazuk, "Whaling: Indigenous Ways to the Present" in *Indigenous Ways to the Present: Native Whaling in the Western Arctic*, ed. Allen P. McCartney (Edmonton: Canadian Circumpolar Institute Press, 2003), 427-432.

⁵⁰Stoker and Krupnik, "Subsistence Whaling," 592-594.

THE COMMUNITY OF COMMERCE, 1840S-1870S

The commercial whalers who came to the North Pacific on vessels like the *Citizen* were also intimates of uncertainty. Their world, for years at a time, was contained by the decks and rigging of triple-masted, wood-hulled, copper-plated sailing ships, their momentum dependent on the wind and vulnerable to the tempers of the open ocean.⁵¹ Whaling vessels wrecked. Sometimes they caught fire. Ports of call featured cannibals, brawls, and unseemly diseases. Men's bones broke, wounds festered, scurvy threatened, bowels ran, and doctors were rare.⁵² The price of whale products surged and crashed while a ship was at sea. Even taxonomic and conceptual convention as to a whale *was* – Fish? Mammal? Biblical terror? – remained open to debate.⁵³ And whatever they might be in language, at sea and in the flesh whales were often notable for their absence, or for their anger.⁵⁴ Writing from the midst of a “thick fogg” in the North Pacific, Willis Howes, the bearded and sea-leathered captain of the whaler *Nimrod*, mused that “the unequal luck attending each ship strongly Persuades me to believe that there is a Whaling god who Presides over the destinies of all interested in this business. The main article of this new Faith is *hope* ah yes *hope* that *hope* it's the Foundation from which springs all our aspirations.”⁵⁵

THE ASPIRATION WAS, as captain Edward Davoll told his crews on embarkation, to kill whales, and kill enough to “get a cargo of oil.”⁵⁶ The hope of success stretched from the snow-lashed, ice-bound seas of the North Pacific south past Hawaii and east around Cape Horn, to the Atlantic seaboard of the young United States. Nantucket, Martha's Vineyard, Mystic and other port towns had ridden out the American Revolution and Napoleonic high-seas chaos to become the center of a global whaling industry; by the 1840s and 1850s, when whale commerce peaked, it was concentrated in New Bedford, Massachusetts, which put to sea several hundred ships a year.⁵⁷ With

⁵¹ Based on the weekly tallies of vessels published by the *The Whalmen's Shipping List and Merchant's Transcript* in New Bedford, whaling ships were either square-rigged, which could hold a crew of at least thirty, or barks, which accommodated a slightly smaller number of men.

⁵² Carrying medical staff was common on French and British whalers, but on American ships these duties fell to the mates, or in some cases captain's wives who traveled with their husbands. Where not explicitly quoted, the general sense of ship-board life in this section is drawn from the extensive collection ship's logs held at the New Bedford Whaling Museum, the Mystic Seaport Museum, and the Rhode Island Public Library. Because of the vastness of this collection (over 1500 logs in New Bedford alone), I focused on voyages to the North Pacific from the late 1840s onward.

⁵³ For an excellent discussion of how whales legally became fish in the early Republic, see D. Graham Burnett, *Trying Leviathan: The Nineteenth-Century New York Court Case that Put the Whale on Trial and Challenged the Order of Nature* (Princeton: Princeton University Press, 2007).

⁵⁴ Sperm whales in particular were known for their tendency to turn on whaling ships, and sometimes destroyed them. See Zeph W. Pease and George A Hough, *New Bedford Massachusetts: Its History, Industry, Institutions and Attractions* (New Bedford Board of Trade: New Bedford, 1889), 46.

⁵⁵ NBWM, Logbook of the *Nimrod* (Ship), ODHS 946, p. 112.

⁵⁶ Edward S. Davoll, *The Captain's Specific Orders on the Commencement of a Whale Voyage to his Officers and Crew* (New Bedford: Old Dartmouth Historical Sketch Number 81, 1981), 7. Giving a speech on embarkation was traditional, but Davoll was one of the few captains to write his orders, given in the 1850s.

⁵⁷ Of the approximately 900 ships from all nations engaged in whaling in the late 1840's, over 700 were American- a dominance that continued through the 19th century. David Moment, “The Business of Whaling in America in the 1850's,” *The Business History Review*, Vol. 31, No. 3 (Autumn, 1957): 261-291, 263. For an overview of American whaling prior to 1800, see Margaret S. Creighton, *Rites & Passages: The Experience of American Whaling 1830-1870* (Cambridge: Cambridge University Press, 1995), 16-23; Briton Cooper Busch, “Whaling Will Never Do for Me.” *The American Whaleman*

a deep harbor and access to lumber for shipbuilding, New Bedford ran on whale: from the carpenters, caulkers, barrel-makers, blacksmiths, rope-makers, and sail-weavers who rigged the ships, to the agents, outfitters and financiers who paid and organized whaling crews, to the refineries and buyers who purchased raw cetacean stuff and sent it to market, New Bedford was a town committed to turning fat from the far reaches of the Atlantic and Pacific Oceans into commodities that radiated outward on New England' expanding network of railroads.

WHILE NINETEENTH-CENTURY RAILROADS pulled whales inland, nineteenth century whaling ships pulled the United States outward. The demand for whales was over century old by the time the *Citizen* was wrecked, and during these years whaling vessels killed their way around the world: from the North Atlantic to the South, then as these stocks diminished and grew skittish, around Cape Horn into the Pacific. Whalers reached Hawaii in 1819, on voyages lasting up to thirty months. With Americans sailing – and sometimes wrecking – in exotic waters, the U.S. Navy moved resident forces into the Pacific. It was part, as President John Quincy Adams told Congress in 1825, of America “assuming her station among the civilized nations of the earth,” which required not only contributing to scientific endeavors in uncharted oceans, but encouraging “a flourishing commerce and fishery, extending to the islands of the Pacific and to China,” with a home in the United States and requiring that “the protecting power of the union should be displayed under its flag, as well upon the oceans as upon land.”⁵⁸

Formal U.S. power, however, was following in the wake of whalers. In 1828, the secretary of the navy, Samuel Southard, commissioned Jeremiah N. Reynolds – a tireless and eccentric booster of American maritime exploration – to compile Pacific knowledge accrued by whaling captains, a group “better acquainted with those [Pacific] seas than any other people.”⁵⁹ Gathering this knowledge would be good for the Republic, and for mankind, since the Yankee fleet introduced missionaries to “new spheres of usefulness,” in “uncharted seas” where whalers could bring “the trade of the civilized world.”⁶⁰ If combined with the formal protections of the U.S. flag, charting the ocean in pursuit of whales would, according to one U.S. Navy Captain, “open to our commercial, and, of course, national interests, sources of great wealth, which cannot be brought into action without the protecting aid of government.”⁶¹ The citizens of New Bedford, however, wanted more than a compilation of their own hard-earned knowledge, and echoing Reynolds and others, petitioned Congress for formal exploration into the Pacific.⁶² Eventually the government agreed; a

in the Nineteenth Century (Lexington: University Press of Kentucky, 1994), 1-18. For a popular account of American whaling, see Eric Jay Dolin, *Leviathan: The History of Whaling in America* (New York: W.W. Norton, 2007).

⁵⁸ John Quincy Adams, “President’s Message,” *Niles’ Register*, December 10 (1825), 237-238.

⁵⁹ Jeremiah N. Reynolds, *Address, on the Subject of a Surveying and Exploring Expedition* (New York: Harper and Brothers, 1836), 196. This volume is a compendium of all Reynolds’ correspondence and research on whaling and Pacific exploration.

⁶⁰ Alexander Starbuck, *A History of the American Whale Fishery from its Earliest Inception until the Year 1876* (Waltham, MA: Published by the Author, 1878), 6.

⁶¹ Captain Thomas Ap Catesby Jones to J.N. Reynolds, February 28, 1828, in in Reynolds, *Address, on the Subject of a Surveying and Exploring Expedition* (New York: Harper and Brothers, 1836), 264.

⁶² “Petition of citizens of New Bedford, praying that a naval expedition may be undertaken for the exploration of the North and South Pacific Ocean and other seas visited by whale ships and others,” *H.R. Doc No. 201*, 20th Cong. 1st Sess. (1828).

survey of the South Pacific was underway by in 1838, with the goal of furthering “science, knowledge, and civilization” in a world otherwise “inhabited by savages.”⁶³ The commercial potential of civilization, and the civilizing potential of commerce, was again at play when Commodore Matthew Calbraith Perry went to Japan in 1853, an expedition that followed in the path of whale ships.

Formal U.S. expansion into the Pacific was, like many 19th century Imperial adventures, driven by economic concerns cloaked in the rhetoric of glory and progress; control of Hawaii and treaties with Japan promised to muscle the U.S into the company of those Empires that launched Cook and Bering. State power came from knowledge, and in the Pacific, knowledge was often furthered at the intersection of cetacean biology and commercial gain. By following and harvesting the mobile paths of biologic energy that whales drew through the Pacific, the Yankee fleet fueled and enabled ideas about manifest destiny, leading the state expansion westward, leading the state westward from terrestrial to marine horizons.

WHALES ALSO PLAYED a role in national and local ambitions because their bodies were only a few transmutations and hours of labor away from being hard currency. As Southard reported to Congress in 1836, “No part of the commerce of this country is more important than which is carried out on the Pacific ocean....It is, to a great extent, not a mere exchange of commodities, but the creation of wealth, by labor, from the ocean.”⁶⁴ Whales’ value, as in the indigenous communities of the Bering Strait, originated in the condensed energy of their blubber and, in baleen species, the peculiar properties of their feeding apparatus. A whale killed by a Yankee ship in the nineteenth century, however, was not valued by New England markets because of its edible calories.⁶⁵ Instead, cetacean fats lubricated a mechanizing country: first greasing sewing machines and clocks, then the cotton gin and power looms. Whale products did not directly fuel industry – a duty serviced by water-wheels and the carbon stored in wood, coal, and petroleum – but it did keep this machinery running smoothly. Baleen, meanwhile, was useful for its “fibrous and elastic structure,” employed in the manufacture of “whips, parasols, umbrellas...caps, hats, suspenders, neck stocks, canes, rosettes, cushions to billiard tables, fishing-rods, divining-rods...tongue scrapers, pen-holders, paper folder and cutters, graining combs for painters, boot-shanks, shoe-horns, brushes, mattresses,” an array of consumer objects not yet satisfied by plastics.⁶⁶ And from New Bedford’s barrel-studded waterfront, blubber spread into other commodities and manufacturing processes. Whale products were critical to cotton textile production, used to strengthen fibers for wool weaving, and smeared on sheep before shearing. It became fine-grade soap, a base for perfume, and filler for quality leather shoes.

⁶³ “On the Expediency of Authoring an Exploring Expedition, by Vessels of the Navy, to the Pacific Ocean and South Seas,” *S. Doc No. 620*, 24th Cong. 1st Sess. (1836).

⁶⁴ “On the Expediency of Authoring an Exploring Expedition, by Vessels of the Navy, to the Pacific Ocean and South Seas,” *S. Doc No. 620*, 24th Cong. 1st Sess. (1836).

⁶⁵ Nancy Shoemaker, “Whale Meat in American History,” *Environmental History*, Vol. 10, No. 2 (April, 2005): 269-294. Shoemaker argues that the status of whale meat as inedible is a testament to “the remarkable endurance of taste preferences in the face of powerful forces promoting change,” 271.

⁶⁶ J. Franklin, “No. V. Tips for Umbrellas,” *Transactions of the Society, Instituted at London, for the Encouragement of Arts, Manufactures, and Commerce*, Vol. 50, Part II (1834-1835): 89-92, 89; Starbuck, *History of the American Whale Fishery*, 155-156n.

Orchards and vineyards employed refined blubber as an insecticide, as a wash to “prevent sheep from gnawing trees,” and as a fertilizer.⁶⁷

Above all, the energy stored in whales became light. In New England, whale oil had been used as an illuminant since the 1630s. By 1848, when the first whaler arrived in the northern Bering Sea, the demand for safe indoor lighting was growing with America’s population, and the United States was not yet refining fossil fuels into lamp-friendly kerosene [need to check Jones for this].⁶⁸ Light came, for the most part, from animal fats or seeds, and of these options whale oil - especially that taken from sperm whales - produced a clean, bright flame. In the first half of the nineteenth century, competitors to whale oil began to develop, but cetacean products did not smell like bacon, a problem with refined pork fat, or explode easily, like camphene. In the early sunsets and long winters of Boston, New York, Providence and other eastern cities, whale-fueled lamps lit homes and factory floors, streetlamps and the headlights of trains, and guided ships home from lighthouses. Energy gathered from distant oceans became an intimate part of domestic and civic life for people who had never seen, smelled, or tasted a whale.

SELLING CETACEAN ENERGY also made some people very rich. On the fin in the open ocean, whales were wild, extra-national creatures, legally and practically understood in Europe and America to be property of no person or polity. In death, their wildness surrendered, they were owned by their executioners.⁶⁹ There was, therefore, no recognized value to a live whale, since all rights to claim them as property and sell them for profit occurred after mobile organisms became stationary commodities. And the potential of these commodities was fully realized by New Bedford and other whaling ports. In the 1840s and 1850s, whaling was the third largest industry in Massachusetts, bringing in about ten million dollars a year in raw product and employing up to 20,000 people at its peak.⁷⁰ There were no guarantees for the investors that floated whale ships: not only could voyages end in disaster, but oil and baleen were subject to considerable flux in price from year to year throughout the nineteenth century.⁷¹ Yet, as part of a diversified portfolio of industrial enterprises, whaling yielded substantial profits for a few New England families. “Nowhere in all America,” Herman Melville wrote of New Bedford, “will you find more patrician-like houses, parks and gardens,” opulence that was “harpooned and dragged up hither from the bottom of the sea.”⁷² Despite the protestations of its Congressional boosters, whaling capital was never a huge part of the

⁶⁷“Plant Watering and Sulphering,” *Evening Bulletin*, San Francisco, Thursday May 20, 1886; Untitled, *Atchison Daily Globe*, Wednesday, January 12, 1898. Other uses for whale products summarized from Pease and Hough, *New Bedford Massachusetts*.

⁶⁸ While some whale oil was still exported to Britain, the market by the mid-nineteenth century was mostly in the U.S., which transitioned to fossil fuels later than Britain – a country that was also still smarting from its loss of the Revolutionary War and imposed high duties on whale imports.

⁶⁹ For a discussion of European legal definition of wildness, see Matt Cartmill, *A View to Death in the Morning: Hunting and Nature through History* (Cambridge: Harvard University Press, 1993), 29.

⁷⁰ Moment, “The Business of Whaling in America,” 263-264.

⁷¹ The annual reports on the market in the *Whalemen’s Shipping List* show highly variable prices from year to year. Generally, the price for whale oil trended down during the nineteenth century, while baleen increased. See John Bockstoce, *Whales, Ice, and Men: The History of Whaling in the Western Arctic* (Seattle: University of Washington Press, 1986), 348-349.

⁷² Herman Melville, *Moby-Dick* (New York: Bantam Books, 1986), 40.

nation's production – comprising about one percent in the 1850s, and less by the 1860s – but fortunes earned in whale fat turned into investments in shipping, railroads and textiles by New Bedford merchants.⁷³ For the Massachusetts financier and the young Republic politician, whales were an abstraction that fed other, grander, historically meaningful abstractions: commerce, national exploration and expansion, and progress broadly construed. Uncertainty was ironed into the broader faith in the “progress of science and civilization around the world.” A whale could become part of manifest destiny, part of the theory of a forward-driving, expansive human history, but only when no they were longer a whale.

OPULENCE AND ABSTRACTION were not the lot of the men who actually sailed the ships that turned cetacean bodies into bottled light and concentrated wealth. Captains like Howes were, by rank, responsible for a successful cruise, but they did not own their vessels. Instead, the capital-intensive, perilous whaling voyages of the mid-nineteenth century were generally funded by wealthy, land-bound investors, who often diluted their risk by sharing ownership.⁷⁴ Vessel proprietors contracted captains based on their record of finding whales and their ability to manage a crew. By mid-century, this required considerable awareness of the Atlantic and Pacific's nautical challenges, and knowledge of the expanded zoology of commercial whale hunting, which included any animal that could be boiled down into sellable oil – rights, greys, humpbacks and fins. Every decision the captain made would later be scrutinized for its contribution to a profitable voyage. As Howes wrote, while contemplating the hazards of sailing for the Arctic in 1860, “on the results of the determination hangs my Professional reputation as Master of a Whale Ship,” a stress compounded by the “most unfortunate” aspect of his employment, that “the master is responsible for the misconduct or inferiority of every other man on board.”⁷⁵

Every other man on board could, in reality, be any sort of man – for while whaling was nearly exclusively a masculine domain, crews were otherwise diverse in class, rank, race, and motive. Most ships sailing from New Bedford in the mid nineteenth century carried several African or Native American men, and often added sailors indigenous to the ports and islands visited along their Pacific routes.⁷⁶ “The crew seem to be somewhat of a mixed up mess 5 white 5 kanakas 2 portuguese [sic] 3 colored brethren with the cook who could be called black being the darkest one of all,” wrote Mary Brewster, who sailed for the arctic in 1848 with her captain husband.⁷⁷ Experience

⁷³ Lance E. Davis, Robert E. Gallman and Karin Gleiter, *In Pursuit of Leviathan: Technology, Institutions, Productivity, and Profits in American Whaling, 1816-1906* (Chicago: University of Chicago Press, 1997), 521.

⁷⁴ Nearly half of the New Bedford ship masters were employees of owners, while those that did own shares in their ships often owned only a small percentage. See Creighton, *Rites & Passages*, 220.

⁷⁵ NBWM, Logbook of the *Nimrod* (Ship), ODHS 946, p. 96.

⁷⁶ Sailors were not listed in most logs by race, although the physical descriptions of sailors recorded in the *Seaman's Register* in New Bedford gives some sense of their origins via physical descriptions. For a full analysis of race on board ship, see James Farr, “A Slow Boat to Nowhere: The Multi-Racial Crews of the American Whaling Industry,” *The Journal of Negro History*, Vol. 68, No. 2 (Spring 1983):159-170, and Creighton, *Rites & Passages*, 121-123. For a discussion of Native American whalemens, see Nancy Shoemaker, *Native American Whalemens and the World: Indigenous Encounters and the Contingency of Race* (Chapel Hill: University of North Carolina Press, 2015).

⁷⁷ Mary Brewster, “*She Was a Sister Sailor: Mary Brewster's Whaling Journals 1845-1851*,” Joan Druett ed. (Mystic CT: Mystic Seaport Museum, 1992), 337. “Kanaka” was a term for indigenous Pacific Island laborers. The international dimensions of whaling are covered well in Richard Ellis, *Men and Whales* (New York: Knopf, 1991).

also varied; many crew were recruited green, with the promise of “strange lands and climes, romance and fresh experiences” and “a pile of money.”⁷⁸ Fresh sailors left in debt for their oilskins, utensils, shoes, and bedding to the men who recruited them, while often not knowing the route, duration, or expectations of the voyage to come. The reality of weevil-studded bread, brackish water, and a home that in bad weather tumbled and rolled, as one anonymous log stated, “like a tird in a pispot [sic]” left some men mutinous.⁷⁹

Captains responded with strict discipline. “I forbid quarreling and fighting and skylarking,” Captain Davoll told his crew, adding, “don’t let yourselves be heard to grumble in any way. I and the officers can do all that.”⁸⁰ To keep the crews busy, officers promoted regimes of ship upkeep – from smoking out rats to scrubbing the decks with lye – and non-alcoholic, morally suitable pastimes: men quilted or made “spun yarn,” or carved stories of their desires in intricate scrimshaw.⁸¹ Fighting, swearing, insubordination, drunkenness and shirking work, by contrast, were punishable by being “seized to the mizzen rigging and flogged.”⁸² Orson Shattuck, a middle-class mate on the *Eliza F. Mason*, was dismayed by the crew, who he found “as a class the most ignorant that can be found under American colors,” and perhaps earned their beatings. But Shattuck was also worried that his captain “treated the laws of his country with contempt” when he flogging insubordinates.⁸³ It was an opinion shared by terrestrial observers, who fretted that the national glory of U.S. expansion westward was tainted by its agents. Whalers on land had a reputation for “irresponsibility, ice, depravity, and criminality, while the discipline aboard ship was lamented for violating democratic ideals.⁸⁴ Sailors, for the most part, were not absorbed with questions of democracy or national reputation. “I wanted [a] little money,” lamented the log-keeper of the *Lydia*, “but I did not want it enough to come here and go through what I am now for it.”⁸⁵

“HERE,” FOR THE *Lydia*’s, homesick diarist, was the Arctic Ocean where nineteenth century whaling came to grind itself out against the ice. Whalers had been following their quarry north, passing rumors of good grounds from the waters off Japan and into Bristol Bay, then near Kamchatka, and into the Sea of Okhotsk. In 1848, following a Russian naval officer’s reports of plentiful whales Thomas Roys sailed the small ship *Superior* into the Arctic Ocean.⁸⁶ Near Big Diomedes Island, Roys and his crew killed a new sort of whale: black, slow, exceptionally fat of body

⁷⁸ Walter Nobel Burns, *A Year with a Whaler* (New York: Outing Publishing, 1913), 12, 13. Creighton notes that whaling was also a way for young men to prove their masculinity; *Rites & Passages*, 52-53. Whalers of color also could expect enhanced opportunities for career advancement aboard ship as compared to terrestrial employment; see Farr, “A Slow Boat to Nowhere,” 165.

⁷⁹ Quoted in Brewster, “*She Was a Sister Sailor*,” 344.

⁸⁰ Davoll, *The Captain’s Specific Orders*, 7, 9.

⁸¹ NBWM, Logbook of the *John Wells* (Bark), ODHS 769, p. 50. For a discussion of the gendered nature of whaler’s labor, see Creighton, *Rites & Passages*, 187-188.

⁸² NBWM, Logbook of the *Eliza F. Mason* (Ship), ODHS 995, p. 25.

⁸³ NBWM, Logbook of the *Eliza F. Mason* (Ship), ODHS 995, p. 51. Flogging sailors was made illegal in 1850, but continued on many ships. Lawsuits against abusive captains were frequent. For a discussion of efforts to reform captain’s conduct and the general conditions on whaling ships, see Creighton, *Rites & Passages*, 87-99.

⁸⁴ Hohman, *American Whaleman*, 59.

⁸⁵ NBWM, Logbook of the *Lydia*, KWM 132, p. 59

⁸⁶ BL, Charles Melville Scammon Papers, P-K 206, Vol. 1 p. 102-103 and *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford, Massachusetts, February 6, 1849.

and long of baleen. Six weeks later, when Roys reported that he took 1600 barrels of oil from just eleven whales to the newspapers in Honolulu, a fifth of the worlds' whaling fleet was north of Hawaii, searching seas already emptied into distant lamps.⁸⁷ It was an audience eager and ready for Roys's description: "I entered the Arctic Ocean about the middle of July, and cruised from continent to continent, going as high as the lat. 70, and saw whales wherever I went."⁸⁸

THE COMMUNITY OF ADAPTATION, 1880S-1900S

Roys's account moved across the world's oceans rapidly: in 1849, fifty ships turned north, and in 1850, the number rose to over 130 vessels. "The Arctic," Mary Brewster wrote in 1848, "seems a long look, but from all accounts there are plenty of whale." It was, paradoxically, the lure of going home that drew Roys and the ships that followed him so very far away from it, since in the arctic there was a chance of getting "the ship full," as Brewster noted, to "shorten the voyage."⁸⁹ But shortening the voyage also meant going once more before the map or the flag. When the Yankee fleet arrived in the Bering Strait in 1849 and 1850, they entered a world empty, to them, of formal governance. "We worked our way up more than thirty miles beyond the direction of any chart," recalled Captain Norton of the *Citizen*, not long before the ship wrecked, leaving him "at an unknown distance from civilized life."⁹⁰ The United States had not yet purchased Alaska, the British Empire was trading only as far west as the McKenzie River and the upper limits of the Yukon, and the Russian Empire, while active at the mouth of the Yukon and along the Kolyma, had retreated from active patrol of the Strait eighty years before. Although the *Whalemen's Shipping List* ran ads starting in 1849 for "Polar Sea" maps "Compiled from English and Russian Authorities," they were as incomplete as state sovereignty.⁹¹ The whaling fleet was the vanguard of the distant, industrializing market; the map-lines that traced states and empires were decades behind.

WHAT THE YANKEE ships found were small nations and large whales. The size of the bowhead stocks in the Bering Sea was around 23,000 animals, of which ingenious hunters took maybe one hundred per year, from land. In the open ocean, where the species had never experienced human predation, the animals were docile, slow, and tame. In 1849, the *Tiger* alone reported "a large number of whale" on July 8th, "quantities of whale," on July 9th, "plenty of whale," on July 10th and again "a great many whale," on July 11th, "some whale" on July 13th, "any quantity of whale just come through the straits bound north," on July 14.^{th92} Later in July, near Point Hope,

⁸⁷ *Whalemen's Shipping List and Merchant's Transcript*, New Bedford, Massachusetts, January 9, 1849

⁸⁸ *The Polynesian*, Honolulu, Hawaii, November 4, 1848. News of Roys discovery was in most marine journals across the world by 1849; see Bockstoce, *Whales, Ice, and Men*, 24.

⁸⁹ Brewster, *She Was a Sister Sailor*, 372. Captain Brewster heard of Roys' discovery while on passage, probably from another ship.

⁹⁰ Holmes, *The Arctic Whalemen*, 50, 70.

⁹¹ *Whalemen's Shipping List and Merchant's Transcript*, New Bedford, MA, November 27 1849.

⁹² Brewster, *She Was a Sister Sailor*, 385-387. For an account of the 1849 season, see also Bockstoce, *Whales, Ice, and Men*, 94-95. The *Tiger* left Honolulu with 1800 barrels of oil, although some was harvested before arriving in the Arctic. *Whalemen's Shipping List and Merchant's Transcript*, New Bedford, MA, February 19, 1850.

the *Ocmulgee* described the ship as “Blubber-logged and whales in every direction.”⁹³ Moreover, the beasts were huge. The average sperm whale yielded forty-five barrels of oil, and a grey about thirty. But the new “polar whales,” as bowheads were initially known, gave 150, 200, or 300 barrels of oil, and sometimes upwards of three thousand pounds of whalebone.⁹⁴ In 1850, the *Whalemen’s Shipping List* proclaimed it doubtful “if so much oil was ever taken in the same period, by the same number of ships, and attended with so few casualties.”⁹⁵ The arctic discovery seemed to confirm the place of the whale fishery, as ---- Seward testified to the U.S. Senate, “a source of national wealth and an element of national force and strength.”⁹⁶

THE WHALERS THEMSELVES, zigzagging between North America and Asia, also found whales to be an element of national strength, just not their own.⁹⁷ Nor did they typically use the word nation to describe the indigenous whale hunters who, from the “seven canoes, containing forty men each” that Roys saw crossing the Strait, were a source of fear, opportunity, curiosity, and judgment.⁹⁸ Initially, whalers worried that “the bloody indians [sic,]” were violent, and the first ships through the Strait in the 1840s scrambled to meet approaching Yupik, Chukchi and Inuit boats with whatever limited weaponry they could assemble.⁹⁹ The indigenous desire, however, was not for war but for “tobacco – they are all smokers & chewers even the children and are extravagantly fond of it,” Mary Brewster wrote of an indigenous party that came aboard the *Tiger* on the Asian coastline, “and as near as we can understand they are to be our friends.”¹⁰⁰ An account published in the *Whalemen’s Shipping List* agreed, finding the natives “friendly and inoffensive,” and urged captains to assure “that the natives are kindly treated” by whaling crews.¹⁰¹ Most whalers were appalled by indigenous living conditions, especially the smoky huts and diet of raw sea mammals, both of which seemed to signal a lack of proper industriousness. One account concluded the Inuit near Port Clarence were “extremely docile and very intelligent; but as is the case with the Esquimaux generally, very lazy,” which left them “reduced to a state of semi-starvation” by the end of winter.¹⁰² Captain

⁹³ Logbook of the *Ocmulgee*, July 25 1849, quoted in Arthur C. Watson, *The Long Harpoon: A Collection of Whaling Anecdotes* (New Bedford, MA: Reynolds Printing, 1929), 49.

⁹⁴ The average oil yield varies depending on the calculations used. The numbers here are from Harston H. Bodfish, *Chasing the Bombhead: As Told by Captain Harston H. Bodfish and Recorded for Him by Joseph C. Allen* (Cambridge: Harvard University Press, 1936), 95; Charles M. Scammon, *The Marine Mammals of the North-Western Coast of North America* (San Francisco: John H. Carmany and Company, 1874), 244; and Bockstoce, *Whales, Ice, and Men*, 95.

⁹⁵ *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford MA, December 24, 1850.

⁹⁶ “The North West Whale Fishery, Survey of the Pacific Seas, Commercial and Political Relations Between Asia and America: Speech of Mr. Seward,” *New York Daily Times*, New York, NY, July 31, 1852.

⁹⁷ Yankee whalers developed a pattern for their work: ships left New England in the autumn, rounded Cape Horn in the austral summer, and put in at Hawaii or San Francisco to supply and to overwinter between summer voyages to the Strait. Ships sailed north in late March, hunted in the central Bering Sea from the middle of April until early June, when bowheads moved toward the Beaufort Sea and the pack ice kept the whalers back until late July. From then until October, ships pursued whales as they fed in the western Chukchi Sea and beyond.

⁹⁸ *The Polynesian*, Honolulu, Hawaii, November 4, 1848.

⁹⁹ Brewster, “*She Was a Sister Sailor*,” 379. Whaler’s early fears were based in violent incidents in the southern Pacific, accounts of which were often highly sensationalized in the Hawaiian and New Bedford newspapers.

¹⁰⁰ Brewster, “*She Was a Sister Sailor*,” 382.

¹⁰¹ “Letters About the Arctic No. VIII, At Sea Dec. 15 1852,” *Whalemen’s Shipping List and Merchants Transcript*, New Bedford MA, June 28 1853.

¹⁰² No author, “Cruise of the British Sloop-of-War *Trincomalee*,” *The Polynesian*, Honolulu, Hawaii, October 14, 1854.

Norton of the *Citizen* found his rescuers to be “in their social habits, intellectual ignorance, and moral darkness...among the most degraded of the human race.”¹⁰³ The feeling may well have been mutual, especially in regards to intelligence. The whaling in 1849 and 1850 was so good that whalers mostly ignored opportunities to trade with native peoples, but frequently gave away small manufactured goods – behavior that must have seemed ludicrous to Chukchi, Yupik and Inuit already familiar with European’s desires for fur and walrus ivory.

WHAT MUST ALSO have seemed strange, if intriguing, to the indigenous whalers were the Yankee vessels themselves. Whaling ships were, after a century of practical adaptation, essentially floating disassembly lines, designed from the hull up to turn whole beast into barreled commodity. Whaler’s jobs were literally reductive – taking whale, making it dollars, through a few smooth conversions of flesh to oil to currency. It was in reduction that value was applied. But getting to the value required an understanding of whales that was highly detailed, practical, and gleaned from an almost unbearable intimacy with their prey. Alongside the records of latitude, longitude, and weather, ships’ logkeepers drew sketches of whale backs and spouts and described behavior and anatomy. It was not knowledge based on dissecting whales into genus and species, or on the reverential taxonomy of the Inupiat and Yupik, but instead a fiscal anatomy, a field guide to the commercial cetacean that originated in whalers’ need to find fat whales, deal death, peel a cetacean of its blubber, decapitate it and hack the baleen from the jaws.

Killing whales required finding them. In shifts managed with the precision of a factory floor, whale ships kept watch constantly, the sailors on the mast instructed to “sing out for every thing [sic] that you see,” including not just “There She Blows” at the sight of a whale’s breath but other marks of behavior: “There goes Flukes,” “There She Blackskins” and “There She Breaches.”¹⁰⁴ Species of whale were identified by the shape of their backs and heads, and angles of their spouts, from the arced spray of a right whale to the v-shaped exhalations of bowheads.¹⁰⁵ Sailors learned to look not just for the sign of whales themselves, but for the ocean conditions that attracted them. “We saw plenty of whales and the water was of a dark reddish cast caused by immense quantities of full grown shrimp,” the *Saratoga* log noted, while Mary Brewster hoped during a lull in whaling that the water would be “a little more greazy [sic],” the term whalers used to describe the appearance of krill schooling near the surface.¹⁰⁶ Some sailors claimed they could smell whales on the breeze.¹⁰⁷ Any deck hand with experience knew what a whale could see and hear, and how to guide the small killing boats into range unnoticed.

The labor of killing a whale in the open sea was intimate, gory, and not always successful: harpoons “pointed,” or slipped free, and left the whale, as the *Saratoga* logged, to go “off spouting good blood.”¹⁰⁸ If a whale did not bleed out, it had to be killed at range close enough to “fire a

¹⁰³ Holmes, *The Arctic Whalers*, 136.

¹⁰⁴ Davoll, *The Captain’s Specific Orders*, 8.

¹⁰⁵ D. Graham Burnett concludes that whalers developed “a veritable natural history of the ocean” based on their observations of surfacing sea life, knowledge that should not be dismissed as superficial or secondary to that of the era’s naturalists even as it was based on the literal surfacing of the animals. *Trying Leviathan*, 125.

¹⁰⁶ NBWM, Logbook of the *Saratoga* (Ship), KWM 181, p. 124; Brewster, “*She Was a Sister Sailor*,” 388.

¹⁰⁷ Burns, *A Year With a Whaler*, 60.

¹⁰⁸ NBWM, Logbook of the *Saratoga* (Ship), KWM 181, p. 87.

bombance into the heart.”¹⁰⁹ Just as whalers knew, roughly, what their quarry saw and heard, they also observed that the “weapons entering the whale’s back” caused “great pain and agony.”¹¹⁰ But the danger of being roped to twenty or fifty or seventy tons of gored meat and pained animal mind tempered most sentimentality. Orson Shattuck wrote that “my life is perilled [sic] every time that we are fast to a whale it requires great skill and judgment to kill one of those remorseless creatures even the most skilled are sometimes killed.”¹¹¹ Whales dove, or fled with the boat dragging behind. The *Francis* log noted one hunt starting at seven in the morning, but the whale “ran with [the starboard boat] so fast that the other boats could not catch and them did not get him killed until 6.P.M. and they were then out of sight of the ship 14 to 15 miles to windward.”¹¹² Or whales attacked. “I have had my oar knocked out of my hand by a whale,” wrote James Munger to his family, “and the boat cracked and set to leaking, but I escaped.”¹¹³ Not all whalers had such luck: Cephas Thomas, log-keeper of the *Roman II*, died when “the Blow of the whale’s flukes hit [his boat] edge ways which killed him instantly, the whale struck him the second time while in the water which sunk him.”¹¹⁴ Knowing where and how to sink a lance was a critical piece of applied anatomy, and one whalemans clearly learned; it was far more often whale than human which died in spouts of thick blood.

Once dead, the whale was towed back to ship, winched free of the water, and “cut in” by the crew, who peeled away strips blubber, sometimes as thick as eighteen inches, with sharp, long-handled spades while balancing above the slippery body. Eventually, the whale’s baleen –sometimes a thousand or more pounds from each jaw – was chopped into individual slats, scraped clean of gummy flesh, and polished with water and sand to rub out any profit-ruining fishy smell. “The windlass squealed as the tackle raised the hook, the ship heeled over several degrees as the strain on the tackle increased, and the blubber peeled off the carcass like so much birchbark,” West recalled, “until all the blubber was stripped from the carcass and it was set adrift to make a feast for the petrels, albatross and sharks.”¹¹⁵ What lay beneath the fat, the arrangement of bones and organs and muscle, was of little concern. Without a market for whale meat in North America, most of the animal’s carcass was simply a byproduct of acquiring oil and baleen.

¹⁰⁹ David Wilkinson, *Whaling in Many Seas, and Cast Adrift in Siberia: with a Description of the Manners, Customs and Heathen Ceremonies of Various (Tchukktches) Tribes of North-Eastern Siberia* (London: Henry J. Drane, 1906), 113.

¹¹⁰ Wilkinson, *Whaling in Many Seas*, 113. Sentiments about pain, and animal pain especially, were changing considerably during the period under consideration here. See Harriet Ritvo, *The Animal Estate: The English and Other Creatures in Victorian England* (Cambridge MA: Harvard University Press, 1987); James C. Turner, *Reckoning with the Beast: Animals, Pain, and Humanity in the Victorian Mind* (Baltimore: Johns Hopkins University Press, 1980); Anita Guerrini, *Experimenting with Humans and Animals: From Galen to Animal Rights* (Baltimore: Johns Hopkins University Press, 2003); Lorraine Daston and Gregg Mitman eds., *Thinking with Animals: New Perspectives on Anthropomorphism* (New York: Columbia University Press, 2004).

¹¹¹ NBWM, Logbook of the *Frances*, ODHS 994, p. 97

¹¹² NBWM, Logbook of the *Frances*, ODHS 994, p. 99

¹¹³ James F. Munger, *Two years in the Pacific and Arctic Oceans and China; being a journal of every day life on board ship, interesting information in regard to the inhabitants of different countries, and the exciting events peculiar to a whaling voyage* (Fairfield, WA: Ye Galleon Press, 1967), 66. This volume includes Munger’s journal and letters to his family, from 1851-1852 voyage.

¹¹⁴ NBWM, Logbook of the *Roman 2nd* (Ship), KWM 176, p. 170. The captain wrote the entry on Thomas’s death, writing that he lost a “man that I looked upon as my own brother,” causing him to muse that “the motto of the whaleman must be Perseverance yes Persevere he must.”

¹¹⁵ West, *Captain’s Papers*, 13.

With the cutting-in done, the ship's blubber room was often waist-deep in piles of fat, with the men dicing it into pieces small enough to fit the bubbling iron pots of the tryworks, a brick oven set into the ship's deck. Whalers developed a rich argot to describe whale fat: there was "dry skin," or blubber that small amounts of poor-quality; some had reddish-tinted or yellow oil rather than the desired clear white.¹¹⁶ Young "green" whales were very fat, but their fresh blubber was hard to process, and they were left "a day or two in the blubber room to ripen," while whales that were not butchered immediately or found already dead were plenty ripe, making for "nasty and stinking work" that yielded "black" oil.¹¹⁷ Whatever the quality, blubber had to be rendered. West recalled seeing the fires day and night with fat scraps, the trypots always in danger of spilling their steaming, flammable contents, "and a thick oil smudge hung over the deck which was awash in with blood and gurry."¹¹⁸ Boiling off the water and straining out bits of skin, necessary to keep oil from going rancid, could take two or three days. Sometimes the crew snacked on bits of deep-fried skin, which had "a rather agreeable taste, although it was much like eating pickled rubber."¹¹⁹ And, as whales were sometimes food, they were also sometimes light; at night, ships were lit with burning scraps of fatty flesh. No surface, human or otherwise, escaped contact. Even the nose was under assault, as the burning fat and fouling blubber produced "quite an offensive odor," as one observer wrote, "but I can bear it all first rate when I consider that it is filling our ship all the time and by and by it will all be over and we will go home."¹²⁰

Home, and going there with money, was the common incentive, and whales were the way to it. "When I pull," Captain Davoll told his crews, "I shall expect you to pull with me, not against me, and when we all pull together with a hearty good will there is easy times for all and bountiful harvest in store for our mingled exertions."¹²¹ From the captain down through the specialized layers of mates, blacksmiths, and stewards to the greenest deckhand, a bountiful harvest meant dead whales, and dead whales became payment for months or years at sea. Over the course of a voyage, each sailor, mate, and captain earned a percentage of the cargo's value, or a "lay," paid upon the ship's return to its origin. Captains received up to one eighth of the net profit, while artisans and boat-steerers received from an eighth to a hundredth. Cooks, experienced sailors, and other skilled crew might get a lay as large as a hundredth, while inexperienced seamen received as little as a two-hundredth share in the sale of their catch.¹²² The system put sailors at the mercy not just of weather and whales, but of the temperamental market. However, regardless of rank and rank dislike of the work, each hand on the ship knew their particular lay, giving them, according to a government report on the whaling industry from the 1860s, "urgent, personal considerations to secure both for

¹¹⁶ Scammon, *The Marine Mammals*, 42, 54; Charles H. Stevenson, "Fish Oils, Fats and Waxes," U.S. Commission Report of 1902, U.S. Commission of Fish and Fisheries (Washington, D.C.: Government Printing Office, 1903), 177- 279, 189.

¹¹⁷ NBWM, Logbook of the *Saratoga*, KWM 180, p. 225; Scammon, *The Marine Mammals*, 294.

¹¹⁸ West, *Captain's Papers*, 14. Gurry was the mix of blood and oil that coated the deck during butchering.

¹¹⁹ Burns, *A Year with a Whaler*, 147.

¹²⁰ Harold Williams, ed. *One Whaling Family* (Boston: Houghton Mifflin, 1964), 196. For a detailed account of whale hunting and butchery, see Bockstoce, *Whales, Ice, and Men*, 62-92.

¹²¹ Davoll, *The Captain's Specific Orders*, 12.

¹²² Hohman, *The American Whaleman*, 12. For a detailed description of the duties of the crew, see Creighton, *Rites & Passages*, p. 28-30.

themselves and employers the greatest quantity of oil.”¹²³ For whalers, unlike their boosters in Congress, the need for commerce to expand was not a nationalist abstraction. A voyage, even with stops to replenish water, food, and crew, could only last so long, with only so many opportunities to hunt. Going to the whales, however far afield, was a practical necessity in a world of finite chance.

It was not just the chance to pursue whales that was finite. The technology of deep water whaling ships, able to kill and render oil at sea, had enabled the hunt to fan out across the Atlantic and Pacific. And the voyages kept growing longer, so whalers knew, and acutely, when whales were absent. At the very least, it was clear that their quarry was growing “more easily frightened; they change their grounds or haunts oftener.”¹²⁴ Some attributed this to cetacean intelligence; right whales, for example, offered “an utter impossibility” to the whaler, since “they hear a boat almost as soon as it strikes the water.”¹²⁵ The sinking of the ship *Essex* by an enraged sperm whale in 1821 gave that species the reputation of particular and viscous intelligence.¹²⁶ Based on such observations, many whalers concluded that the problem was not a question of finding whales per se, but of finding animals still tame enough to hunt. The sheer size of the oceans sailed by whalers, so much of them unexplored, lent credence to the idea that more whales were just a few more months away, or hiding “in countless numbers...in the ice or in very rough weather.”¹²⁷ But by the 1840s some observers began theorizing that whales themselves were finite, not just harried and canny. Writing in a Honolulu newspaper in 1845, Captain M.E. Bowles found the idea that whales were being driven to new grounds “preposterous in the extreme,” since human hunting doomed “the poor whale...to utter extermination, or at least, so near to it that too few will remain to tempt the cupidity of man.”¹²⁸

Bowles was not, apparently, voicing the majority opinion when he wrote. Certainly the calculus of the hunt did not change. The whaler’s taxonomic and behavioral lexicon – detailed as it was – did not conceptualize whales as organisms that could be husbanded toward future yield. Whalers saw that their prey had few offspring, and were versed enough in basic biology to know that if too many “mere calves,” were killed a region would be “rendered useless as a cruising ground.”¹²⁹ Yet the capacity of whales to reproduce seems mostly to have been used to improve the hunter’s chances in the immediate present. Killing young whales often attracted adults, and while such destruction might be “extremely painful” to watch, in the words of one 1820s observer, “the value of the prize, the joy of the capture, cannot be sacrificed to feelings of compassion.”¹³⁰ If sentiment

¹²³ Holmes, *The Arctic Whalers*, 271-272.

¹²⁴ Holmes, *The Arctic Whalers*, 268

¹²⁵ Saratoga KWM 180 p. 11.

¹²⁶ There are many accounts of the *Essex*, including the popular history by Nathaniel Philbrick, *In the Heart of the Sea: The Tragedy of the Whaleship Essex* (New York: Viking 2000) and a printed volume of survivor’s narratives, Owen Chase, Thomas Chappel and George Pollard, *Narratives of the Wreck of the Whale-Ship Essex: A Narrative Account* (New York, Dover 1989). There is also, of course, *Moby Dick*.

¹²⁷ *The Pacific Commercial Advertiser*, Honolulu, December 15, 1859

¹²⁸ M.E. Bowles, “Some Account of the Whale-Fishery of the N. West Coast and Kamschatka,” *Polynesian*, Honolulu, October 4, 1845.

¹²⁹ *The Pacific Commercial Advertiser*, Honolulu, December 15, 1859

¹³⁰ W.F. Scoresby, quoted in Dick Russell, *Eye of the Whale: Epic Passage from Baja to Siberia* (New York: Simon & Schuster, 2001), 602. Whalers did sometimes appear to feel sentimental about killing immature whales, and Betsy Morey, a wife of the captain of the *Phoenix*, wrote upon seeing a calf, “Poor little creature they kill’d it for the sake of its Mother and they was unfortunate enough to lose the Mother under the Ice. Oh! It does seem so Cruel,” in Joan Druett, *Petticoat Whalers*:

went against the grain of commerce, so too did agricultural pragmatism. Although the nouns assigned to whales – bulls, cows, and calves – were probably familiar to most sailors as referents to livestock, the marine ecology of whales was a challenge to prevailing theories of private property. There was no way to own a whale, invest in its upkeep and harvest its progeny. Indeed, whalers killed young cetaceans regularly. Charles M. Scammon described, with typical casualness, going after “a Whale with a Calf. Lowered struck and killed the calf, set the cow sprouting blood.”¹³¹ Sometimes small animals were taken not for their pitiable quantities of oil, but “as practice for the boat crew,” as investments in the immediate future of hunting rather than of the hunted.¹³²

A dead whale in the present, for the Yankee ships, was, for different reasons, as critical as a dead whale for the Inupiat and Yupik. Wildness rendered cetaceans property only when they became tradable commodities, and it is in this form that whales most often entered the records of their hunters, becoming tallies of barrels and pounds of bone. Charles Scammon, who transformed his whaling knowledge into a scientific reference, went so far as to rank bowheads, so that a first class whale was brownish and yielded two hundred barrels of oil, while third class of black-skinned animals only gave seventy-five – a sentiment echoed in the vigorous recording of barrels taken in ships’ logbooks.¹³³ More barrels equaled less time on ship; when the *Francis*’ log noted that “we are 9 months out have got nearly 800 bbls,” and another hundred cooking, it meant that safe harbor was that much closer.¹³⁴ And more barrels meant, simply, more money. A whaler’s labor was the link between distant human desires, mediated through a market they fed but did not control, and the oceans they sailed. The knowledge gained from that labor was often fundamentally in service to those distant sources of value.¹³⁵ For a sailor or captain a whale could only transform into a thing of tangible value – a corset stay in a New York shop, a lamp burning away the dark, a dollar in the pocket – once dead. Oil and bone transmuted into currency, and the agency which currency represented on shore: every whale killed, flensed, rendered, and rolled barrel by barrel into the hold brought the whalers thirty-one and one-half gallons closer to going home with the freedom of money earned.

WHALING SHIPS AND their crews were refined agents of disassembly, measuring their days, months, and years in the currency of energy harvested. They were not, however, the only thing acting above and below the waters they sailed. “The Arctic,” one whaleman concluded, “is a cold, miserable, foggy place,” where rugged seas and rocky coastlines made hunting even the tamest whale difficult.¹³⁶ And the line between terrestrial and marine was mutable, shifting as ocean became solid ice and solid ice was pushed by wind and currents, creating landscapes of hours or months before

Whaling Wives at Sea 1820-1920 (Hanover: University Press of New England, 2001), 58. See also Burnett, *Trying Leviathan*, 131-132.

¹³¹ BL, Charles Melville Scammon Papers, P-K 200, p. 99.

¹³² Burns, *A Year With a Whaler*, 70.

¹³³ Scammon, *The Marine Mammals*, 58. Logbooks, whalers’ memoirs and the whaler’s newspaper, *The Whalers’ Shipping List and Merchant’s Transcript* all repeatedly and consistently refer to whales by the barrels and/ or pounds of baleen they produced, descriptions that appear more often than any other.

¹³⁴ NBWM, Logbook of the *Frances*, ODHS 994, p. 43

¹³⁵ The idea of knowing through labor here and elsewhere in this chapter is drawn from Richard White, *The Organic Machine* (New York: Hill and Wang, 1995).

¹³⁶ “Letter from the Arctic by a Foremast Hand,” *Pacific Commercial Advertiser*, Honolulu, HI, October 28, 1858.

splitting and roaring in disassembly. “Early this morning the cry of land was heard which soon provide to be *ice*,” Mary Brewster wrote, adding a few weeks later of an “anxious day, for at one o’clock this morning the ice began to come upon us.”¹³⁷ The hulls of wooden ships were hardly a match for grinding, shifting burls, or the suddenly-solid slush ice that ensnared rudders, frustrating attempts to hunt. “We all feel there is an open spot of water in the anadir sea [sic],” Willis Howes of the *Nimrod* wrote after days of killing nothing, “and our object is to get to it having a moral certainty that whale will be found there as they are known to be north of us.”¹³⁸

The whalers knew their prey was to the north. It is also probable that, by 1852, the bowheads had learned that their hunters were to the south, and were adapting to the rigors of pelagic hunting. In 1850, the whaling fleet killed over 2000 animals in the Strait – a banner year for the industry, but not yet enough to significantly diminish the overall population.¹³⁹ Yet, a year later, with more than 20,000 bowheads still alive, less than 900 were harvested.¹⁴⁰ “Much ice in,” one captain reported in 1851, “and whales few and wild.”¹⁴¹ Bowheads could identify whaleboats by sight; as a log-keeper noted after a failed chase, the “Whale saw the boat and rolled away.”¹⁴² The danger signaled by the sounds of oars or vibrations in the water were “sufficient to throw [the whales] into a panic.”¹⁴³ To stay out of harpoon range, sailors observed their prey swimming more quickly, and evasively. Captain Pierce of the *Magnolia* noted that “after the arrival of the fleet [the bowheads] became very shy and appeared to work to their way northward,” losing their pursuers in the frozen sea.¹⁴⁴ Even late in the season, when ships could sail above the Strait, as the *Hibernia* found the “whales going into the Ice” when they lowered boats.¹⁴⁵ If cornered, the animals dove more quickly, or even swam backwards; if struck, “the bowhead whale rubs that part of its body – in which the harpoons have been placed – against the ice.”¹⁴⁶ And whales that had been harpooned and escaped were especially canny; one animal, recognizable for the steamboat-like whistle of his spout, evaded whalers for years because, as Jim Allen recalled, he “always seemed to know when a boat was close to him” and would dive out of range.¹⁴⁷ Other whales, as the *Saratoga* described, seemed to be

¹³⁷ Brewster, *She Was a Sister Sailor*, 373, 378

¹³⁸ NBWM, Logbook of the *Nimrod* (Ship), ODHS 946, p. 205

¹³⁹ Bockstoce makes this argument, and notes that the whales killed in the first three or so seasons – the exceptionally large animals killed off Kamchatka and up to the Strait, but not further north – might have comprised a sub-population that never migrated into the shelter of the pack ice. See *Whales, Ice, and Men*, 101. The archival record to my mind supports the idea that whale adaptation to their hunters was at least partly accountable for the decreased harvest.

¹⁴⁰ Annual catch data taken from Douglas A. Woodby and Daniel B. Botkin, “Stock Sizes Prior to Commercial Whaling,” in *The Bowhead Whale*, ed. John J. Burns et al. (Lawrence, KS: Special Publication Number 2, The Society for Marine Mammology, 1993), 390-393.

¹⁴¹ *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford MA, November 15, 1851

¹⁴² NBWM, Logbook of the *William Baylies* (Steam bark), ODHS 955, p. 81.

¹⁴³ Bodfish, *Chasing the Bowhead*, 126

¹⁴⁴ *Polynesian*, Honolulu, Hawaii, October 22, 1859

¹⁴⁵ GWBWL, Logbook of the *Hibernia* (Ship), Log 81, p. 55. The *Hibernia* records chasing bowheads again on the 16th and 17th of June without success, again on June 22nd and lowered for three bowheads without success and again on June 29th with similar patterns of evasion (p. 55, 57, 58, 60).

¹⁴⁶ Bodfish, *Chasing the Bowhead*, 94; Wilkinson, *Whaling in Many Seas*, 106.

¹⁴⁷ Arthur James Allen, *A Whaler and Trader in the Arctic: My Life with the Bowhead*, 1895-1944 (Anchorage: Alaska Northwest Publishing Company, 1978), 98.

taunting their hunters: “16 boats charging one poor bowhead, who gave them all the slip, and went off shaking his tail at them as if to say ‘oh no you don’t.’”¹⁴⁸

The consequence, for a few years at least, was lament over “No Whales, No Whales,” and after a harvest of less than 150 bowheads in 1854 the fleet essentially left the Strait until 1858.¹⁴⁹ When the ships returned, having hunted bare the Sea of Okhotsk and the waters off Kodiak Island, the whales kept to the dangerous edge of the ice. To achieve even moderate success, the fleet had to come into the Bering Sea earlier in the year and scour hard the treacherous verge of the pack until later in the autumn. In the mid-1860s, after a few cold seasons kept the annual harvest at three hundred whales or less, favorable ice conditions allowed ships to go further north and west into the Chukchi Sea. The result, as the *Whalemen’s Shipping List* reported, was that the arctic “was perfectly alive with whales. Hundreds of vessels could easily have been filled with them without perceptibly diminishing their number.”¹⁵⁰ Crews were also more accustomed to the ice, and the fleet was increasingly comprised of barks, vessels that could maneuver more adroitly through the floes, outfitted with lighter sails and better winches.¹⁵¹ Ships began experimenting with icing themselves into the pack over winter, since whalers knew, from the Chukchi, Yupik and Inuit, that the ice forced the ships out of northern seas too early in the fall to take full advantage of the bowhead migration south.¹⁵²

DESPITE THE ADAPTATIONS of the Yankee fleet to whales and ice, by the beginning of its third decade in the arctic commercial whaling faced two existential problems: enough whales, and enough people to buy them. The first issue was increasingly pressing. In 1869, a Honolulu newspaper reported that “Some of the oldest and most experienced whalemen predict that whaling in the Arctic will not pay more than three or four seasons longer. They say that they never met with an old-fashioned bowhead of earlier days, that used to stow down from 200 to 300 barrels, but that the present average will not exceed 80 barrels apiece – young whales. Where are the big ones? The answer is, killed off long ago.”¹⁵³ Charles Scammon, the whaler turned naturalist, wrote in his guide to marine mammals that many whaling grounds “have long since been abandoned, as the animals pursued have been literally exterminated by the harpoon and lance.”¹⁵⁴ Harvard-based marine zoologist Alexander Agassiz, probably during one of his frequent visits to the Hawaiian Islands, warned in the 1880s that whales would become extinct within fifty years because of excessive

¹⁴⁸ NBWM, Logbook of the *Saratoga* (Ship), KWM 180, p. 192-193

¹⁴⁹ PRIPL, Logbook of the *Bonditch* (Ship), Reel 82, p. 72. During the arctic whaling pause, most of the fleet whaled aggressively in the Sea of Okhotsk off of Kamchatka.

¹⁵⁰ *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford MA, December 22, 1863.

¹⁵¹ Davis et al., *In Pursuit of Leviathan*, 270-271.

¹⁵² In 1859, two ships attempted to overwinter in Plover Bay, to extend their hunting in October and begin early in the spring. This practice began with the *Cleone* and *Wailua* in 1859; they unprepared for the arctic winter, and between scurvy and hunger were too weak to whale come spring. Three other ships overwintered on the Chukotka coast in this period: the *Coral* at Plover Bay in 1861, and the *Zoe* at Plover Bay and the *Kohola* in St. Lawrence Bay in 1862. The practice was not resumed again until overwintering at Point Barrow and Hershel Island became common toward the end of the century.

¹⁵³ *Pacific Commercial Advertiser*, Honolulu HI, November 6, 1869

¹⁵⁴ Scammon, *The Marine Mammals*, 215.

hunting.¹⁵⁵ Not all whalers were keen on the explanation of overhunting. Harston Bodfish contended into the twentieth century that there was no “hint of extermination” among the bowheads, and success depended only on the hunters’ skill.¹⁵⁶ A 1865 Congressional report on fisheries contended that whales “having been hotly pursued by nearly six hundred whalers during each of the fifteen years preceding 1860, had become, and still continue to be, wild, restless, and suspicious; large numbers of them seeking a refuge in the Polar basin,” but would return if hunters were less persistent.¹⁵⁷ On the ships, however, the state of the bowhead population was a fact lived in the daily monotony of looking for animals that were no longer there, filling logbooks with entries lamenting their absence.¹⁵⁸

However, many whalers and investors in the industry saw their own livelihoods at considerably greater risk than the creatures they hunted. In 1860, Captain Willis Howes, in season of fogs and few whales, spent an evening with Captain Low of the *Cynthia* “taking about Pumping up Coal oil at the rate of 90 bbls per Day in fact Coal and its offspring oil was the all absorbing exciting topic of the day and was likely to become one of the main Pillars in each Political Platform of the various presidential nominees.”¹⁵⁹ Whalers had been watching alternative illuminates for years, deriding the properties of camphene and refined pork tallow. But kerosene, refined from coal and the petroleum deposits of the mid-Atlantic made accessible by Standard Oil, provided a bright, stable flame without odor. It was also far less expensive than whale products, and kept getting cheaper as the cost of transport and manufacture decreased. By 1871, a gallon of kerosene in New York City cost twenty-five cents, a third to a quarter the price of whale oil.¹⁶⁰ For some observers, particularly those living on newly gas-lit New Bedford streets rather than in ship’s quarters, having a ready substitute for whale fat confirmed their faith in the progressive capacity of the market: for every lack nature generated, technical ingenuity and the logic of commerce supplied a solution. As the New Bedford boosters Pease and Hough wrote, with the “inevitable decline of the whale-fishery... Fresh fields were sought for investment, and the capital for mills, factories, and foundries was at once forthcoming,” a clear “manifestation of...enterprise and progress.”¹⁶¹ Petroleum allowed for growth, counteracting the “increase in population,” that would have “caused an increase in consumption beyond the power of the [whale] fishery to supply,” with “a source of

¹⁵⁵ *Pacific Commercial Advertiser*, Honolulu HI, January 31, 1902. Agassiz was a frequent visitor to Hawaii, and must have spoken to the fate of cetaceans at one of his many public lectures in the mid-1880s, since his warning is reported at later dates. Alexander’s father, Louis, also a renowned glaciologist and opponent of Charles Darwin, was an acquaintance of Charles Scammon’s. See also, Barbara Charton, *The Facts on File Dictionary of Marine Science* (New York, NY: Infobase, 2008), 418.

¹⁵⁶ Bodfish, *Chasing the Bowhead*, 190.

¹⁵⁷ “The Products of the Sea, showing the markets, their capacity, and sources of supply, including the principal national fisheries and their produce, the home-consumption and balance of trade of forty-eight countries in 1865, “On the Expediency of Authoring an Exploring Expedition, by Vessels of the Navy, to the Pacific Ocean and South Seas,” *S. Mis. Doc No. 33*, 42nd Cong. 2nd Sess. (1872), 33.

¹⁵⁸ For examples, see NBWM, Logbook of the *Nimrod* (Ship), ODHS 946, p. 104; GWBWL, Logbook of the *Hibernia* (Ship), Log 81, p. 58, 60; NBWM, Logbook of the *Lydia* (Bark), KWM 132, p. 86, 96, 98.

¹⁵⁹ NBWM, Logbook of the *Nimrod* (Ship), ODHS 946, p. 230-231

¹⁶⁰ For a discussion of coal and petroleum refining for kerosene, see Christopher Jones, *Routes of Power: Energy in Modern America* (Cambridge: Harvard University Press, 2014), 109-115.

¹⁶¹ Pease and Hough, *New Bedford Massachusetts*, 25-26.

illumination...at once plentiful, cheap, and good.”¹⁶² The shift from whale oil to fossil fuel made whales themselves seem fundamentally interchangeable with other abstracted forms of energy and capital. It also made whales worth half as much money in the 1870s as a few decades before.¹⁶³ Not all whalers were so sanguine; the *Whalers' Shipping List* lamented in 1861 that petroleum had “a most ruinous effect” on New Bedford’s primary industry, but “the whales themselves will undoubtedly be grateful for the discovery of oil which is fast superceding [sic] that hitherto supplied by themselves.”¹⁶⁴

The gratitude of the bowheads would have to wait. While petroleum products replaced much of the demand for whale oil as an illuminant, it did not do so completely; enough of a market remained that a refinery opened in San Francisco in 1883, taking advantage of a harbor that could fit ships for the Arctic, an industrializing city still without the East Coast’s access to petroleum, and the trans-continental railroad that could ship cargo East.¹⁶⁵ The cargo was, increasingly, whalebone. “The inventive genius in vain has strived to supply an article which will fill the place of whalebone,” one account described, “but none will answer the purpose.”¹⁶⁶ And the purpose was, increasingly, corsets. The industrial revolution, having liberated clothing from hand spindles and looms, made fashionable dressing a phenomenon of the masses. In post-bellum America and into Europe, corseted waists for women, like smooth hands and pale skin, were marks of bourgeois propriety. Although cheap corsets could be made from metal and cord, strips of baleen provided the best “elegance of fit, style and shape,” according to one advertisement, an opinion apparently shared by the growing swath of middle-class women able to afford whalebone.¹⁶⁷ The result was a surge in baleen’s price: the average bowhead was worth nearly \$5000 in the late 1870s and early 1880s. Whales were no longer hunted primarily for their energy, but for the rough fringe that strained calories from the ocean, now for its market value “by far the most important feature of many whalers’ cargoes.”¹⁶⁸

From the end of the Civil War until nearly the end of the century, the value of baleen was high enough to arrest the total decline of the whaling fleet, bringing ten to twenty ships a year to the arctic. Chasing scarce, wild whales drove the ships further north along the coast, and many paid for their attempts: fog, ice, and rocky shores sank twenty-five vessels from 1849 to 1867, and a disastrous fifty-seven in the 1870s, thirty-three of them in 1871, when the sudden arrival of pack ice forced over 1200 sailors to abandon their ships.¹⁶⁹ Shipwrecks were expensive: the 1871 disaster

¹⁶² Starbuck, *History of the American Whale Fishery*, 109.

¹⁶³ Bockstoce, *Whales, Ice, and Men*, 205.

¹⁶⁴ *Whalers' Shipping List and Merchants Transcript*, New Bedford MA, July 2 1861.

¹⁶⁵ San Francisco and Hawaii competed over whaling traffic through the latter half of the 19th century, and San Francisco didn’t fully win the favor of captains until the opening of the Arctic Oil Works refinery in 1883. San Francisco had cheaper labor than the Hawaiian Islands after the rise of sugar plantations, but California gold fever made dissertation rates higher.

¹⁶⁶ Pease and Hough, *New Bedford Massachusetts*, 32-35.

¹⁶⁷ Classified ad, “Corsets and Skirts,” *New York Daily News*, New York NY, June 7 1856. For a delightful history of corsets and their relationship to social norms, see Valerie Steele, *The Corset: A Cultural History*, (New Haven: Yale University Press, 2001).

¹⁶⁸ Pease and Hough, *New Bedford Massachusetts*, 36.

¹⁶⁹ Miraculously, no lives were lost in the 1871 disaster. See Bockstoce, *Whales, Ice, and Men*, 143-165. In addition to shipwrecks, the American Civil War briefly spilled into the Bering Strait, when the Confederate warship *Shenandoah*, on a mission to disrupt the North’s economy by razing whalers, burned or bonded twenty-four Yankee vessels in June of

alone cost \$1.6 million. The *Whalemen's Shipping List* commented in 1865 that despite good whalebone prices “the enormous expense attending a whaling voyage in these times will require a much larger catch to make any favorable compensation for the owners of these vessels.”¹⁷⁰ Captains strove to fill their holds faster, tested the ice more, and employed new technologies in the hunt. Some tried bazooka-like shoulder-loaded bombs, which proved unreliable in rough arctic seas. There was a brief discussion of poisoning whales, abandoned since “nervous people at dinner parties are beginning to look anxiously at their...fish, lest perchance it should have eaten any... part of the poised whale.”¹⁷¹ More successfully, San Francisco investors built up a fleet of steam-powered ships, which could power deeper into small open leads in the spring ice, catching bowheads as early as April.¹⁷² In the 1880s, the catch from steam ships was more than twice that of vessels under sail, leading one captain to observe that technology had made whaling into a business like any other, governed by investors and the principle of doing “whatever will make money or save money, that is the thing.”¹⁷³

Whaling, however, was not an industry that obeyed the simple economic formula of innovation creating efficiency and efficiency leading to more production. With every technological adaptation to increase the speed, durability, lethality or range of the whaling kit, more whales died, and profits became less certain. Efficiency could not produce more bowheads, although it could kill more. The results, by the 1890s, made “Arctic whaling...as big a gamble as arctic gold mining. The profits are big when whales are found, but when their fail to appear the sailor man is in a bad way.”¹⁷⁴ From the perspective of the bowheads, however, even voyages that turned little human profit were a gross cetacean loss. While the whales adapted their behaviors to the threats of commercial hunting, the very largeness that made them attractive to humans also made them existentially vulnerable; bowhead cows give birth only once every three or four years, and do not reach maturity until they are over fifteen years old, a process too coded into their slow-growing generations to alter in the few decades of commercial harvesting. The species could neither swim nor breed itself to safety. By 1875, commercial whalers had killed over 13,000 *Balaena mysticetus*, more than half of the animals historically present in Bering Strait waters.¹⁷⁵

EVASIVE, VANISHING WHALES were, inadvertently, the agents of human collision. As Yankee ships wrecked and wintered, the native peoples of the Strait had to deal with whalers as more than

1865, unaware or unconcerned that the war had ended a few months prior. For a full account, see Bockstoce, *Whales, Ice, and Men*, 103-128.

¹⁷⁰ *Whalemen's Shipping List and Merchant's Transcript*, New Bedford MA, January 10, 1865.

¹⁷¹ *Whalemen's Shipping List and Merchant's Transcript*, New Bedford MA, December 31, 1872.

¹⁷² The definitive account of this period of whaling is John Bockstoce's *Steam Whaling in the Western Arctic* (New Bedford, MA: Old Dartmouth Historical Society, 1977).

¹⁷³ “The Whaling Fleet: Interesting Statistics on the Trade,” *San Francisco Chronicle*, San Francisco CA, November 10, 1889.

¹⁷⁴ “Editorial,” *San Francisco Chronicle*, San Francisco CA, August 15, 1899.

¹⁷⁵ Assessing the total number of whales killed by commercial whalers is difficult, since the records are not complete and ships struck and killed more whales than were eventually processed. Bockstoce estimates the kill total, including struck whales, 13,471 in 1875, while Woodby and Botkin put the number at 13,335. This is about two-thirds of the total whale harvest during the 19th century commercial period, which killed approximately 20,000 whales by 1914. See Bockstoce, *Whales, Ice, and Men*, 346-347 and Woodby and Botkin, “Stock Sizes Prior to Commercial Whaling,” 390-391 and 402-404 for a discussion of estimating past bowhead population density.

occasional visitors. Marooned crews, like those on the *Citizen*, were increasingly common and required care and feeding. Moreover, sailors were beginning to offset lean whaling years with trade. Now, instead of giving away tobacco and metal goods, whaling ships were bartering for furs, reindeer hide clothing, and walrus tusks, and, as the next chapter will discuss, actively killing walrus to augment their take of ivory. Unlike whale blubber, which had to be refined and barreled to be valuable to whaling crews, baleen could be bought from indigenous hunters as well. The reversal of protocol, from the easy gifts of early voyages to hard barter and competitive hunting, must have seemed glaringly inconsistent to indigenous traders.

Perhaps more trying was the refusal of whaling ships, especially in the early years of trade, to sell alcohol. In Chukotka, as Mary Brewster observed in 1849, the “demand is usually for rum,” a taste probably acquired at the Ostrovnoe trade fair, held inland along the Kolyma river, where the Russian American company observed in 1848 that the basis of the Chukchi trade “with the Siberian merchants is strong drink.”¹⁷⁶ While whaling ships initially carried little to no liquor, Roys’ report “of valuable furs that could easily be purchased,” tempted a few trading ships north from Hawaii, eager to turn cheap fermented sugar into the hides of foxes, polar bears, and beavers traded from the southerly interior.¹⁷⁷ For the Chukchi and Yupik, the whaler’s reticence to trade alcohol must have seemed deliberately withholding, given the liberality of Hawaiian ships and the increasing availability of alcohol along the Kolyma.¹⁷⁸

Whaling crews, at least initially, did restrict their trade in liquor. Coming from the context of North America’s bloody Indian wars and sometimes their own experience in the southern Pacific, worried about violence, and also unrest with liquor. When the *Citizen* wrecked, Norton commanded his crew to “knock in the head of the rum keg,” an act of “self-preservation” since he assumed native consumption would lead to fighting.¹⁷⁹ Norton’s fears were not unfounded. A dispute on the ship *Armata* “ended in the death of eight natives and one English sailor,” Asa Tobey reported in 1852, and “Rum was the cause of the trouble.”¹⁸⁰ But as the business of killing whales became progressively tenuous, more ships were willing to trade anything, and sometimes by any means. Captain Brummerhoff, earned a reputation for “giving poor rum mixed with pepper, etc.” that produced “a strong hatred naturally...among the natives.”¹⁸¹ Some indigenous traders retaliated by trading fox tails sewn onto rabbit pelts, or weighting their walrus tusks with rock to get a better price. Other frictions must have emerged in the meeting between indigenous women and sailors, many of whom seemed to agree that the “girls were extremely pretty, with glossy, coal-black hair,

¹⁷⁶ Brewster, *She Was a Sister Sailor*, 392; Russian American Company, *Otchet Rossiisko-Amerikanskoi Kompanii Glavnago Praveniia za odin god po 1 ianvaria 1848*, (Saint Petersburg: Tip. Shtaba inspektora, 1848), 42.

¹⁷⁷ *Whalemens’ Shipping List and Merchant’s Transcript*, New Bedford MA, February 6, 1849.

¹⁷⁸ Dorothy Jean Ray, “Early Maritime Trade with the Eskimo of Bering Strait and the Introduction of Firearms,” *Arctic Anthropology*, Vol. 12 No. 1 (1975): 1-9.

¹⁷⁹ Holmes, *The Arctic Whalemens*, 92.

¹⁸⁰ “Letter About the Arctic,” *Whalemens’ Shipping List and Merchant’s Transcript*, New Bedford MA, July 4, 1853. The *Francis* reported that the same incident killed two sailors and fifteen natives; NBWM, Logbook of the *Francis*, ODHS 994, p. 52. Tobey wrote that the rum in this case came from a trading vessel out of Hong Kong. Little is known about many of these Pacific trading voyages. The best account can be found in John Bockstoe’s *Furs and Frontiers*.

¹⁸¹ Herbert L. Aldrich, *Arctic Alaska and Siberia, or Eight Months with the Arctic Whalemens* (Chicago: Rand McNally, 1889), 230-231. Brummerhoff was eventually killed by natives in revenge for his own role in a drowning.

bright eyes, red cheeks, lips like ripe cherries...”¹⁸² In 1860, the second mate of the *Cleone* described how his captain spent the summer with a native woman named “Pinanear,” who the next season became the object of gawking, as the fleet tried “to get a grimce...[sic] to see if the Child had any rezemblence to its Father [sic].”¹⁸³ Rules of sexual conduct along the Bering Strait were considerably less rigid than those prevalent among the whalers, and included the exchange of wives to establish kin ties.¹⁸⁴ Yet, prostitution was a new concept around the Strait, and became frequent, especially where ships overwintered on the North American coastline, where women “could be induced to go on board as the captains’ or officers’ woman during their stay in the winter quarters,” and the women “went – young and old – the demand was high enough.”¹⁸⁵ Incidents of violence between whalers European and indigenous were blamed, at least in the American press, on sailors “being unduly familiar with the native women.”¹⁸⁶

Even when consensual and socially condoned, at least by the Yupik and Inupiat, relations between indigenous women and European whalers left behind a creeping, quiet violence. On the North American coast, whaler John Kelly reported that “the white people have introduced syphilis” among the native population, “a blight that has almost swept some of the coast tribes out of existence.”¹⁸⁷ On the Asian coast, syphilis arrived with Russian trade along the Kolyma, and was known to the inland Chukchi by the 1860s, where carriers were regarded as tainted – knowledge that might have contributed to some communities on the coast avoiding sexual contact with whalers.¹⁸⁸ Other villages were not so fortunate; a Russian doctor reported in the 1880s that “syphilis, expressed in the most terrible forms,” was common near Anadyr.¹⁸⁹ A few decades later another report found “among the Eskimos, as among the coastal Chukchi, considerable syphilis is spreading from the Americans.”¹⁹⁰ Where it did spread, syphilis weakened the young, demented the old, and sickened the newly born. Nor was it the only disease introduced into the Bering Strait: measles, scarlet fever, and smallpox crested and broke through the indigenous communities along the Bering Strait from the 1860s until the turn of the century. Outbreaks originated with Europeans, who carried greater immunity, and spread at trading fairs and the feasts celebrating successful whale hunts, or in the

¹⁸² Burns, *A Year with a Whaler*, 151

¹⁸³ Robert Strout, “Secatch of the performance,” *GWBWL*, Collection 210, Vol. 2, p. 109.

¹⁸⁴ For a discussion of wife exchange in North America, see Ernest Burch Jr, *Social Life in Northwest Alaska* (Fairbanks, University of Alaska Press, 2006), 114, and, *Eskimo Kinsmen: Changing Family Relationships in Northwest Alaska* (St. Paul: West Publishing, 1975), 109. In Chukotka, see Igor Krupnik, *Pust’ govoriat nashi stariki: rasskazy aziatskikh eskimosov-inupik*, (Moscow: Institut Nasledia, 2000), 361; and Peter Schweitzer, “Spouse-Exchange in North-Eastern Siberia: On Kinship and Sexual Relations and Their Transformations, in A. Ginrich, S. Haas, and G. Paleszek, eds. *Kinship, Social Change and Evolution, Wiener Beitrage zur Ethnologie and Anthropologie*, Vol. 5 (1989): 17-38.

¹⁸⁵ Mikkleson, *Conquering the Arctic Ice*, 310.

¹⁸⁶ “MASSACRED WHALERS: Another Report Regarding the Grampus,” *San Francisco Chronicle*, October 27, 1891.

Most of the information regarding sex between whalers and native women comes from highly sensationalized newspaper accounts and, from the 1890s on, some disapproving commentary from missionaries.

¹⁸⁷ John W. Kelly, *Ethnographic Memoranda Concerning the Eskimos of Arctic Alaska and Siberia*, Sheldon Jackson ed. (Washington, D.C.: U.S. Bureau of Education, 1890), 21. The impact of syphilis in this period is difficult to extrapolate from the textual data, but in highly infected communities the dementia of tertiary syphilis and the increase in mortality for infants born to infected mothers was probably quite severe.

¹⁸⁸ Waldemar Bogoras, *The Chukchee*, *Memoirs of the American Museum of Natural History*, vol. 11 (New York, NY: The American Museum of Natural History, 1904), 41; Kelly, “Ethnographic Memoranda,” 21.

¹⁸⁹ RGIA DV F. 702, Op. 1, D. 127, L. 6.

¹⁹⁰ RGIA DV F. 702, Op. 1, D. 1401, L. 68.

simple activities of daily life. The results, in the words of one whaler, were “ruined houses and depopulated villages, a silent reproach to the white man, who came to the country bringing diseases in his wake.”¹⁹¹

Even for survivors, infectious diseases burn through bodies. Febrile metabolisms require more calories. The difference is marginal, but when combined with weeks of frail, recovering muscles, the epidemics that flared around the Bering Strait rapidly eroded the surplus of food in afflicted communities. For the peoples of northwest Alaska and northeast Asia, outbreaks struck seemingly just as this always-uncertain surplus reached an unimaginable ebb. “Twenty years ago whales were plenty and easily caught,” one captain wrote, “but the whales have been destroyed and driven north, so that now the natives seldom get a whale.”¹⁹² As the next chapter explores, the walrus were also hunted aggressively by the Yankee fleet; the caribou and reindeer populations, the subject of chapter three, were also in decline. The calories accessible to humans had vanished from the Strait, a great many of them in the 16,000 bowheads turned corset stays and lamp oil by 1885. In its wake, this departed biomass left devastating famines, their etiology deeply bound with epidemic disease. Villages weakened by hunger were more susceptible to infection, and communities stricken by illness less able to deal with increasingly long, challenging hunts with uncertain outcomes. The impact of starvation was uneven, like the ecology of the Strait, but far more generalized and profound than the periodic food shortages always common in the region. On the Asian coast in 1880s, most of the inhabitants of Qiwaaq perished, and Saanlek’s residents “in their majority died of starvation in the 1880s.”¹⁹³ In Alaska, the hungry years between 1881 and 1883 killed over half of the people in Kivilina, and a similar number in Kotzebue.¹⁹⁴ Saint Lawrence Island, historically home to fifteen hundred or so Yupik, lost possibly a thousand people in 1879; in their wake, the ethnographer Edward William Nelson found residents “dead in their blankets,” and bodies “everywhere in the village as well as scattered along in a line toward the graveyard for half a mile inland.”¹⁹⁵

By 1890, the indigenous population of the Bering Strait coastline had fallen by over half.¹⁹⁶ The many small nations, founded in part on the bodies of whales, collapsed in their absence. Communities in both Asia and North America moved and merged.¹⁹⁷ Warfare between the small nations slid into history as their borders dissolved. Ties of kinship, both genetic and social, went from being a method of improving living standards and political strength to a matter of basic

¹⁹¹Ejnar Mikkleson, *Conquering the Arctic Ice* (London: William Heinemann, 1909), 373.

¹⁹²“Shipmaster,” *Friend*, Honolulu, HI March 1, 1872. Concern about starvation in the arctic was voiced frequently in the Hawaiian newspapers in these years.

¹⁹³Bogoras, *The Chukchee*, 29.

¹⁹⁴Burch Jr., *The Inupiaq Nations*, 48-49.

¹⁹⁵Nelson, “The Eskimo About Bering Strait,” 269.

¹⁹⁶Krupnik puts the population decline from 1800-1890 in Chukotka at around fifty percent, while the communities studied by Burch went from about 5000 people to around 1000 in the same period. Krupnik’s *Yupik Transitions*, 36-37; Burch, *The Inupiaq Nations*, 325.

¹⁹⁷It is not possible here to detail the community-level impacts of the successive famines in this period and how the survivors recombined into new political entities. Fortunately, Igor Krupnik’s *Yupik Transitions* provides a granular, ethnographically based account of this period in Chukotka and nearby islands. Ernest Burch Jr. does the same in *The Inupiaq Nations* for a large portion of the North American coastline.

survival.¹⁹⁸ In the resulting social chaos, indigenous whalers and hunters were drawn into new relationships with Yankee commerce.

In part this was due to the final grasping technological move of industrial whaling: some crews began overwintering at Point Barrow and eventually Herschel Island in the 1890s, to take full advantage of the bowhead spring migration. At Point Hope in 1887, a motley assortment of Americans and Europeans founded a shore-whaling station, which attracted several hundred displaced Inupiaq who earned at least part of a living by whaling for a wage. Further north, near Point Barrow, Charles D. Brower took advantage of the Inupiat custom of removing recent widowers from *umiak* crews by hiring the boatless men himself.¹⁹⁹ Other indigenous men joined pelagic crews. “Shipped five Natives for the season,” the *William Baylies* log noted in 1887. Five years later, the same ship reported paying a native crew from Indian Point with “the old bow boat with an old sail and a set of oars,” a popular form of remuneration along the Strait.²⁰⁰

What went unwritten, although must have been spoken among the Yupik, Inupiat and Chukchi, was the incongruence of these two groups of whale-killers, converged physically in the labor of cetacean death and yet with such historically different valuations for a carcass. The vocabularies of hunting and the rituals of dismemberment must have been both foreign and familiar to indigenous whalers. The value of a whale was altering, and perhaps altered the values that had emerged from whaling as a practice. Bowheads were rare, each season seeming less willing to arrive and die. Native whalers worked alongside whalers from around the world, men who understood whales to finite and meaningful only in the limited terms of cost per pound of bone. The reward for killing a whale was no longer in the calories of the body itself, but measured in the abstraction of barter: so many boxes of tea for a rack of baleen, a few more pounds of flour for a day of labor. That the Yankee whalers saw this as natural is unsurprising; whales functioned in these transactions as the same basic commodities they had always been for a sailor, and the native people employed to kill them appeared to obey the labor theory of value. The ritual importance of whales was apparent to some onlookers, but what crisis their absence caused among people who believed in the sentence and deliberate sacrifice of whales remained invisible. Yet, whaling ceremonies, ongoing into the present day, are evidence that the cosmology of cetacean mind did adapt to a market-run world. It did not, however, prevent avid participation in that world, which out of necessity and attraction began to employ, even if peripherally, most of the coastal residents of the Bering Strait.

What the whalers did see was the physical impact of their industry on the indigenous peoples with whom they traded, slept, and labored. One captain, shipwrecked in Chukotka wrote, “I felt like a guilty culprit while eating [the natives’] food with them, that I have been taking break out of their mouths, yet although they know the whaleships are doing this, they still were ready to share.”²⁰¹ Yet for some observers, the end of the whales and the end of the Eskimos were matched halves of a

¹⁹⁸ Burch Jr., *Eskimo Kinsmen*, 203.

¹⁹⁹ For a discussion of shore whaling and its impact on Inupiat culture, see Mark S. Cassell, “Inupiat Labor and Commercial Shore Whaling in Northern Alaska,” *The Pacific Northwest Quarterly*, Vol. 91 No. 3 (Summer, 2000): 115-123.

²⁰⁰ PRIPL, Nicholson Whaling Log Collection No. 674, Logbook of the *William Baylies*, 1887, p. 48; Logbook of the *William Baylies*, 1892, p. 362. John A. Cook noted at least thirty whaleboats being used on the Chukchi coast by 1900. John A. Cook, *Thar She Blows* (Boston: Chapman and Grimes, 1937), 147.

²⁰¹ *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford, MA, April 8 1872.

process that, if not exactly inevitable was certainly irreversible. On a survey of the Alaskan coast, P.H. Ray wrote that the “American whaling fleet during the last twenty years has nearly exterminated that valuable animal [the bowhead]. That they are decreasing in numbers is well known among the whalers, and the fact that ...there were twenty-four whales taken by the natives [in 1852-54], while only two were taken during our stay [1881-83], one of them a calf, goes to prove that they will soon be classed among the extinct mammals, and with them will soon pass away many of the people inhabiting this shore.”²⁰² Ray was not alone. Even whalers who were sympathetic, and there were many, saw change as inevitable among “human anachronisms left over from the stone age.”²⁰³

THE COUNTRIES ABOVE

The Bering Strait during the last decades of the nineteenth century was a massive arena of adaptation: humans to humans, whales to humans, humans to ice, diseases to humans, humans to disease, humans to whales, and humans to a lack of whales. There was alcohol moving from North American to Asia and back. People, anachronisms or no, were dying. Disease replaced warfare. Technology replaced abundance. Nations reformed into communities of survivors. A few whalers moved permanently north, and more than a few Eskimo took whaling ships south. Baleen whales, once the largest mass of biological life in the North Pacific, peered into the abyss of extinction. The Bering Strait, long linked by trade and language, became an amalgamated unit of commerce and harvest. Yankee whaling ships had dragged together two incongruous but malleable worlds, one run by market logic and industrial appetites mashing into the Bering Strait’s social and ecological diversity, and then sailed through the resulting tumult, trading flour and bullets, killing more bowheads. It was a revolution in everything but name, undertaken by the most unlikely of revolutionaries. Whalers were unwitting ideologues, hardy planters of imperial flags or missionaries bent on eternal or even earthly salvation; their motives conformed mostly to the short horizon of a successful voyage. Utopia was a full cargo.

Revolutions change who has power, and who sets value. In the wake of the Yankee fleet, the United States and the Russian Empire were worried about both. With a reputation for drunkenness, womanizing, and lawlessness, even the consummate booster of whalers as imperial agents Jeremiah Reynolds thought sailors behaved with “wanton cruelty” despite “claiming the application of *civilized*,” and called for the U.S. Navy to police their behavior.²⁰⁴ That Yankee ships were in fact miniature Babels, their crews nationally and racially diverse, some of them known to hunt whales on the Sabbath, did not help. Worse, by the late nineteenth century, whalers had lost their fears of selling alcohol and were even trading in firearms. Whalers were vanguards of American power, but their perhaps excessive dedication to commerce –selling anything, hunting anytime, and buying the favors of local women – made their values suspect.

²⁰² Patrick Henry Ray, “Ethnographic Sketch of the Natives of Point Barrow,” *Report of the International Polar Expedition to Point Barrow, Alaska, in Response to the Resolution of the House of Representatives of December 11, 1884*. Part III (Washington D.C.: Government Printing Office 1885), 37-60, xcix

²⁰³ Burns, *A Year with a Whaler*, 174.

²⁰⁴ Jeremiah N. Reynolds, *Address, on the Subject of a Surveying and Exploring Expedition* (New York: Harper and Brothers, 1836), 67.

It was a judgment the Russian Empire agreed with, particularly since in the north whalers were, in a sovereign sense, a Russian problem first. When Roys arrived in the Bering Strait, the sale of Alaska to the United States was almost two decades away, and the Empire, at least in the terms recognized among other Empires, had control of the North American coastline. In practice, Russian activities north of Kamchatka in Asia and the Yukon in Alaska were limited on land. At sea, the tsar's attempt to drive out American whalers by starting a Russian franchise in the early 1850s collapsed in a few years, while a small but more successful venture in the 1860s remained well south of the Bering Strait.²⁰⁵ The Russian American Company, witness to the fleet's expansion from their posts at St. Michaels and Petropavlovsk, demanded that whaling vessels leave their waters, but with limited firepower requested further instruction from St. Petersburg.²⁰⁶ By the 1860s, however, sending the Imperial Navy after American vessels as they sailed quite literally over Russian sovereignty each season was deemed too expensive, especially given that after seventy years, the Russian American Company was failing both as a source of Russian subjects or of Russian profit. The eventual response from St. Petersburg was the sale of Alaska. In the calculus of what to do with the ailing Russian American Company, foreigners killing whales made Russia look weak, and contributed to the tsar's desire to make the Empire's North American annex a North American problem.²⁰⁷

In 1867, however, the problem posed by whalers was really just beginning, for both the United States and Russia, as the intensification of the industry turfed more sailors to shore, more trade, and fewer whales. In Asia, the Yankee ships had grown used to landing and trading with the Chukchi and Yupik without any interference from Russian authorities. The results tested the tsar's sovereign claims; although the Chukchi had been essentially independent from the Empire for nearly a century, it was still Russia, not the United States, who should rightfully function as patron and trading partner. In 1879, Constantin Pobedonostsev wrote to the future Tsar Alexander III, asking that he order the Russian Navy to patrol northeastern Siberia. "If we do not send Russian vessels to those shores," the councilor wrote, "the non-Russian natives of that coast will altogether forget that they belong to Russia. Already so many Chukchi speak English."²⁰⁸ In 1889, a post was opened at Anadyr, with the hope of controlling the foreign influence. The vast and rugged coastline, and a lack of funds so chronic that the post could barely buy dogs, made this a difficult task. Constant intercourse with Americans undermined the Orthodox Church's conversion efforts and left the natives with "a poor consciousness of their Russian citizenship," while the most valuable ivory and hides fell "into the hands of those Americans passing by boat, or through their counterparts from the Chukchi."²⁰⁹ The same year, the regional governor of the Far East noted with alarm that "the Americans especially have crept into the Chukchi's trust... mostly with their spirits and guns,

²⁰⁵ P. Tikhmenev, *The Historical Review of Formation of the Russian-American Company and its Activity up to the Present Time, Part II*, trans. Dimitri Krenov (Seattle, WA: Work Projects Administration, [1863] 1940), 162.

²⁰⁶ For an overview of the Russian, British, and American diplomatic tussles over fishing and furring rights in the broader North Pacific, see Robert Lloyd Webb, *On the Northwest: Commercial Whaling in the Pacific Northwest 1790-1967* (Vancouver: University of British Columbia Press, 1980), 86-102.

²⁰⁷ Howard I. Kushner, "Hellships: Yankee Whaling along the Coasts of Russian-America, 1853-1852," *New England Quarterly*, Vol. 45, No. 1 (March, 1972): 81-95.

²⁰⁸ K.P. Pobedonostsev, *Pis'ma Pobedonostseva k Aleksandru III*, tom I, (Moscow: Novaia Moskva, 1925), 84.

²⁰⁹ RGIA DV F. 702, Op. 1, D. 275, L. 20; RGIA DV F. 702, Op. 1, D. 313, L. 3.

robbing and severely corrupting the Chukchi. In the hands of these foreigners, the Chukchi become hostile to Russia and thus strengthen the foreign influence.”²¹⁰ Whalers syphoned away local power: of influence over language, possibly religion, and worst, the commercial potential of Chukotka.

For the United States, whalers were not foreigners, but they were still not the right kind of citizens. In an 1880 report to Congress, G. Otis worried that “through the efforts of unscrupulous and illicit traders,” the native population was buying guns, “must inevitably lead to serious troubles, sooner or later... Indian wars have been provoked by similar causes...the whites would go under unless aided by the military, and in the present state of the country there are no troops for the defense of Alaska.”²¹¹ Trade from whaling ships was not an enemy without, in the United States, but armed a potential enemy within. The United States Revenue Cutter Service, established to patrol Alaska’s waters in 1867, began to regulate the sale of repeating rifles a year later. With only one ship usually operating north of the Pribilof Islands, the Cutter Service had enough impact on the sale in guns and ammunition to drive prices upward, but not curtail the trade altogether. In the 1880s, about \$30,000 worth of “arms, ammunition, muslin, flour, at San Francisco prices” were traded in Alaska for native-caught “furs and whalebones.”²¹² The Cutter Service also sought to control the alcohol trade, an unwelcome infringement from the perspective of the indigenous population, who responded to news of prohibition with threats of exactly the sort of violence the U.S. government feared.²¹³

The Cutter captains and the few missionaries present along the coast by the 1890s also worried over their inability to sufficiently assist victims of famine. H.R. Thornton, a missionary teacher at Cape Prince of Wales, noted that the whalers had nearly destroyed the native population’s ability to survive along coast, causing him to ask “shall the natives be sacrificed for the gain of a few extra dollars on the part of the whalers?” Even if the “quick witted, quite virtuous” Eskimo managed to avoid outright starvation, Thornton argued that it was “useless to talk about civilizing people who are kept so poor as to be compelled to live like savages.”²¹⁴ Calvin Leighton Cooper, upon seeing the devastation on St. Lawrence Island in 1880, wrote that “A more horrible state of affairs cannot well be imagined...and will continue until some active measures are taken by the Government to remedy it.”²¹⁵ Although the response was perhaps as fast or total as Thornton or Hooper would have preferred, the government seemed to agree that civilization marches on its stomach; alleviating the threat of famine inspired the first federally overseen attempt to introduce a capitalist mode of production on the right hand of the Bering Strait (see chapter three).

The concern over the biological condition of the state, and what it meant for local communities, was shared by the Russian Empire. “These American ships engaged in whaling do not

²¹⁰ RGIA DV F. 702, Op. 1, D. 275, L. 1.

²¹¹ G. Otis, “Report of Special-Agent Otis upon the illicit traffic in rum and fire-arms” *Executive Document of the Senate of the United States 2nd Sess 46th Cong. 1879-1889* Vol. 4 (Washington, D.C.: Government Printing Office, 1880), 46.

²¹² John W. Kelly and Ensign Roger Wells Jr., *English-Eskimo and Eskimo-English Vocabularies* (Washington D.C.: Government Printing Office, 1890), 26.

²¹³ Calvin Leighton Hooper, *Report of the Cruise of the U.S. Revenue Steamer Thomas Corwin in the Arctic Ocean 1881*, (Washington, D.C.: Government Printing Office, 1884), 23

²¹⁴ H.R. Thornton to Secretary of the Treasury, January 15 1892; NARA CA RG 26 M-641 Roll 2: Letters Received by the Revenue Cutter Service January 8 1891 – December 12 1892.

²¹⁵ C.L. Cooper to the Secretary of the Interior, 1880; NARA CA RG 26, M-641, Roll 1: Letters Received by the Revenue Cutter Service August 11 1869-September 28 1910.

pay attention, of course, to where borders are drawn in the water, and take from the dead whales...just baleen, giving the rest to the Chukchi. The whales on our shores are few.”²¹⁶ Starvation was a real concern for the tsar’s local administrators, but their recourse – so far from a major routes of supply – was often more descriptive than palliative. American schooners, wrote the Governor of the Far East, “are uncontrolled in their harvest of marine animals in our waters, especially whaling, ruthlessly destroying these sea creatures so that their numbers decrease with each passing year.”²¹⁷ Once able to let Chukotka essentially govern itself, whalers, and the lack of whales, had upended the Empire’s lack of “significant interest” in the “internal affairs of the Chukchi,” now hosts to worrisome economic activity and no longer simply “living and ruling by their ancestral customs.”²¹⁸

But the tsar was far away, his ships slow, and the need along the coast pressing. By 1903, when the Governor of the Far East thought the only solution to the famines emerging along the coast were “foreigners involved in trade, who supply the local population with necessary goods,” even though they also brought alcohol “detrimental to the health and welfare of the natives.”²¹⁹ Bogoras also noted that flour traded from American whalers was “only means of keeping off famine,” for the coastal peoples deprived of marine mammals.²²⁰ Buying flour from American ships might be necessary, but it was far from ideal for the Imperial government. “The high administration of the region sees how skillfully foreigners exploit the rich fisheries of Anadyr,” the territorial governor wrote, worried that the lack of animals and humans challenged “Russian prestige in the far north.”²²¹ Foreign trade had replaced the energy sold out of the Pacific Ocean, and the Russian Empire struggled to replace it with a lucrative, and sovereign, equivalent. It would take decades of edicts and attempts, and a new revolution, for the state in Asia to supplant its international dependence.

Starving populations, immoral commerce, unregulated and untaxed harvests, and the very obvious lack of a state monopoly on violence, were the unintended byproducts of pelagic whaling. Neither the United States nor the Russian Empire, however, made any serious attempt to curtail the industry itself. A few hundred miles further south, both countries were actively policing the harvest of fur seals in the same years, with the stated aim of creating an industry with long-term viability. Fur seal breeding was roughly understood and ratios of males to females carefully protected by the early twentieth century. The knowledge of bowheads and other whale species was perhaps too specific to their killing to produce a similar program; whalers knew a great deal about their prey, but not apparently enough to kill only bulls. More unfortunate for the whales was their inherently international behavior, as organisms that never exist, at least alive, on any piece of national territory. And whales, their economic importance to the world apparently nullified by the early twentieth century, were assumed to be a finite and finally disposable resource. As their existence wound down, however, the void they left in the Bering Strait – a void of palatable energy – undermined the basic assumptions of what a state was politically, what it should do practically, and its value as an agent of

²¹⁶ RIGA DV F. 702, Op. 1, D. 313, L. 13.

²¹⁷ RIGA DV F. 702, Op. 1, D. 313, L. 69.

²¹⁸ RIGA DV F. 702, Op. 1, D. 275, L. 1.

²¹⁹ RGIA DV F. 702, Op. 1, D. 313, L. 69.

²²⁰ Bogoras, *The Chukchee*, 62.

²²¹ RGIA DV F. 702, Op. 1, D. 275, L. 1.

moral standards and progress. The absence of whales made the absence of sovereignty glaring. What pushed the United States northwest and the Russian Empire northeast, therefore, were the territorial and commercial repercussions which created along the biological fault-lines whaling rent in the indigenous populations about Bering Strait.

DESPITE THE BEST efforts of the United States' small fleet of Revenue Service cutters and the valiant attempts of Imperial Russia's few agents along the Bering Strait, it was not their actions that eventually diminished the role of whaling and whalers in the North Pacific. Neither state brought the impulses of the industrial market to heel. Rather, commercial whaling ended in part because finding what few whales remained was expensive and uncertain, and mostly because whales were no longer necessary. The discovery of spring steel in 1907 rendered baleen obsolete, giving the world a manufactured answer to the umbrella rib and corset stay. The ships that remained, as the next chapter will discuss, stayed to trade for ivory and fur, and killed few of the 3000 or so bowheads that remained by 1914. Human ingenuity and appetite for energy demanded whales in the early nineteenth century, hunted them down until even their capacity to reproduce could not save them, and then when bowheads became actually and acutely finite, invented an alternative. Commercial whaling made the promises of capitalist development seem very real: for every lack imposed by, say, the limits of a whale population, engineering eventually filled the gap with petroleum and steel. While not comforting to whalers or to whales in the short term, the industry became another footnote in the narrative of progress. In that narrative, bowheads avoided extinction not because their worth was recognized. They survived because for the world outside the Strait, they ceased to have value at all.

Before the value of a bowhead whale became neutral – before the market forgot them, for a time at least – their kind bore the industrial revolution north. Whale energy was the blood meal of cascading transformations, the properties of their corporeality acting as a gateway to the great ideological projects the twentieth century. No doubt the United States and the Russian Empire – and later the Soviet Union – would have made their way north eventually. But whales, their hunters, and their absence, shaped how and when state came to the Bering Strait, and gave it an initial reason for being. Commercial whaling was a revolution in three parts.

The first was technological and conceptual: the Yankee whalers brought with them new ways of killing whales, and new reasons to do so. The Yupik, Inupiat and coastal Chukchi hunted whales from small boats tied to the shoreline, in order to not die: the political, economic, and spiritual values of aboriginal whaling all linked back to its central place in keeping people alive. The kit of a nineteenth century whaling ship could kill whales anywhere, and did so for reasons quite abstracted from crude survival. While both sorts of whalers knew their prey through the labor of hunting, the product of this strenuous expertise was hardly equivalent. For an aboriginal whaler, a dead bowhead meant human life and every accompanying cultural meaning. For pelagic hunters, a whale in essence was a mobile commodity, one good harpoon strike away from transmutation into currency. In the decades after 1848, when the first Yankee ship whaled off the Diomed Islands, the essential terms of what a whale *was* were open to new interpretations.

The second aspect of the industrial turn in the North Pacific was economic and ideological, or rather introduced an ideology commensurate with an industrializing economy. Yankee whalers came to the Arctic to harvest products needed by industry and wanted by consumers just becoming acquainted with the bounties of industrial production. They were in the arctic because they participated in the exchange of commodities and labor for value. Many of them also believed that this sort of exchange – wages for labor, money for commodities – was the proper order of social life, and a progressive force. The many things whalers found the Yupik, Inupiat and Chukchi to lack, from industriousness to cleanliness to a proper diet, could be solved with exposure to the market. For commerce, as many whalers experienced on the rapidly industrializing eastern U.S. seaboard, expanded the energy that people consumed – food, light, heat, transport – and allowed the purchase of more abstract byproducts like good china and cotton cloth. Civilized people ate well in warm houses, wearing fashionable clothes, so spreading commerce spread civilization, which made the world better by allowing more people more access to commerce. The logic was circular, but the concept teleological.

Finally, the arrival of commercial whaling was political and ecological. At the most local level, contact with the industrial market shifted the geography of Yupik, Inupiat and Chukchi power, as access to new networks of trade, wage labor, and intermarriage altered individual political futures. Disease and alcohol shrunk and consolidated communities. Regional politics were overlaid with imperial politics, as the United States and the Russian Empire saw their stakes in the North Pacific undermined by the presence of market value untethered from a larger project of civilization. Whalers brought commerce, but they were failing at progress, what with the famines and venereal disease left in their wake. The unchecked harvest of cetacean energy, and trade with indigenous peoples that came with, was a threat to Russian Imperial and United States sovereignty. The two states, in response, tried to discipline the energy flowing from their frontiers – and the behavior of frontiersmen – with legal regimes and enforced borders. Claiming the mantle of sovereignty and human advancement, not to mention the basic need to control the disposition of resources, was fundamentally challenged by the absented calories of whale's bodies. The United States and Russia needed their borderlands to be peopled, to not to starve and die. Without whales, however, starving and dying was hard to avoid, and doing so required that the state find, or at least permit, the organization of alternative calories along the coasts. In the twentieth century, these alternatives would expand into elaborate economic development programs.

Formal governance was, therefore, a partial substitute for a radically altered ecology, one that by 1900 offered residents of the Bering Strait – human and otherwise – a diminished spectrum of energy options in an environment where that spectrum was never especially broad. The energy of bowheads was simply removed, by the ton on ships, and with it the potential productivity that bowheads bring into the ocean as they churn nutrients through the deep waters, and by feeding and dying. Some sea-floor organisms, their world defined by the carcasses of fallen whales, probably ceased to exist altogether.²²² Up through the web of photosynthetic life and the species that consume it, the marine ecosystem of the Bering Strait was less able to use the sun's energy. It became less rich. In the decades of cetacean decline, other species moved to reclaim some of energy

²²² Roman and McCarthy, "The Whale Pump," doi: 10.1371/journal.pone.0013255

once consumed and redistributed by the great whales, booming the populations some organisms and depleting others in the see-sawing tensions of adaptation to a new, more unstable post-revolutionary regime.²²³

The revolutions of nineteenth century whaling were profound, but none of them precisely complete. What finally killed the ancient bowhead that opened this chapter, over two hundred years after his birth, was the human desire for sustenance –for a whale-fat meal so laden with cultural and caloric value it sent Inupiat boats at the turn of the millennium onto choppy northern Alaskan seas.²²⁴ On the surface, nothing about this new hunt for an old whale matched the old hunts for newborn whales: the boats had motors, the harpoons had explosives, the carcass was dragged home to freezers and gas stoves.²²⁵ The village had televisions, some of the hunters worked salaried day jobs. No one would starve, exactly, if the whale lived, just as no one was paid if it died. Yet, in Alaska as across the Strait, knowing the animal through the labor of killing it and the communion of eating it had not ceased to have value. Nor did bowheads as a species cease to be. Their numbers are growing.

²²³ McCarthy et al., “Whales as Marine Ecosystem Engineers,” 377–385

²²⁴ The technique used to date whales, based on chemicals in their eyes, gives an age range for this individual as between 177 and 245 years. For details on whale age data, see John Craighead George, et al. “Age and Growth Estimates of Bowhead Whales (*Balaena mysticetus*) via Aspartic Acid Racemization,” *Canadian Journal of Zoology*, 77 (1999): 571-58, and Amanda Leigh Haag, “Patented harpoon pins down whale age,” *Nature* Vol. 488 (June 19 2007): doi:10.1038/news070618-6

²²⁵ Oldness and newness are not seen as inherently good or bad in Inuit culture, since tradition is not seen as static but as an endless series of adjustments to a changing, challenging environment. See B. Bodenhorn, “It’s traditional to change: A case study of strategic decision-making,” *Cambridge Anthropology*, Vol. 22 No. 1 (2001): 24–51.

CHAPTER TWO: THE SHORE

1870-1960

THE WAKING ICE

At the confluence of the Arctic and Pacific oceans, the waters separating North America and Asia are narrow. Less than sixty miles lie between the headlands of the continents. Twenty thousand years ago, during the last ice age, so much of the earth's oceans were locked in glaciers that the headlands were one land. Each year this history is partly rehearsed in ice. In autumn, the polar cap, the landless solid mantle of the Arctic Ocean, creeps south. By winter, the ice creates a treacherous bridge of burls and slush crushed nearly solid between Alaska and Chukotka.

Ice seems constitutionally resistant to activity, its sluggish molecules both metaphorically and physically opposed to change. Yet, because sea ice is formed when briny water meets cold, tides, and wind, it is more structurally complex than freshwater ice. When the temperature drops to 28.6 degrees Fahrenheit, ice crystals begin to form along the ocean's surface. Wind, and the push of rising warmer waters rising, mixes the crystals into suspension. If the cold continues, the crystals intertwine into a greasy film, then thicken into slush. Sometimes ocean swells ball the slush into pads of crystals. Sometimes the highly elastic young ice rolls over the ocean's surface like oil slick. Sheets of ice slide and stick to each other on the waves, condensing into opaque sheets. All of this is the work of a season. At the edge of the pack, four to six feet of yearling ice can form between October and May. What survives melting over the following summer becomes bluish; frozen ocean that lives for two summers becomes part of the pack ice.²²⁶ In the deep pack, where nothing has melted for a geological epoch, the ice holds a vertical history, the prism surfaces of old water marred by silt, rock, ash, and bubbles of past atmospheres.

When Paul Tiulana was a child learning to hunt on King Island, an anvil of rock jutting into the Bering Sea off the Alaska coast, he was taught the phrase "the ice never sleeps; the current never sleeps" like a mantra.²²⁷ The ice that Inupiat hunters like Tiulana walk is never smooth, and it is never complete. The pack is cut with snaking dark rivers of exposed ocean and studded with bergs driven over and under each other by the wind. There are places, even deep in the pack, where the wind keeps polynyas free of ice through the winter. The landmarks of this seascape require attention. The geography of the ice does not change in geological time: new forms are the work of a moment.

Sea ice never sleeps because, as a solid thing caught between liquid and air, it is buffeted constantly by the energies of wind and current. Its restlessness does important work on a planetary scale. In forming, thawing, and enduring winds, sea ice contributes to the circulation of the world's

²²⁶ For a complete description of the phases of sea ice formation and the physical properties of crystal structures, see Hajo Eicken, "From the Microscopic, to the Macroscopic, to the Regional Scale: Growth, Microstructure and Properties of Sea Ice," in David N. Thomas and Gerhard S. Dieckmann eds., *Sea Ice: An Introduction to its Physics, Chemistry, Biology and Geology* (Oxford: Blackwell Science, 2003), 22-81.

²²⁷ Vivian Senungetuk and Paul Tiulana, *A Place for Winter: Paul Tiulana's Story* (Anchorage, AK: Ciri Foundation, 1987), 15.

oceans, making them hospitable to biological life. The surface of the ice refracts sunlight back into space at the poles and locks some of the solar energy absorbed by the ocean away from the atmosphere, keeping the earth's temperatures moderate.²²⁸ While this makes solar energy scarce in the far north, primary production from sunlight is not impossible. Sea ice is home to colonies of efficient, hardy algae, which fix what solar gain filters through the upper ocean in their cells. The undersides of bergs form miniature marine pastures where krill graze even in winter. The summer melt releases these algae, and the fresh water that pours from diminishing ice troubles the salty ocean, circulating the sediments from surface ice with the ancient, nutrient-heavy waters of the deep sea. The resulting churn makes the Bering Straits one of the most productive marine regions in the world. Massive phytoplankton blooms nourish a cascade of other organisms: miniscule crustaceans, dozens of species of fish, flocks of sea birds, polar bears, whales from beluga to bowhead, and five species of large semi-aquatic mammals.²²⁹

These last are the animals that Paul Tiulana learned to hunt as a young man in the decades between the world wars. The Bering Strait ice is home to three small seals – the spotted, ringed, and ribbon – and to bearded seals, which can weigh as much as eight hundred pounds.²³⁰ But a large bearded seal might be less than a quarter the size of a full-grown male *Odobenus rosmarus divergens*, or Pacific walrus: a ton and a half of wrinkled, whiskered, tusked bulk. Two hundred thousand or more animals historically live across the Bering and Chukchi seas. Dozens to hundreds may share a single ice floe, communicating through twitches of their whiskers and judging their place in the social hierarchy by the size of their tusks. Walrus ride the southern edge of the pack ice each year, north toward Wrangell Island in summer and over fifteen hundred miles back through the Straits in winter.²³¹ Ice, for these mammals, is what brings the teeming energy of the ocean close to places of rest and respiration. Throughout their migration, the animals get most of their calories from the ocean floor, where their nuzzling stirs up nutrients critical to other organisms.²³² Such productive labor is the byproduct of walrus sucking so many mollusks from the shell that their bodies can be a third fat.

For the indigenous hunting villages that rimmed the Straits, sea ice brought the energy reared in the inaccessible open ocean within human reach: transmuted into blubbery mammalian form, wrapped in thick useful hides. From Cape Prince of Wales in Alaska through the islands of

²²⁸ Gerhard S. Dieckmann and Hartmut H. Hellmer, "The Importance of Sea Ice: An Overview," in Thomas and Dieckmann eds., *Sea Ice: An Introduction*, 1-21.

²²⁹ For a discussion ice in the Bering Sea ecosystem and nutrient cycling, see S. Sakshaug, "Primary and Secondary Production in the Arctic Seas," in R. Stein and R. Macdonald eds., *The Organic Carbon Cycle in the Arctic Ocean* (Berlin: Springer, 2004), 57-81 and Kevin R. Arrigo, "Primary Production in Sea Ice," in Thomas and Dieckmann eds., *Sea Ice: An Introduction*, 143-183; Alan M. Springer, C. Peter McRoy, and Mikhail V Flint "The Bering Sea Green Belt: Shelf-Edge Processes and Ecosystem Production" *Fisheries Oceanography* Vol. 4 No. 3-4 (September 1996): 205-223.

²³⁰ For a discussion of these seal species, see John J. Burns, "Harbor Seal and Spotted Seal: *Phoca vitulina* and *P. largha*," and M.O. Hammill, "Ringed Seal: *Pusa hispida*," in William F. Perrin, Bernd Wursig and J.G.M. Thwissen eds., *The Encyclopedia of Marine Mammals*, 2nd edition (London: Academic Press, 2009), 533-542 and 972-974.

²³¹ Ribbon seals have larger annual ranges, since they follow the retreating sea ice north in the summer until it become too thick. See Lloyd Lowry and Peter Boveng, "Ribbon seal *Histiophoca fasciata*," in William F. Perrin, Bernd Wursig, and J. G. M. Thiewissen, eds. *The Encyclopedia of Marine Mammals* (London: Academic Press, 2009), 955-958.

²³² Francis H. Fay, "Ecology and Biology of the Pacific Walrus, *Odobenus Rosmarus Divergens* Illiger," *North American Fauna* LXXIV (1982): 171-172; G.C. Ray, J. McCormick-Ray, P. Berg and H.E. Epstein, "Pacific walrus: Benthic Bioturbator of Beringia," *Journal of Experimental Marine Biology and Ecology* No. 330 (2006): 403-419.

King, St. Lawrence, and the Diomedes, and on to Asian villages like Chaplino and Naukan, Yupik, Inupiat and coastal Chukchi communities relied on walrus. In bountiful years, they exchanged mammalian fat for reindeer and wood, the energy of the sea carried deep into the tundra by blubber-fed dog teams. Throughout the region, walrus were so critical to every facet of human existence that the line between marine and human mammal blurred, spreading the capacity for sentience and morality across species.²³³ Approximations of walrus barks entered human language, in their onomatopoeic epytonym in Chukchi – *rerke* – and the Inupiat and Yupik word *aivik* or *aaviq*. Through stories people became walrus and walrus people, and walrus saved humans with gifts of flesh.²³⁴ In some villages walruses are part of family ancestries.²³⁵

IN ITS SEASONAL north-south respiration, sea ice makes the boundary between land and sea indistinct. At the Bering Straits, its movement temporarily erases the borders between states of nature – terrestrial and marine, solid and liquid – and between the states of man, be they imperial, communist, or capitalist. In the twentieth century, the United States and Russia's governments found in their Bering Sea borderland a space of permeable threat and impermanent potential, a region that could bleed away sovereign revenue and state security, but was also a possible source of local economic prosperity, even national value. And the main source of value was the walrus. For bureaucrats, planners, scientists, and hunters – as for the Yupik, Inupiat, and Chukchi – the walrus made useful fat, hides, and ivory from an icy shoreline otherwise bereft. The following chapter traces how the sometimes competing, sometimes complementary projects of establishing sovereignty, expanding commerce, making citizens, or creating communist revolution used and were constrained by the biological energies of Beringia's coast.

At the center of this history of negotiating value are ideologies, and their place in shaping political intent and action. In the United States, commerce and market rationality were the first, dominant way of valuing walrus. The market was critiqued by other values over the course of a century, but remained a driving source of ideas about the present, the future, and normative relationships with the non-human world. Communism, despite its apparent fixity, also proved open to other valuations of the walrus. Thus while not collapsing the critical and often ethically forceful differences experienced in the American and Russian Bering Straits, this chapter shows how ecological context shaped and compromised both the assumed rationality of freedom based on market valuation and equality based on collective production. Both ideologies were in practice capable of diverse interactions with shoreline ecology. The following is a story of reckoning between the desire for sovereignty, ideological consistency, and the reality of the energy-poor landscape. It is a history of revolution in both senses of the word: at the level of human cultural and political life, it was a century of profound change. For the walrus, it was a century in which bouts of nearly ruinous human intercession eventually revolved back to the herd bellowing and diving from the ice.

²³³ John Miller and Louise Miller, *Walrus* (Chicago: Reaktion Books, 2014), 68-70.

²³⁴ Waldemar Bogoras, *Chukchee Mythology*, The Jesup North Pacific Expedition Vol. 8 Part I Memoirs of the American Museum of Natural History, Franz Boaz ed. (New York: Leiden, 1910), 10.

²³⁵ Roger Silook, in William W. Fitzhugh, Julia Hollowell and Aron L. Crowell, eds. *Gifts from the Ancestors: Ancient Ivories of Bering Strait* (Princeton: Princeton University Press, 2009), 217.

REVOLUTION ON ICE, 1870-1900S

“Begin this day with fresh winds from the S.E. and pleasant weather, all the boats off for walrus,” wrote the log-keeper of the whale ship *Trident*, “4 boats returned at ½ past 10 with 36 walrus, hard work and how getting oil, but it is all that can be done now.”²³⁶ Now was the summer of 1870. The Bering Strait bowheads were depleted and elusive, battered into north into the ice by ships that had already killed over twelve thousand animals.²³⁷ Commercial whalers, desperate for oil and drawn ever deeper into the pack in search of it, had the year before begun seeking alternative fats to fill their holds. A walrus, skinned and boiled down, could fill between two-thirds and three-quarters of a barrel: hard work indeed compared the ample blubber of whales, but walrus fat rendered more easily and yielded a higher price.²³⁸ The tusks were also valuable, used as a cheaper substitute for elephant ivory. Moreover, walrus could be hunted on the southern edge of the ice in July, when most of the bowheads had swum too deep into the pack for ships to follow. With the United States oil hungry in the years bracketing the Civil War, and with the walrus so numerous “they looked like a vast herd of cattle resting after grazing,” their roaring, puffing, odiferous herds went from passing curiosity to a new source of profit.²³⁹ Beginning in 1870, when the New Bedford ship *Cornelius Howland* recorded having “430 walruses and the ship is...heavy,” hunting on the pack became a routine part of arctic whaling voyages.²⁴⁰

The killing initially presented a challenge to the Yankee fleet. Sailors, taking size to indicate slowness and placidity, initially tried to club the animals to death - only to discover that walruses “flopped with surprising agility” into the sea when frightened and would fight “a hard battle” when provoked.²⁴¹ Both man and beast seem to have left these early exchanges the wiser. By the early 1870s, ships’ logs describe making special walrusing equipment on the approach to the arctic.²⁴² Sailors painted their boats white, wore pale camouflage, and approached sleeping herds from downwind.²⁴³ Such stealth, after the first few encounters, was necessary. As the whaler cum naturalist Charles Scammon wrote, “like all other marine mammals which have been continuously pursued, they soon become wary, and when there is cause for them to give warning to their

²³⁶ NBWM, Logbook of the *Trident* (Bark), KWM 192, p. 56.

²³⁷ Douglas A. Woodby and Daniel B. Botkin, “Stock Size Prior to Commercial Whaling,” in John J. Burns, J. Jerome Montague and Cleavland J. Cowles eds. *The Bowhead Whale* (Lawrence, KS: Society for Marine Mammology, 1993), 392.

²³⁸ Harston H. Bodfish, *Chasing the Bowhead: as told by Captain Harston H. Bodfish and recorded for him by Joseph C. Allen* (Cambridge: Harvard University Press, 1936), 21.

²³⁹ Walter Nobel Burns, *A Year with a Whaler* (New York: Outing Publishing, 1913), 193.

²⁴⁰ PRIPL, Nicholson Whaling Log Collection 181, *Cornelius Howland*, p. 295.

²⁴¹ Charles Madsen, *Arctic Trader* (New York: Dodd, Mead & Company, 1957), 205-206 and Charles M. Scammon, *The Marine Mammals of the North-Western Coast of North America* (San Francisco: John H. Carmany and Company, 1874), 179. John Bockstoce argues that whalers’ experience killing sluggish elephant seals in Antarctic and Californian waters lead to this misapprehension. See *Whales, Ice, and Men: The History of Whaling in the Western Arctic* (Seattle: University of Washington Press, 1986), 130-131.

²⁴² PRIPL, Nicholson Whaling Log Collection 181, *Cornelius Howland*, p. 270 and William Fish Williams, “The Destruction of the Whaling Fleet in the Arctic Ocean 1871,” in Harold Williams, ed. *One Whaling Family* (Boston: Houghton Mifflin Co, 1964), 226.

²⁴³ Calvin Leighton Hooper, *Report of the Cruise of the U.S. Revenue Steamer Corwin in the Arctic Ocean, 1881* (Washington D.C.: Government Printing Office, 1884), 46. Bodfish, *Chasing the Bowhead*, 21.

neighboring associates by loud roarings, or if asleep, by pecking at them with their tusks.”²⁴⁴ The lookout, hunters observed, often bore the scars of battles survived.²⁴⁵ Fleeing was not the only reaction. One whaler recalled how the “enraged animals...clustered around [our] boat and charged her right earnestly, using their heads like so many battering rams...looking down we saw two pairs of walrus tusks protruding through the bottom.”²⁴⁶ Female walrus with young were especially protective, and if cornered would “clasp to her breast the terrified little one, embracing it with her fore flippers, while receiving mortal wounds.”²⁴⁷

Walrus responded to human attacks by becoming more wary and more aggressive, but the bulk of the herd could not flee the southern edge of the pack where the ice united seafloor grazing and open-air rest. Yet, it was on the ice that walrus were most vulnerable to the whaler’s final innovation. Within a few years of pursuing walrus for profit, Yankee hunters learned the best killing was done with Sharps or Henry 45-7 rifles aimed between walrus eye and ear. The crack of gunfire seems to have sounded enough like fracturing icebergs that the walrus became “so accustomed to the firing that they [took] no notice of it.”²⁴⁸ Having discovered this, whalers picked off dozens, even hundreds, of the animals in a matter of hours, their rifles so hot from constant firing they were dangled in the sea “on a lanyard to cool.”²⁴⁹

Whalers did not love the “hard work and how” of the walrus hunt: because of its stink, its danger, and the hours spent bent double in butchering. Under a summer sun that never set, the pace of turning walrus corpse into market commodity was “limited only by the physical capacity of the men, and that was tried to its utmost.”²⁵⁰ Blubber and skin had to be sliced down to the meat with long knives and then yanked in squares from the carcass with hooks. Sailors struggled to roll giant bodies with gaffs, and to chop tusks from dense skulls. Once on the ship, the blubber had to be skinned and rendered, destined for markets from San Francisco to New York. The gallbladders were occasionally collected, to be sold for treating silk in San Francisco’s Chinatown.²⁵¹ And the ivory sold even further afield, became carved buttons, handles and other trinkets from England to Japan and China. Whalers also harvested calories from the carcasses to feed their efforts. The heart, liver, and pickled tongues were considered “very palatable,” and walrus meat was sometimes ground into sausage.²⁵² Other organs and the contents of walrus stomachs were consumed by the indigenous hunters that ships increasingly hired to help with butchering. But most of the animals’ bulk was left in bloody mounds for scavengers.

²⁴⁴ Scammon, *Marine Mammals*, 178-179. See also

²⁴⁵ Madsen, *Arctic Trader*, 198.

²⁴⁶ David Wilkinson, *Whaling in Many Seas, and Cast Adrift in Siberia: with a Description of the Manners, Customs and Heathen Ceremonies of Various (Tchuketches) Tribes of North-Eastern Siberia* (London: Henry J. Drane, 1906), 94.

²⁴⁷ Scammon, *Marine Mammals*, 178. Accounts of this behavior are common, starting with Captain Cook. See James Cook, *A Voyage to the Pacific Ocean. Undertaken, by the command of His Majesty, for making discoveries in the Northern Hemisphere...* Volume II (London: H. Hughes, 1785), 457; Williams, “The Destruction,” 227, Hooper, *Report*, 46.

²⁴⁸ Hooper, *Report*, 46. This fact is noted in Williams, “The Destruction,” 226-227 as well.

²⁴⁹ Bodfish, *Chasing the Bowhead*, 21. In the same passage, Bodfish recalls his captain shooting 250 walrus in a single day. Williams notes that a good sharpshooter could kill 100 animals without changing position; “The Destruction,” 226.

²⁵⁰ Williams, “The Destruction,” 226.

²⁵¹ Howard A. Clark, “The Pacific Walrus Fishery,” in George Brown Goode ed. *The Fisheries and Fishery Industries of the United States Vol. 2 Sec. 5* (Washington D.C.: Government Printing Office, 1887), 313-318, 316.

²⁵² Clark, “The Pacific Walrus Fishery,” 316.

The logic that substituted many extant walrus for a few now absent whales required the opposite of restraint. A single bowhead might produce 150 barrels of oil, but in their absence two hundred and fifty walrus accomplished the same. With no baleen to sell, a pound of tusk could become \$1.50 in a good year or fifteen cents when the markets were glutted.²⁵³ In less than two decades, between 1869 and 1886, the Yankee whaling fleet shot, speared, harpooned, and left records of killing some 135,000 walrus along the Bering Straits. The conditions of arctic hunting and walrus behavior probably doubled the number of animals killed.²⁵⁴ Temperamental weather meant that seas often “got so ruff [sic]” as one log-keeper noted, that even small boats could “not get on the ice to skin” the walrus they had killed, and so “had to leave them.”²⁵⁵ The hot blood of slaughter sometimes ate away at the pack until “the ice broke,” slopping walrus carcasses into the ocean.²⁵⁶ Animals killed or spilled into the water sank. And in June and July, when whaling ships were otherwise idle in the seas north of Chukotka, the walrus at hand were nursery herds. Cows suckling their young were easy targets, but took their present and future progeny with them in death. As one observer noted in the 1880s, “under the present method of shooting, the whole herd of grown animals is slaughtered, and the little ones remain on the ice hovering around the carcasses of their mothers until death from starvation silences their moanings.”²⁵⁷

STARVATION WAS NOT limited to mewling cubs. By 1890, the commercial whaling fleet had harvested over 14,000 bowheads, ten times that many walrus, and killed scores more in the process.²⁵⁸ The absence of industrious mammals meant missing calories: for killer whales, for polar bears, and for humans. It was a lack quickly felt by the indigenous populations along the Strait. In 1873, a whaling captain reported that people off the U.S. coast were traveling “thirty or forty miles from land, on the ice, trying to catch walrus to eat, and were living on the carcasses of those the whalers had killed.”²⁵⁹ A few years later, scarcity became famine. On the islands between North America and Asia there were not enough *ugruk* and other small pinnipeds to make up for the largest marine species. In the winter of 1878-1879, mothers on St. Lawrence Island reportedly let their children freeze rather than endure the misery of hunger.²⁶⁰ A decade later, the King Islanders caught only two walrus; reduced to eating their dogs, over two-thirds of the residents died.²⁶¹ Starvation, compounded by disease, was not limited to the islands. In the 1880s, two German naturalists noted among abandoned huts and graveyards that the “decrease in population...was visible everywhere” in

²⁵³ Bockstoce, *Whales, Ice, and Men*, 135.

²⁵⁴ John R. Bockstoce and Daniel B. Botkin, “The Harvest of Pacific Walrus by the Pelagic Whaling Industry, 1848-1914,” *Arctic and Alpine Research* Vol. 14, No. 3 (August, 1982): 183-188; and Francis Fay, Brendan P. Kelly and John L. Sease, “Managing the Exploitation of Pacific Walrus: A Tragedy of Delayed Response and Poor Communication,” *Marine Mammal Science* Vol. 5 No. 1 (January 1989): 1-16.

²⁵⁵ PRIPL, Nicholson Whaling Log Collection 599, *Sea Breeze*, p. 77.

²⁵⁶ PRIPL, Nicholson Whaling Log Collection 181, *Cornelius Howland*, p. 297.

²⁵⁷ Clark, “The Pacific Walrus Fishery,” 315.

²⁵⁸ Bockstoce, “*Whales, Ice, and Men*,” 347.

²⁵⁹ *The Friend*, Honolulu, HI, March 1872.

²⁶⁰ Letter to the Editor, Ebenezer Nye, *Standard*, New Bedford MA, August 2, 1879.

²⁶¹ Harry DeWindt, *Through the Gold Fields of Alaska to Bering Strait* (London: Chatto and Windus, 1899), 191.

St. Lawrence Bay.²⁶² North of the Bering Straits in Alaska, “Walrus hide and pieces of old boat-covers” became regular foodstuff.²⁶³ By 1890, the indigenous population of the Bering Strait coastline had fallen by over half.²⁶⁴ Villages that had once survived on walrus and whale collapsed in their absence. Communities in both Asia and North America moved and merged, as refugees from especially afflicted regions fled, sometimes hundreds of miles, to places with more substance and stability, but also into landscapes of deep strangeness and hostility.²⁶⁵

The whalers put the etiology of these human disasters in their own, all-too human hands. While the future of whales – submerged, elusive, and canny – was sometimes debated by commercial hunters, the absence roaring, odiferous walrus herds was obvious, and obviously due to “the indiscriminate slaughter which has been the custom” of whalers.²⁶⁶ Walrus were compared to the dodo bird.²⁶⁷ And while walrus *qua* walrus were of value to the Yankee fleet only as oil and ivory, extinction had moral implications. “Should I ever come to the Arctic Ocean to cruise again,” wrote Captain Frederick A. Barker, who survived shipwreck in Chukotka because of indigenous hospitality, “I will never catch another walrus, for these poor people along the coast have nothing else to live upon.”²⁶⁸ Calls for restrained hunting filled the whaler’s New Bedford and Hawaiian newspapers. “I don’t want or need money bad enough to go for the walrus,” Ebenezer Nye wrote, adding that he would “like to see a stop put to this business of killing the walrus and so would most of those engaged in it.”²⁶⁹ Yet the Yankee fleet did need money. In the last quarter of the nineteenth century, with the price of whale products volatile and the catch decreasing, voyages came to harbor with so little profit that crew might earn a single dollar for years of labor.²⁷⁰ For ships listing toward profitless voyages, walrus filled gaping holds.

Thus, while some captains gave away unmarketable whale and walrus meat to coastal villagers, the slaughter continued. The Inupiat, Chukchi, and Yupik, some of whom were paid labor in the commercial hunts or had scavenged their aftermath, were well aware of who caused their misery. Tales of the easy marine calories to be had “before white men came to drive away the whales and walrus,” were told to Inupiat children.²⁷¹ These were not the only stories. Yupik and Inupiat

²⁶² Aurel Krause and Arthur Krause, *To the Chukchi Peninsula and to the Tlingit Indians 1881/1882: Journals and Letters by Aurel and Arthur Krause* (Fairbanks: University of Alaska Press 1993), 58.

²⁶³ Patrick Henry Ray, *Report of the International Polar Expedition to Point Barrow, Alaska* (Washington, D.C.: Government Printing Office, 1885), 48

²⁶⁴ Krupnik puts the population decline from 1800-1890 in Chukotka at around fifty percent, while the communities studied by Burch went from about 5000 people to around 1000 in the same period. Igor Krupnik and Michael Chlenov, *Yupik Transitions: Change and Survival at Bering Strait, 1900-1960* (Fairbanks: University of Alaska Press, 2013), 36-37; Ernest Burch Jr., *The Inupiaq Eskimo Nations of Northwestern Alaska* (Fairbanks: University of Alaska Press, 1998), 325.

²⁶⁵ It is not possible here to detail the community-level impacts of the successive famines in this period and how the survivors recombined into new political entities. Fortunately, Igor Krupnik’s *Yupik Transitions* provides a granular, ethnographically based account of this period in Chukotka and nearby islands. Ernest Burch Jr. does the same in *The Inupiaq Eskimo Nations* for a large portion of the North American coastline.

²⁶⁶ John Murdoch, “Natural History,” in Patrick Henry Ray, *Report of the International Polar Expedition to Point Barrow, Alaska* (Washington, D.C.: Government Printing Office, 1885), 89-200, 98.

²⁶⁷ Nye, *Standard*, August 2, 1879.

²⁶⁸ *Whalemen’s Shipping List and Merchant’s Transcript*, New Bedford, MA, April 8 1872.

²⁶⁹ Nye, *Standard*, August 2, 1879.

²⁷⁰ “The Poor Whalers: The Sad Plight in Which Many Find Themselves,” *San Francisco Chronicle*, San Francisco CA, November 24, 1883. For an overview of the profits of whaling voyages, see Bockstoce, *Whales, Ice, and Men*, 348-349.

²⁷¹ Ray, *Report of the International Polar Expedition*, 46.

hunters were deeply pragmatic, and their pragmatism included fair dealing in a world humming with sentience. The commercial hunt's speed and waste violated rules – necessary rules, historically proven rules – for killing animals that in the indigenous universe could choose not to die. Among whalers there were no ceremonies of supplication and thanks – none of what the Yupik called *Terre sek*, singing the animals closer to shore with “words about walrus, and the grunt is in the song.”²⁷² No care in the butchering, with bits of neck and head meat slipped back into the water “to turn into food near the walrus,” in one shaman's words.²⁷³ No concern for offending *Sedna* or *Keretkun*, the black-faced, temperamental master of sea animals who ruled the Chukchi coast.²⁷⁴ Unknowing whalers killed too well, and not wisely. And so the sea and the things living in it was both depleted and morally affronted.

THE AGENTS OF the Russian Empire were also affronted, although not as much for the walrus's spirit as for what their killing implied about the power of the far-away tsar to govern. By the 1870s, the government had a centuries-old relationship with arctic and subarctic indigenous societies. From the eleventh century Rus principalities onward, the Empire crept northeastward in search of sable, martin, ermine, fox, and other fur-bearing species.²⁷⁵ These animals were wealth on the paw: foundational to state expansion and a critical source of revenue even after agriculture began contributing to state coffers.²⁷⁶ Trapping paws and turning the attached bodies into marketable pelts, however, required skill, time, and effort. Some of this energy was supplied by *promyshlenniks*, trappers and traders who moved east with the fur frontier. But much of the hunting was done by the Khanty, Nenets, Evenk and other peoples native to the same habitats as the mammals coveted by the courts of Europe. To make use of this wealth from the north, the Russian Empire did not need to expropriate land so much as to expropriate labor, and through labor the bodies of animals.

Over the centuries, the tsars and their agents tried various strategies to deal with their reliance upon indigenous productivity and exploitable species. In the 1500s and 1600s, the Cossacks and *promyshlenniks* that fronted the Empire harvested without restraint, moving east when the west was trapped barren. Sometimes they traded for pelts, but preferred method of compelling indigenous hunters to pay *iasik*, or tribute to the tsar, was to kidnap the relations of local leaders and extract an oath for furs present and future as ransom.²⁷⁷ Peter the Great sought to baptize native subjects into a bureaucratic, civilized state and civilize his bureaucracy into better profits. Catherine the Great tried to insulate tribute payers from the depredations of Russian corruption, alcohol, and

²⁷² APRCA, Dorothea C. Leighton Collection, Folder: Paul Silook p. 72-73.

²⁷³ Waldemar Bogoras, “The Eskimo of Siberia,” in Franz Boaz ed. *The Jesup North Pacific Expedition Vol. 8 Part III Memoirs of the American Museum of Natural History* (New York: Leiden, 1913), 446.

²⁷⁴ S. Ia. Serov, “Guardians and Spirit Masters of Siberia,” *Crossroads of Continents: Cultures of Siberia and Alaska*, ed. William Fitzhugh and Aron Crowell (Washington, D.C.: Smithsonian Institution Press, 1988), 245. For a general overview of northern ceremonial practices involving the walrus, see Miller and Miller, *Walrus*, 61-67.

²⁷⁵ For a complete account of the importance of furs to the early Russian polity, see Janet Martin, *Treasure of the Land of Darkness: the Fur Trade and its Significance for Medieval Russia* (Cambridge: Cambridge University Press, 1986).

²⁷⁶ From 1550-1700, furs were the generally largest export commodity from Russia – the largest export for the Kiev and Novgorod principalities, and still critical under the more agrarian Muscovy rulers. See Raymond H. Fisher, *The Russian Fur Trade, 1550-1700* (Berkeley: University of California Press, 1943), 230-233.

²⁷⁷ For a full description of eastward expansion before Peter the Great, see Yuri Slezkine, *Arctic Mirrors: Russia and the Small Peoples of the North*, (Ithaca: Cornell University Press, 1994), 11-41 and Fisher, *The Russian Fur Trade*.

disease, and regulate the harvest of dwindling fur animals; all while “not forgetting the interests of the treasury.”²⁷⁸

In the nineteenth century, the policy of isolating “alien” subjects from Russians shifted to making them, in the words of one priest, “Russian, not just in faith, but also in nationality.”²⁷⁹ In the late 1800s, ascension to the Russian nation required Orthodox belief, linguistic competency, hygienic habits, and economic comportment that demonstrated a transition from the stagnancy of alienness to civilization and progress.²⁸⁰ And while native labor might be saved by its fundamental alteration, by the early 1900s the Empire had passed new regulations on fur species, attempting through closed seasons and hunting bans to save native animals by preservation.²⁸¹ The reach of these policies, whether aimed at man or beast, was irregular and locally inflected, but they represented an ideal: sovereignty emanated from the Imperial command over corporeal life – human bodies in language, belief, and employment, animal bodies in their financial utility. The Sovereign territory of the Russian Empire was a space in which the tsar and his bureaucrats arbitrated the disposition of enlightenment and commodification.

On the Russian half of the Bering Straits however, neither financial nor civilizational control was forthcoming. Cossacks founded a fort on the Anadyr River in 1652, and spent bloody hundred and twenty years attempting to wrest tribute and control from the Chukchi and Yupik before abandoning the effort in 1771.²⁸² In the nineteenth century, Russian traders on the Kolyma River did establish peaceful trade relations with the Chukchi, meeting at the Ostrovnoe fair to barter tea and tobacco for ivory and furs.²⁸³ To create the appearance that the natives were *iasik*-paying subjects of the tsar, Chukchi goods were officially labeled as tribute, traded for Russian gifts – exchanges that were so “favorable to the Chukchee,” wrote ethnographer Waldemar Jochelson, they were

²⁷⁸ Catherine the Great’s “Instructions to Second Major Shcherbachev of the Semenovskii regiment of the Royal Guards,” quoted in Slezkine, *Arctic Mirrors*, 67.

²⁷⁹ Veniamin, Arkhiepiskop Irkutskii i Nerchinskii, *Zhiznennye voprosy pravoslavnoi missii v Sibiri* (St. Petersburg: Kotomka, 1885), 7. “Aliens” is an imperfect translation of “inorodtsy” – a word that means both foreign culturally and indigenous geographically.

²⁸⁰ This is a highly condensed account of nineteenth century Imperial attitudes and policies toward indigenous peoples. In the late nineteenth century, anti-government populists, clergy, and tsarist officials drew from different intellectual traditions and practical concerns in their arguments for Russification. For a detailed version, see Slezkine, *Arctic Mirrors*, 80-129. For a discussion of Orthodox conversion specifically, see Robert Geraci, *Window on the East: National and Imperial identities in Late Tsarist Russia* (Ithaca: Cornell University Press, 2001).

²⁸¹ RGIA DV F. 702, Op. 1, D. 1401, L. 80. For an overview of Imperial hunting laws, see, N.F. Reimers and F.R. Shtil’mark, *Osobo okhraniamye prirodnye territorii* (Moscow: Mysl’, 1978), 24-26. An overview of conservation in Imperial Russia can be found in Douglas Weiner, *Models of Nature: Ecology, Conservation, and Cultural Revolution in the Soviet Union* (Bloomington: Indiana University Press, 1988), 7-15. An excellent account of the Far Eastern origins of Russian fears regarding extinction is Ryan Tucker Jones’ *Empire of Extinction: Russians and the North Pacific’s strange beasts of the sea, 1741-1867* (Oxford: Oxford University Press, 2014).

²⁸² For a detailed account of the Russian-Chukchi wars, which in fact included alliances between the Russians, Yukagir and Koryak against a coalition of Yupik and Chukchi, see I.S. Vdovin, *Ocherki istorii i etnografii Chukchei* (Moscow: Akademiia nauk SSSR, 1965), 106-135 and Bogoraz, *The Chukchee*, Memoirs of the American Museum of Natural History, Vol. 11 (New York, NY: The American Museum of Natural History, 1904), 682-697.

²⁸³ Much of the fur traded at the Ostrovnoe fair came from Alaska, with the Chukchi acting as middlemen. See John Bockstoce, *Furs and Frontiers in the Far North: The Contest Among Native and Foreign Nations for the Bering Strait Fur Trade* (New Haven: Yale University Press, 2009), 92-102.

“humiliating to the Russian Empire.”²⁸⁴ Religious conversion was similarly problematic. Few Russian Orthodox missionaries were tenacious enough to work their way northeast from the Kolyma River. Those who did left little impression. A report from Anadyr in 1898 noted the “utter ignorance [among the] baptized nomadic aliens of even the basics of religion.”²⁸⁵

Not paying and not praying made the Chukchi, and by extension the Yupik, officially “aliens not fully conquered,” a situation tolerable to the Empire long as the aliens were not conquered by someone else.²⁸⁶ By the 1870s, however, Russian influence on the Peninsula was troubled by American trade and aggressive walrus hunting, which threatened the Empire’s tenuous corporeal and civilizational hold. As one local official reported, the Americans “skillfully exploit the region’s rich industries and corrupt the Chukchi.”²⁸⁷ Part of the corruption was national. In the 1880s, Chukotka’s lone regional administrator Sokol’nikov reported that “Many of the Chukchi speak English, and along the coast there are many drawings, Bibles, and other books of American origin.”²⁸⁸ By the early twentieth century, American missionaries were reportedly teaching along the coast.²⁸⁹ The affront was clear. “In this country, considered part of the realm of the Russian crown, the ten thousand Chukchi inhabitants have almost not heard the name ‘Russia,’” wrote one civil servant, “The American flag flies on the coast of Chukotka.”²⁹⁰ And under their flag, the Americans were making away with the tsar’s organic riches. “On the Bering Sea coast,” the Imperial consul in San Francisco wrote in 1890, “the destruction of whales is in parallel with the destruction of seals, walrus, and some other animals, and if action is not taken against this extermination, the seals and walruses will be drained away as the whales have been.”²⁹¹ Alexander Alexeevich Resin, who surveyed the Chukchi coast in 1884 for the Governor-General of the Far East, estimated that “on average our shores are visited by thirty-one [American] ships each year, each vessel earning about 39,000 rubles,” from whale and walrus.²⁹² Neither the bodies of men employed on the ships nor the corpses of marine creatures they processed and sold were under Russian control. The result, one observer wrote, was the “complete depletion of the region and the people inhabiting it.”²⁹³

SOME IN THE United States was also concerned about the Yankee fleet, although the worries of Washington legislators and press commentaries had less to do with offences against the sovereign bodies of walrus and Yupik than with wrongs done against the cause of progress. Alaska had been purchased partly for geopolitical reasons – following the Crimean War, Russia felt its overseas

²⁸⁴ Waldemar Jochelson, *The Koryak*. Memoirs of the American Museum of Natural History, Vol. 10 Parts 1 & 2 (New York: The American Museum of Natural History, 1913), 802. For more on Chukchi trade, see Vdovin, *Ocherki*, 252.

²⁸⁵ RGIA DV F. 702, Op. 1, D. 313, L. 3.

²⁸⁶ “Aliens” is an imperfect translation of “inorodtsy” – a word that means both foreign, in a culturally and indigenous geographically.

²⁸⁷ RGIA DV F. 702, Op. 1, D. 275, L. 1.

²⁸⁸ RGIA DV F. 702, Op. 1, D. 313, L. 3.

²⁸⁹ RGIA DV F. 702, Op. 1, D. 1401, L. 68.

²⁹⁰ A.P. Sil’nitskii, “Poezdka v Kamchatku i na r. Anadyr,” *Zapiski Priamurskogo otdela RGO*, t. II v. III (Khabarovsk, 1897): 19.

²⁹¹ A.E. Olorovskii, “Torgovo-promyshlennye snosheniia primorskoï okrainy Vostochnoi Sibiri s inostrantsami (Po soobshch. rus. gen. konsula v San-Frantsisko A.E. Olorovskogo)” *Pravitel’stvennyi Vestnik*, St. Petersburg, No. 255 (1890): 11.

²⁹² A.A. Resin, *Ocherki inorodtsev russkago poberezh’ia Tikhago Okeana* (St. Petersburg: A.C. Suvorovna, 1888), 68

²⁹³ RGIA DV F. 702, Op. 1, D. 275, L. 1.

colony was threatened by British intrusion from Canada, and both tsar and president preferred to see the territory sold to the United States rather than be captured by a mutual imperial rival. The sale also had economic logic, saving the Russian Empire administrative expense while the region's fish, fur, and rumored gold would add "greatly to the productive wealth" of the United States.²⁹⁴ But for boosters of the purchase, including the treaty's advocate Secretary of State William H. Seward, owning the Alaskan frontier was not least a chance to create "the civilization of the United States in the Northwest."²⁹⁵

In the post-Bellum U.S., civilizing the frontier was, in the abstract, a matter of property and production. The Republican Party that made Alaska part of American believed that capitalism could create a utopia of individual proprietors – of small farmers and educated merchants whose combined efforts would fulfill the destiny of an ever-growing, ever-prosperous nation. It was an ideal inherited from Thomas Jefferson, then mapped westward to the Pacific in the 1862 Homestead Act, which meted out land expropriated from indigenous peoples by violence and treaty to white settlers in 160 acre plots.²⁹⁶ In reality, westward expansion in the latter half of the 19th century was a contentious mess of speculators, railroad deals, Indian wars, mining booms and land gone bust for want of rain.²⁹⁷ But from politicians to pioneers, the ideology of homesteading was also real: promising that a nation of individual land owners free to vote their conscience and free to make a profit from their labors would muster liberty and prosperity from sea to shining sea.

Alaska, however, was not subject to the Homestead Act until 1898. Indeed, it had very few acts at all. The territory was under military jurisdiction for the first seventeen years of U.S. ownership, where a few forts charged with upholding American navigation and commerce laws, and preventing the sale of liquor.²⁹⁸ Even after the Organic Act extended civil government to the Territory in 1884, law enforcement was limited. So were citizens. Distance and a severe reputation did not encourage a rush of displaced European peasants and second-generation American land-seekers. Until the Klondike and Nome gold strikes in the 1890s, the territory had only a few thousand white residents. What profits Alaska did produce, mostly fur seals harvested on the Pribilof Islands, were the product of native labor. Alaska's indigenous groups were less a threat to the American way of sovereignty than its possible agents. While on the plains, the "Indian is a competitor of the white man," in the north he was an "assistant," bringing the U.S. a similar

²⁹⁴ "Treaty with Russia (To accompany bill H.R. No. 1096)" R. Doc. No. 37, 40th Cong. 2nd Sess. (1868), 34. Although Horace Greeley mocked Alaska relentlessly as "Iceburgia" and the "New National Refrigerator" in the *New York Tribune*, opinion about the purchase was generally positive. See Richard E. Welch Jr., "American Public Opinion and the Purchase of Russian America," *American Slavic and East European Review* Vol. 17 (1958): 481-494.

²⁹⁵ Frederick William Seward, *The Reminiscences of a Wartime Statesman and Diplomat 1830-1915* (New York: G.P. Putnam's Sons, 1916), 359.

²⁹⁶ For a good overview of the Homestead Act and its contradictions in the American West, see Richard White, *It's Your Misfortune and None of My Own: A New History of the American West* (Norman, OK: University of Oklahoma Press, 1993), 140-150. Heather Cox Richardson argues compellingly that the politics of the American frontier grew out of reconstruction-era debates over the role of the government and the aspirations of the middle class; *West from Appomattox: The Reconstruction of America after the Civil War* (New Haven: Yale University Press, 2007).

²⁹⁷ Patricia Nelson Limerick's *The Legacy of Conquest: The Unbroken Past of the American West* (New York: W.W. Norton, 1987) is a definitive look at the myths and contradictions of the frontier.

²⁹⁸ While early boosters called for civil administration and a clear land policy, early Alaska's legal affairs were mostly obscured by the impeachment of President Johnson. See Klaus-M Naske and Herman E. Slotnick, *Alaska: A History of the 49th State* 2nd Edition (Norman, OK: University of Oklahoma Press, 1987), 65-67.

conclusion as the Russian Empire: with proper “education and Christianization” from missionaries, natives could attain “admission to the rights of citizenship.”²⁹⁹ As one report to Congress noted, “If uncorrupted by ardent spirits, not outraged by ill usage, nor confounded by those sources of Indian wars which we call treaties...the natives of Alaska will become civilized, prosperous, and useful in agriculture, commerce, and the fisheries.”³⁰⁰

As the nineteenth century wore on, however, Alaskan natives were not becoming prosperous Americans, much as Chukotkan natives were not becoming Orthodox Russians. At fault were coastlines where “walrus are now nearly never seen,” leaving a starving and – most troubling for the U.S. – potentially dependent population.³⁰¹ News of want and wanton destruction along the Straits followed dismembered walrus south. In the United States, reports of starvation moved from whaler’s newspapers to the national press. The *New York Times* reprinted Ebenezer Nye’s description of famine, and reported a few years later that “All the Esquimaux bear the imprint of intense suffering,” because “the Americans have wantonly destroyed the walrus.”³⁰² The *Alta California* ran an account of Bering Strait famine under the headline “Wholesale Murder.”³⁰³ In San Francisco, a long report in *Weekly Bulletin* called for the Bering coast to receive “the attention of the Federal Government, as well as that of the Russian authorities.”³⁰⁴ In Russia, where the far eastern famine received less sensational press, reports that “it is unanimously affirmed by the Chukchi that walrus are becoming rarer and rarer,” filtered upward through the bureaucratic layers of the Empire.³⁰⁵ At fault were the “American schooners hunting along the shores,” destroying walrus and leaving the “Chukchi to suffer a dire need for food.”³⁰⁶ As Alexander Resin observed, without protection from the Imperial government the people along the coast “can expect a future of starving to death.”³⁰⁷ If deprived of walrus, there would be no natives, and without natives neither Bering shoreline could hope to become productive. Both countries would be left governing empty ice. On empty ice there could be no civilization, no progress, no capitalist future or tsarist unity. In this small corner of their vast countries, the United States and the Russian Empire found themselves responsible for filling the lacuna the world market had left in the ocean. The question, for both nations, was how to make human states replace absent nature.

WHEN THE GOVERNMENTS of the Bering Straits went north, less than a decade after the walrus hunt began and thirty years after the advent of commercial whaling, the waters they patrolled were in upheaval. The biotic world exists in continual degrees of unbalance. With or without human

²⁹⁹ W. Harris to Secretary of the Interior, January 30 1904, NARA CA RG 48, M-430, Roll 10: Interior Department Territorial Papers, Letters Received Relating to the District of Alaska January 14-December 23, 1904; “A Bill to establish schools among the natives of Alaska,” from 1872, quoted in *S. Ex. Doc. No. 30, 47th Cong. 1st Sess.* (1881), 17.

³⁰⁰ “Treaty with Russia (To accompany bill H.R. No. 1096)” *R. Doc. No. 37, 40th Cong. 2nd Sess.* (1868), 12-13.

³⁰¹ Resin, *Ocherki*, 66.

³⁰² “Starvation in the Arctic Seas: The Destruction of the Walrus Involving the Destruction of the Native Population,” *The New York Times*, October 6, 1879; “Cruising in a Whaler: Modern Walrus Hunting or Extermination – Fate of the Esquimaux,” *The New York Times*, November 16, 1882.

³⁰³ “Wholesale Murder,” *Daily Alta California*, San Francisco CA, October 30 1881.

³⁰⁴ *Weekly Bulletin*, San Francisco, CA, December 12 1878.

³⁰⁵ RGIA DV F. 702, Op. 1, D. 127, L 17.

³⁰⁶ P. F. Unterberger, *Priamurskii kraï 1906-1910 g.g.* (St. Petersburg: V.F. Kirshbauma, 1912), 281.

³⁰⁷ Resin, *Ocherki*, 70.

touch, life sways to the stochastic pulses of nutrients and energy. But some pulses go deeper than others. The commercial marine mammal hunt beat hardest at the species best suited to withstand the perturbations of temperature or tide.³⁰⁸ Walrus, like whales, were dependable; their presence tempered the shocks cold years or cloudy summers dealt other creatures. And their habits made them, in the general cycling of the icy seascape, more productive than consumptive.³⁰⁹ With so many of the Bering Strait's whales and walrus gone, the remaining organisms beneath the late nineteenth century ice were recollecting themselves: facing, as life always does, dearth with adaptation. Even the battered walrus themselves, those able to move deeper into the pack ice, were probably growing in number in the few decades before the twentieth century began.³¹⁰ Yet, the organic diversity of the ocean had likely shrunk. Sunlight –already scarce –quickened fewer cells.³¹¹ On the coastlines, human lives were also contracting. As commercial hunting depressed walrus and whales, scarcity radiated up the coastlines and drove communities anywhere there was food to harvest or to trade. Extracting profit from walrus bodies left the living domain of the sea-ice to contract around their absent, energetic tonnage.

The scale at which life had ebbed on the ice was not visible to the U.S. Revenue Service, when it began annual Bering Sea patrols in 1879, or to the Russian naval vessels that joined two years later. Even had they known, the early attempts at governance in the Bering Straits had no biological mandate. The hunt violated no laws, national or international. Even had killing walrus been illegal, government patrols arrived in the north after the grandiose days of commercial slaughter had already killed over half the Pacific herd. The brunt of the damage had been done; by the 1890s, walrus were killed a few here, or half-dozen there, picked off by ships able to inch into the pack ice. Most of all, nations were a few decades away from protecting species other than their own citizens. In the United States at least, the diminishment or even extermination of some animals was a signifier of progress. Alfred Brooks, who worked for the U.S. Geological Survey in Alaska, wrote that “The disappearance of the fur-bearing and larger game animals from certain regions” was inevitable, and should not be deplored since “it is but an evidence of the progress of civilization.”³¹²

Whether evidence of civilization or no, the diminished commercial hunt was due in part to the diminished walrus herd. It was also the result shifts in the global market. Where there was initially value in the Arctic's energy, the demand for marine oil and the nineteenth century waned together. Enterprising whalers-cum-traders found new profits in the exchange of distant wants for

³⁰⁸ Larger organisms are generally more resistant to annual ecosystem variability and are more able to adjust their feeding patterns and intake than small, fast-reproducing species - although sustained climate change does cause alterations in range and population. See Victor Smetacek and Stephen Nicol, “Polar ocean ecosystems in a changing world,” *Nature* Vol. 437 (September 15, 2005): 362-368.

³⁰⁹ This may seem counterintuitive, but the quantity of ocean-floor nutrients stirred up by feeding walrus substantially increases the productivity of the oceans. Clams are actually found in greater abundance in habitual walrus feeding areas. See M.A Simpkins, L.M. Hiruki-Raring, G. Sheffield, J.M. Grebmeier, and J.L. Bengtson, “Habitat selection by ice-associated pinnipeds near St. Lawrence Island, Alaska in March 2001,” *Polar Biology*, Vol. 26 (2003):577–586.

³¹⁰ Francis Fay et al. “Managing the Exploitation of Pacific Walruses,” 3.

³¹¹ Walrus diving and rooting in the ocean floor is especially important for releasing nitrogen into the water column, where it is in turn used by algae to fix solar energy. John S. Oliver, Peter N. Slattery, Edmund F. O'Connor, and Lloyd F. Lowry, “Walrus, *Odobenus rosmarus* Feeding in the Bering Sea: A Benthic Perspective,” *Fishery Bulletin* Vol. 81 (1983): 501-512.

³¹² Alfred Hulse Brooks, *Blazing Alaska's Trails*, (Caldwell, ID: Caxton Printer, 1961), 74.

local needs. American, British, Russian, Chinese, and Japanese markets demanded baleen, ivory, and fur. Sailors wanted sealskin clothing and fresh meat, preferably caribou or reindeer. Where the industrial revolution had been fed by the Arctic, arctic peoples now leaned on industrial products. The Yupik, Chukchi, and Inupiat were drawn closer to ships that could replace some of the region's lost marine mammal energy with wheat and molasses. By the turn of the century, at least twenty-five hundred sacks of flour were sold annually on the Chukchi coast alone.³¹³ In the new regime of scarcity, the natives "more and more depend on the whalers," the Krauses wrote, their labor on ships providing winter food.³¹⁴ And it was not just the geography of calories that had become global. Alcohol, addictive and amnesic in an upended world, was in demand from St. Michaels to Serdze Kamin. Traders found indigenous buyers for matches, calico, beads, tobacco, tea, tent canvas, and other manufactured goods. As critical as calories or canvas, however, were technological boons: guns, wooden whaleboats, bomb-harpoons, metal traps, needles, knives, axes and other tools that could fill bellies and feed more commodities to American ships. By the 1890s, walrus were hunted as much by native peoples trading with whaling ships as by the whalers themselves, and it was this barter between hunters local and imported that fueled the walrus hunt past the easy years of killing in the 1870s.³¹⁵

As manufactured goods and foods from the south transitioned from luxury to necessity, the geography and seasons of trade shifted. People and their products consolidated near bays with safe harbor, bundling human energies near the technology and calories brought by the Yankee fleet. Trade journeys between communities increased, deepening links the interior to the coasts and the coasts to each other across the Straits.³¹⁶ In Alaska, the annual Inupiat trade fair at Sheshalik shifted to Kotzebue's deeper harbor. At Port Clarence, journalist Herbert Aldrich witnessed natives from "Cape Prince of Wales, King's Island, Norton Sound, and other distant places," trading furs to whale ships, while local people sold fish to sailors.³¹⁷ After the gold rush, the trade moved to Nome, where miners bought curios and clothing from as far afield as the Asian coast. In Chukotka, traffic at the Ostrovnoe fair began to decrease as early as the 1870s, "due to the fact that the Chukchi meet with American schooners."³¹⁸ A few decades later, Bogoras described how at Cape Dezhnev and

³¹³ Waldemar Bogoras, "Chukchee Mythology" in Franz Boaz ed. *The Jesup North Pacific Expedition Vol. 8 Part I Memoirs of the American Museum of Natural History* (New York: Leiden, 1910), 62. A bag of flour weighed forty-four pounds.

³¹⁴ Krause and Krause, *To the Chukchi Peninsula*, 55.

³¹⁵ Ships' logs indicate that after 1887, whaling vessels never harvested more than 100 animals per year. However, these logs do not fully account for trading activity, and there are highly insufficient records from the ships out of Nome, Seattle, and San Francisco involved exclusively in trade. Ivory appears consistently as a major item of trade until the Russian Revolution, indicating that native market-focused hunting was substantial. See Bockstoce and Botkin, "The Harvest of Pacific Walruses," 185.

³¹⁶ Krupnik and

, *Yupik Transitions*, 142-145. John Bockstoce argues that cross-strait trade was mostly supplanted by U.S. ships by the early 20th century; see Bockstoce, *Furs and Frontiers*, 324-360. However, Krupnik and Chlenov report oral history evidence from both sides of the Straits indicating that at least some skin-boat trade continued. Similar reports appear in the U.S. national archives; see for example W. Harris to Bureau of Education, April 25, 1904, NARA CA RG 48, M-430, Roll 10: Interior Department Territorial Papers, Letters Received Relating to the District of Alaska January 14-December 23, 1904. Russian sources also describe trade from Asia to the U.S., see RGIA DV F. 702, Op. 2, D. 206, L. 6.

³¹⁷ Herbert Aldrich, *Arctic Alaska and Siberia, or Eight Months with the Arctic Whalers* (Chicago: Rand McNally, 1889), 74-75. See also 52nd Cong., 1st sess., 1883, H. Misc Doc 340, pt. 7, 137.

³¹⁸ RIGA DV F. 702, Op. 1, D. 127, L. 10. Chukchi and Yupik generally preferred American goods, which were usually cheaper and of better quality than those sourced from Russia. The exception was bricks of tea.

Indian Point (Chaplino), “the dog-teams and reindeer-caravans begin to appear one after another,” in March, to wait for ships.³¹⁹ There is no full accounting for the Bering Strait trade, but flour flowed in by the ton, sugar by the kilo – and walrus out, tusk by tusk.³²⁰

To participate in these rendezvous, indigenous hunters had new and considerable incentives to kill more walrus than needed for subsistence or local trade, and to add polar bears and arctic fox to their hunting.³²¹ Doing so did not preclude continuing the ceremonies that had long governed the hunt. But in the killing there were now alternative sources of meaning. One way of valuing a walrus was as a potential ancestor. Another was as a market abstraction. And the abstracting was a regular part of trade-inflected life. The value of walrus and every other thing was measured in units of red fox fur: a pound of gunpowder was worth a full fox, a gallon of molasses a skin and a half, a day of labor was worth half a skin, a silver fox or set of tusks or a rack of baleen worth multiple reds.

Thus the market had taken its thousands of pounds of flesh, but the market also gave. For the governments of the Straits, the return on invested native labor rendered the national and moral implications of trade ambiguous. Agents of the U.S. Interior Department recognized that, on the one hand, “owing to the rapid killing off of the whales and walrus...and the destruction of the fur-bearing animals” the natives were “on the verge of starvation.”³²² On the other hand, if “the native” became “useful to the white man by supplying the markets...he has not only assisted the white man in solving the problem of turning to use of civilization the vast Territory of Alaska, but he has also solved his own problem,” by transforming into “a self-respecting and industrious citizen.”³²³ One way of supplying the market, as the next chapter will discuss, was reindeer farming. Another, as one booster wrote, was to make from walrus “a great profit with the help of Eskimo hunters.”³²⁴

In Russia, officials watching from the re-opened Anadyr fort were also worried about their starving aliens. But assisting the Chukchi and Yupik, and upholding the prestige of Russia, did not foreclose upon commerce. Rather it required imperial “trading posts and a school... a mission and building a church, and organizing at least some medical care.”³²⁵ Making substance hunters part of a market that encouraged reading and speaking English or Russian, and enabled the use of soap, cooking food, wearing dresses or trousers, and other markers of savagery forgotten, also sat well with missionaries. Instead of being told by the Chukchi that “when we are hungry... it is the

³¹⁹ Bogoras, *Chukchee*, 64.

³²⁰ Surviving records do not allow for a full account of the goods that flowed in and out of Bering Straits, but it was clearly substantial. The small community of Avan, for example, imported 4.5 tons of flour in 1895 alone. See Igor Krupnik, *Arctic Adaptations: Native Whalers and Reindeer Herders of Northern Eurasia*, trans. Marcia Levenson (Hanover: University Press of New England, 1993), 57.

³²¹ Reports of native peoples killing walrus for the market begin in the 1880s (see Resin, *Ocherki*, 69) and extend into the twentieth century, usually based on finding carcasses with just the head remaining. See “Report of the Revenue Cutter Bear,” Captain J.G. Ballinger, 1911, NARA MD RG 48 Central Classified Files 1907-1936 File 6-5. The extent of the hunt cannot be quantified from surviving records, which makes assessing whether or not walrus were killed in excess of what was used for subsistence impossible to estimate.

³²² W.T. Harris to Secretary of the Interior, March 13, 1893, NARA CA RG 48, M-430, Roll 3: Interior Department Territorial Papers, Letters Received Relating to the District of Alaska December 30 1892-December 30 1896.

³²³ Sheldon Jackson to W.T. Harris, January 11 1904, NARA CA RG 48, M-430, Roll 10: Interior Department Territorial Papers, Letters Received Relating to the District of Alaska January 14-December 23, 1904.

³²⁴ Conrad Siem to Secretary of the Interior, May 1903, NARA CA RG 48, M-430, Roll 9: Interior Department Territorial Papers, Letters Received Relating to the District of Alaska January 7 1902-December 15 1903.

³²⁵ RGIA DV F. 702, Op.1, Del. 275, L. 24.

Americans who give us flour and salt pork for whalebone and ivory,” profit and loyalty could be Russian – at least once “Our industry knows the tastes and needs of this frontier and can replace American goods with those of Russian manufacture.”³²⁶ The Bering Straits had been emptied by global want, and it was global – or even better, national – industrial excess that could fill the void.

Thus, from the 1880s until after the turn of the century, neither the United States nor the Russian Empire took explicit issue with the form of the market, as it scraped away at the biological wealth of the ocean. The assumption that the sea could produce a nationally enriching surplus was unchallenged. Although aware and concerned by the absence of walrus, governmental focus was on the market’s content: walrus were sold for the wrong things. From Asia to North America, the most desired goods on the part of the Yupik, Inupiat and Chukchi were guns and liquor. Ships needing revenue had overcome their initial reticence to sell both items, in no small part because twelve dollars’ worth of liquor could in the course of a few stops on the coast appreciate into twelve hundred dollars’ worth of ivory, whalebone, and fur.³²⁷ Some captains, at least in their memoirs, seem to have abstained from selling alcohol for moral reasons – but firearms turned a tidy profit, helped assure future returns, and, as one trader put it, were a signal of “the growing desire to do things white-man fashion” among the natives.³²⁸

Guns and liquor, however, were not the white-man fashion Russia or the United States wanted their native peoples to adopt. Both goods challenged the civilizing ideals of modern sovereignty: alcohol “corrupted” natives before they could progress, and rifles might allow them to resist progress altogether.³²⁹ On both coasts, officials and missionaries worried about the violence instigated when rum and guns mixed, and not without cause. Alcohol was linked to murders at Port Clarence, the Diomedes, Point Hope, and beyond.³³⁰ Thomas Thornton, missionary at Cape Prince of Wales, was murdered only hours after two barrels of whiskey arrived from Chukotka.³³¹ In the United States, where temperance was long associated with moral uprightness and productivity, some went so far as to blame famine on indigenous intoxication. Consuming liquor, one whaling captain testified to Congress, caused the “north coast Indians” to “neglect to provide food for winter.”³³² Thus, the scarcity of walrus caused by debased capitalism might be mitigated with temperate capitalism. Commerce was potentially less the cause of an immiserated Bering Straits than its solution.

³²⁶ RGIA DV F. 702, Op. 2, Del. 206, L. 344; RGIA DV F. 702, Op. 1, D. 1401, L. 1.

³²⁷ *Nome Nugget*, Nome AK, July 5, 1905.

³²⁸ Bodfish, *Chasing the Bowhead*, 191.

³²⁹ In the United States, laws against arming native people were a consequence of wars in the West. Similarly, Russia worried about giving the Chukchi firepower given their history of open rebellion.

³³⁰ Miner Bruce to Sheldon Jackson, September 25th 1892, NARA CA RG 26 M-641 Roll 2: Letters Received by the Revenue Cutter Service January 8 1891 – December 12 1892; RIGA DV F. 702, Op. 2, D. 206, L. 4.

³³¹ Thornton’s reputation in Wales was far from stellar: his insistence on carrying a pistol and treating the Inupiat as inferior did not win him favors in the community or with other missionaries. There is also reason to believe that his murder was partly in revenge for the killing of several Inupiat by a whaling crew sixteen years prior.

³³² *46th Cong., 2d Sess.*, 1880, S. Exec Doc 132, 19-20. See also Hooper, *Report of the Cruise*, 10-11 and John Muir, *The Cruise of the Corwin: Journal of the Arctic Expedition of 1881 in Search of De Long and the Jeanette*, ed. William Frederic Bade (Boston: Houghton Mifflin, 1917), 24-25. The Russian attitude toward alcohol was less histrionic, although most saw indigenous consumption as a problem. See RIGA DV F. 702, Op. 1, D. 127, L. 11.

Sealing the immoral trade out of the Straits was a daunting task. Government patrols found themselves barred from their own borders by solid sea. On the Asian side of the straits, the movements of sea ice during the spring thaw favored ships moving from the east westward, so Russian naval vessels shipping from Vladivostok or Petropavlovsk arrived in Chukotka well after American traders sold their stock.³³³ In Alaska, “The whaling fleet always arrives in the Arctic before the revenue cutter does,” wrote Point Hope missionary E.J. Knapp, “and in cruising northward succeeds in keeping the cutter a little outdistanced.”³³⁴ When the Cutter Service did manage to control trade on the North American coast, whalers sold their whiskey in Chukotka and made native middlemen rich bartering the barrels back to Alaska.³³⁵ Knowledge of how to distill liquor from molasses, sugar, or grain spread even more easily, and contributed to eruptions of drunkenness.³³⁶ When government ships did land, they often found their efforts unwelcome. “When I was on the Chukchi Peninsula,” Nikolai Gondatti wrote of his tour through the region in the late 1890s, “the Chukchi asked if Russians were friends or enemies, and when I told them ‘friends,’ they shook their heads and said, ‘why do Russian vessels take from us guns, gunpowder and lead,’ leaving them to go hungry.”³³⁷ At Kotzebue Sound, one Cutter captain reported that the Inupiat “were very bitter against us” for stopping the flow of whiskey.³³⁸

Despite the barriers erected by ocean ice and human desire, by the early twentieth century the trade in alcohol had diminished substantially. Russian and American ships became more adroit in threading through their icy borders, and whaling captains seem to have instituted policies of temperance among themselves. Of the ten whaling ships that traded at Indian Point in 1901 only two carried alcohol.³³⁹ The trade in guns, after decades of relative peace, had normalized into a necessary evil rather than an invitation to insurrection.³⁴⁰ Missionaries had begun “improving the conditions” and “encouraging industrious habits” of the natives.³⁴¹ What did not abate completely was hunger. The Yupik, Inupiat, and Chukchi were not dying on the scale they did in the 1880s, but participation in the northern edge of the industrial market failed to provide even basic security: sporadically but consistently, communities were reduced to living off blueberries, or dogs, or the leather from their shoes. The absence of accessible walrus gnawed at empty stomachs and at sovereigns worried that “the advent of the white man in Alaska has impoverished the native,” who for years “has been allowed to die for the lack of proper care and food.”³⁴²

³³³ RIGA DV F. 702, Op. 2, D. 229, L. 300; Bogoras, *The Chukchee*, 62-63. The ice conditions plagued Russian vessels into the twentieth century.

³³⁴ *Seattle Post-Intelligencer*, Seattle WA, September 24, 1905

³³⁵ For example, the *Nome Nugget*, Nome AK, July 5, 1905 contains an account of an Inupiat man who stabbed a relative while drunk on alcohol purchased from a Chukotka native trading in Nome. E.J. Knapp reported alcohol traded on the Diomed Islands making its way to the Alaska coast; *Seattle Post-Intelligencer*, Seattle WA, September 24, 1905.

³³⁶ A.A. Allan, *Gold, Men and Dogs* (New York: G.P Putnam’s Sons, 1931), 118; *Nome Nugget*, July 8, 1905.

³³⁷ RGIA DV F. 702, Op. 1, D. 1401, L. 1

³³⁸ Hooper, *Report of the Cruise*, 23.

³³⁹ Bockstoce, *Furs and Frontiers*, 358.

³⁴⁰ Many local officials in the Bering Straits found the prohibition on firearms immoral, since native hunters had become used to hunting with them. See Resin, *Ocherki*, 69. Report of the *Corwin*, Captain C.L. Hooper 1880, NARA CA RG 26 M-641 Roll 1, Letters Received by the Revenue Cutter Service, p. 117.

³⁴¹ Extract from Report of the Commanding General, Department of the Columbia, April 28, 1903, NARA CA RG 48 M-430 Roll 9, January 7 1902-December 15, 1903.

³⁴² “Plea for the Eskimo,” *New York Times*, November 5, 1900.

REVOLUTION IN MIND, 1900S-1940S

From 1870 to 1900, commercial hunters nearly destroyed the walrus population of the North Pacific. The herds were killed for their fat, rendered down and sold for lighting and industrial purposes in New England, and for their ivory. During this period, political borders mattered little to the walrus. Living or dying at human hands depended on many things – market prices, the reach of sea ice, summer weather – but not national space. The same was true for Inupiat, Yupik, and coastal Chukchi. Devastating famines rolled through coastal communities in the 1880s and 1890s regardless of political geography. Even by the turn of the century, villages were sporadically but consistently reduced to living off blueberries, or dogs, or the leather from their shoes.

The absent walrus gnawed at empty stomachs, and at the U.S. and Russian governments. Throughout most of the nineteenth century, the United States and the Russian Empire hoped that the reliance of their peripheral peoples on walrus would be replaced by some more civilized, market-oriented activity. The disappearance of “larger game animals from certain regions” was, as one geologist in Alaska wrote, “but an evidence of the progress of civilization.”³⁴³ The contribution walrus made to human life was in profit. The available solution to absent walrus was, logically and logistically, for commerce to fill the lacuna commerce had made.

By the early twentieth century, the efficacy of this solution was increasingly in doubt. Creating formal states of man – borders, laws, administration, education, and the creation of national difference from geological sameness – was a response to the diminished state commerce made of nature. In finding an alternate way of feeding their borderlands, the choices made by the governments overseeing the Asian and North American peninsulas diverged. It began to matter if a walrus’s habitual migrations brought it along the Alaskan shore or into Russian waters. It mattered even more if hunters lived on the left or right hand of the Straits. The difference arose from how the two countries came to understand the role of walrus within their respective nations, and their capacity to act on their beliefs.

In the United States, federal treatment of the walrus in the early twentieth century was an outgrowth of larger Progressive-era debates over the rightful place of the capitalist market in shaping society. In Alaska, the debate came to focus on the normative relationship between humans and large animals. Species like walrus had spent decades valued for what their fragmented and refined carcasses yielded as commodities. But by the late nineteenth century, some Americans began to think otherwise. As Henry Fairfield Osborne of the Boone and Crockett Club wrote, the nation’s “animal fortune,” once “so enormous that it never could be spent,” was becoming a “matter of history.”³⁴⁴ Instead of signaling progress, early conservationists warned that the extermination of large animals cheated America of its unique biological wealth. While “an unthinking man” saw creatures like walrus as “a matter of hide and meat; to the real nature lover, the true sportsman, the scientific student... [they are] a subject of intense admiration.”³⁴⁵ Preserving animals and their

³⁴³ Brooks, *Blazing Alaska’s Trails*, 74.

³⁴⁴ Henry Fairfield Osborn, “Preservation of the Wild Animals of North America,” in George Bird Grinnell ed., *American Big Game in its Haunts: The Book of the Boone and Crockett Club* (New York: Forest and Stream, 1904), 349-373, 356-357.

³⁴⁵ Osborn, “Preservation of the Wild Animals of North America,” 352.

untouched surroundings showed America's "general intelligence and enlightened love of nature," while hunting for the market – not sentiment – was a blot on claims to civilization.³⁴⁶

In Alaska, wildlife and human life were not linked through abstractions like national greatness or even national income. They were tied by the intimate act of producing energy for human consumption. It was a fact recognized by Captain Healy, who patrolled the northwestern coast for the U.S. Cutter Service. Given the "rigorous climate and rough and almost impenetrable country...in which nothing as yet is produced from the ground," Healy argued, the "food supply must either be found in the flesh of the wild animals and birds of the country or brought from without."³⁴⁷ To eat, people native and otherwise needed either sufficient cash to freight in every calorie, or enough local food to abdicate from the market altogether. For native peoples, the cash earned by trade and labor came from the same place as the rest of the food supply – from the bodies of animals. And, as Healy understood, the Yupik and Inupiat lacked both cash and walrus. The result was a "great destitution," one miner near Kotzebue as one miner noted in a 1899 petition to the Commissioner for Education for relief funds.³⁴⁸ Local missionaries agreed. "I wish something could be done," Ellen Lopp wrote from Cape Prince of Wales, as the hunger "hinders our work. Think of teaching the lesson about 'hungry and ye fed me not' to a Sunday School class, the members of which hadn't had half a dozen square meals since the Sunday before."³⁴⁹

Many federal officials, however, were ideologically and fiscally opposed to sending aid north. "The experience of the Government in feeding the Indian tribes of the West," Sheldon Jackson wrote in reply to the petitioning miners, recommended against food relief.³⁵⁰ Jackson's preferred solution was reindeer farming, but even hunting was preferable to charity. Congress agreed. If the Yupik and Inupiat were to survive without the temptations of dependency, they needed calories on the hoof and flipper. And assuring the presence of hooves and flippers could not be left up to the market. As Congressman Lacey of Iowa argued, without laws to protect wildlife, "the slaughter of the game, the subsistence of the Indians in Alaska, [goes] on in an unparalleled manner."³⁵¹ In 1902, Lacey introduced the Alaska Game Law to Congress, in order to prevent "the ruthless extermination of the wild animals," walrus included.³⁵²

The Law was shaped by competing desires. On the one hand it recognized a fiscal and moral need to maintain indigenous self-sufficiency. On the other, the bill was championed by the conservationists in the Boone and Crockett Club, who saw in Alaska the last place where "the

³⁴⁶ Osborne, "Preservation of the Wild Animals of North America," 351.

³⁴⁷ Annual Reports of the Department of the Interior, 1904, 58th Cong., 3d sess. House Doc No. 5, p. 1125

³⁴⁸ W.T. Harris to the Secretary of the Interior, December 11 1899, NARA CA RG 48 M-430 Roll 6, January 5 – December 24 1899.

³⁴⁹ Kathleen Lopp Smith and Verbeck Smith eds., *Ice Window: Letters for a Bering Strait Village 1892-1902* (Fairbanks: University of Alaska Press, 2001), 215.

³⁵⁰ Sheldon Jackson to W. T. Harris, December 6, 1899, NARA CA RG 48 M-430 Roll 6, January 5 – December 24 1899.

³⁵¹ Congressional Record – House April 8 1902, 3841

³⁵² Congressional Record – House April 8 1902, 3844. For a history game law in Alaska, see Morgan Sherwood, *Big Game in Alaska: A History of Wildlife and People* (New Haven: Yale University Press, 1981) and Donald Craig Mitchell, *Sold American: The Story of Alaska Natives and their Land, 1867-1959* (Hanover: University Press of New England, 1997), 150-192. For a discussion of the Boone and Crockett Club's activities in Alaska, see Ken Ross *Pioneering Conservation in Alaska* (Boulder, CO: University Press of Colorado, 2006), 116-134.

primitive conditions approximating those of the whole country when first settled” could be maintained.³⁵³ The Club, a group of conservation-minded elites organized by Theodore Roosevelt in 1887, wanted to prevent in Alaska the depredations visited upon bison and other game in the West. Chief culprit in the destruction was an activity now well integrated into the Bering Strait economy: market hunting, the killing of animals for meat or trophies to sell. For conservationists, the parallels with the Great Plains were clear. John Muir compared killing walrus for their ivory to slaughtering bison for their tongues.³⁵⁴ Moreover, Boone and Crockett members were inheritors of European aristocratic hunting ideals, and saw game as rightfully killed for sport mostly, food secondarily, but employment never. As a result, members of Boone and Crockett took a dim view of indigenous hunters, who they saw as motivated by an irrational desire to “hunt all day” rather than do “ordinary labor,” a predilection that made them “a greater enemy to the life of the game than the average white man.”³⁵⁵ Thus, although the Alaska Game Law emerged from a crisis in indigenous subsistence, the rhetoric of the Club blamed native peoples for not getting their calories through civilized “ordinary labor.” When the Law passed in 1902, it banned the sale of game products in the territory by native non-citizen and white citizen alike. It also imposed limits and seasons. Hunting walrus was restricted to the months of September and October. Sale of ivory, skins, or blubber was illegal. Killing more than two walrus in any given year was prohibited. Traders were fined for buying parts of any creature classified as game. The value of the walrus was alive, primarily, and to keep Yupik and Inupiat alive, secondarily, but never as a source of currency.

Enforcement of the Law was hardly complete, given the vast territory wardens had to patrol. But the intent to cordon animal from man left a mark. Ivory buyers were wary. Skins became contraband. Even killing the two walrus legally allotted to each native person was often impossible, when the realities of the law met the realities of the ice. “During the open season,” the trader P.C.

³⁵³ Madison Grant, “The Condition of Wild Life in Alaska,” *Twelfth Annual Report of the New York Zoological Society* (1908): 126. Boone and Crockett were hardly the only conservation organization active in the United States during the progressive era; the movement had roots going back at least to George Perkin Marsh’s 1864 book *Man and Nature*.

³⁵⁴ Muir, *The Cruise of the Corwin*, 142-143. Muri traveled in Alaska extensively, but his more spiritual conception of wilderness and conservation was less influential at the legislative level than were the sportsmen of the Boone and Crockett Club. There were parallels, however, between the walrus hunt and bison killing on the Great Plains, although without the habitat destruction, settler pressure, and proximity to industrial markets; see Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750-1920* (New York: Cambridge University Press, 2000) and Theodore Binnema, *Common and Contested Ground: A Human and Environmental History of the Northwestern Plains*, (Toronto: University of Toronto Press, 2004), chapters 1-2.

³⁵⁵ Madison Grant to Andrew J. Stone, March 11 1902, quoted in James Trefethen, *Crusade for Wildlife: Highlights of Conservation in Progress* (Harrisburg PA: Stackpole Co, 1961), 139. Hal K. Rothman argues that Roosevelt and the Boone and Crockett Club created a moral and ethical language for hunting in America; see *Saving the Planet: The American Response to the Environment in the Twentieth Century* (Chicago: Ivan R. Dee, 2000), 30. For a discussion of the aristocratic tradition of hunting, see Matt Cartmill, *A View to Death in the Morning: Hunting and Nature through History* (Cambridge: Harvard University Press, 1993), and more specifically on the Boone and Crockett case, Douglas Brinkley, *The Wilderness Warrior: Theodore Roosevelt and the Crusade for America* (New York: HarperCollins, 2009). Conflict between hunter-conservationists and local populations dependent on animals was a fixture of the late nineteenth and early twentieth centuries; see Karl Jacoby, *Crimes Against Nature: Squatters, Poachers, Thieves and the Hidden History of American Conservation* (Berkeley: University of California Press, 2001), and Theodore Catton’s *Inhabited Wilderness: Indians, Eskimos, and National Parks in Alaska* (Albuquerque: University of New Mexico Press, 1997). In these conflicts, indigenous peoples were often seen as the least able to control their hunting, a racially loaded stance that in some cases listed into eugenics. See Jonathan Spiro, *Defending the Master Race: Conservation, Eugenics, and the Legacy of Madison Grant* (Hanover: University of Vermont Press, 2009).

Rickmers testified during hearings on the impact of the 1902 Act, “when the law allows the walrus to be taken, they are not present, because the animals follow the ice where they can’t be reached at that time.” As a result, the natives around Kotzebue ‘have nothing whatever now except salmon’ to eat, and Rickmers was unable to trade bear skins for flour or other provisions “because there is a penalty of \$200 under the game law.”³⁵⁶ By 1903, newspapers carried stories of more native famine – this time caused by “the entire suppression of the fur trade... It is shown that their inability this year to kill black and polar bear, seals, walrus and whales has reduced the natives to a starving condition.”³⁵⁷ A senate committee sent to Alaska to investigate the situation in 1903 concluded that the “provisions [that] prohibit hunting and trapping by aborigines and Natives and the sale of skins so taken” should be removed.³⁵⁸ But given the influence of Boone and Crockett – Lacey was a member – neither the local population nor the senate committee found political traction. When the Law was rewritten in 1908, it continued to allow indigenous hunters to kill for food and clothing, but prohibited the sale of ivory.

The Alaska Game Law introduced a new way of understanding consumption and production to the layers of meaning already at work in the Bering Straits. The ideas about conservation held by Boone and Crockett members were generally utilitarian: the goal of conservation, as Roosevelt stated, was to promote “national efficiency, the patriotic duty of insuring the safety and continuance of the nation.”³⁵⁹ Efficiency was tightly bound with what the capitalist market demanded.³⁶⁰ Large game species, however, were prized in the Boone and Crockett circle for aesthetic, genetic, and moral reasons that transcended the base values of commerce. It was not an ill-intended ideal: the shapers of the Game Law saw that demand had unleashed destruction upon the living world of the Alaska coast, and imagined that the wild edges of capitalism could be rolled back with progressive legislation. Mostly absent from legal consideration, however, was the long history of Yupik and Inupiat hunting. The traditional scale of walrus kills had no place in civilized conservation. The fact that human subsistence in the early twentieth century required hunting for profit was even less acceptable. Thus the American state, which had come north to regulate the market’s appetite for walrus in order to assist the survival of its indigenous dependents, spent the young decades of the twentieth century trying to regulate those dependents away from the market for the survival of the walrus.

IN THE SHORT term, the contradiction between pragmatic and patrician ideals in the Alaska Game Law made it less than successful in assuring Yupik and Inupiat subsistence. For many individuals accustomed to buying their guns and flour with ivory the result was less access to food,

³⁵⁶ *58th Cong., 2d sess.*, 1904 S. Rept. 282 pt. 2, 149.

³⁵⁷ “Alaska Indians Starving: New Game Laws Prove Disastrous to Natives of the Far North,” *New York Times*, October 8, 1903.

³⁵⁸ *58th Cong., 2d sess.*, 1904 S. Rept. 282 pt. 1, 29.

³⁵⁹ Theodore Roosevelt, “Opening Address by the President,” quoted in Carolyn Merchant ed. *Major Problems in American Environmental History* (Boston: Houghton Mifflin, 2005), 321.

³⁶⁰ This is the argument of Samuel Hays, who saw Roosevelt-era conservationism not as running counter to capitalism – including monopolistic capitalism – but as privileging efficient resource use by whatever means. This generally seems true in Alaska, although game were clearly an exception. Their utility was in sport and national pride. See Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge: Harvard University Press, 1959).

not more. It did, however, make the treatment of walrus a way of defining the Bering Strait border. Under Boone and Crockett's banner, being a walrus in American waters meant protection from people. As a result, human life in North America became legally and practically distinct from life in Asia.

In animal practice, the law did not make more *Odobenus rosmarus divergens*. Walrus were, and are, not nationally bounded animals. Their range runs far onto the international ice, and into Russian seas. After the Game Law, hunters were "confined entirely to Siberian waters," as trader Charles Madsen recalled.³⁶¹ Madsen was part of the second wave of intensive walrus hunting, spurred in the early 1900s by demand for leather handbags and carved ivory. In 1909, Madsen took at least 100,000 pounds of walrus hide, hiring native hunters from King Island, Cape Prince of Wales, and Little Diomedea before entering Russian waters.³⁶² He did not hunt alone: at least four other commercial ships worked the Russian coast. Nome, the hub of Bering Strait trade, saw two hundred thousand dollars of fur and ivory come through port from Chukotka in 1911 alone.³⁶³

The United States treated wild walrus like national animals, legislatively incorporated into a national future. The result, in Chukotka rendered the walrus's future questionable altogether: unprotected in Russian waters, the Pacific walrus herd was in decline again by the 1910s.³⁶⁴ It was not a fact lost on the Russian Empire. "The head of the Anadyr District reports a situation of declining walrus harvest," read a telegram to the Governor of the Far East, "The main reason for the deterioration of the walrus harvest is the massive predation of walruses along our shores in 1915 by American schooners – schooners harvested two thousand walrus each, taking the tusks, hides and fat, and throwing the meat to the sea."³⁶⁵ Captain Zilov, commander of the Navy ship *Yakut*, reported that "the walrus attract many whalers, and the extermination of these animals is so large that the so-called marine Chukchi, who make their living hunting walruses, complain about the possibility of starvation soon. This was stated quite definitely by the village headman of Uelen at Cape Dezhnev, with a request to take whatever measures to protect this important fishery for them...in two or three years it will be too late."³⁶⁶ Too late for the walrus, worried Zilov and others, might also be too late for Russian sovereignty. "The goal of fighting American culture and predation in Chukotka territory," one naval captain wrote from Petrograd, could not be accomplished without instructions "concerning the whaling and fishing industries."³⁶⁷

Zilov, like others in the Far East, recognized Imperial dependency on walrus – dependence made tenuous by the actions of American ships. Russia was less interested a Bering Strait shoreline

³⁶¹ Madsen, *Arctic Trader*, 215.

³⁶² Madsen, *Arctic Trader*, 188. Walrus hides weigh between 300-400 pounds, so Madsen took between 250-300.

³⁶³ William R. Hunt, *Arctic Passage* (New York: Charles Scribner's Sons, 1975), 267.

³⁶⁴ Estimates from this period are difficult, since most records of Bering Straits trade voyages have been lost. However, elders interviewed by J.W. Brooks remembered walrus numbers declining until about 1920 and then rebounding. See Brooks, "The Pacific Walrus and its Importance to the Eskimo Economy," *Transactions of the North American Wildlife Conference* No. 18 (1953): 503-510. Hunting in Russian waters would have been more productive regardless of U.S. laws, given the location of the nursery herd near Chukotka. See Madsen, *Arctic Trader*, 188. Russian patrols had their limits however: Max Gottschalk, a trader working out of Nome and inveterate peddler of alcohol to the Chukchi, managed to escape the tsar's price on his head repeatedly.

³⁶⁵ RIGA DV F. 702, Op. 2, D. 229, L. 278.

³⁶⁶ RIGA DV F. 702, Op. 7, D. 85, L. 141.

³⁶⁷ RIGA DV F. 702, Op. 1, D. 275, L. 14.

where native people and their ties to the market were banished, *a la* Boone and Crocket, than in recreating a recent past in which native people could eat. Russian pragmatism was undermined by their capacity. Tsar Nicholas II was embattled with Japan in the east and radicals in the west, leaving little blood or treasure to spare on Chukotka. As a result, one naval commander reported, “The value of this territory would be the envy of many European powers,” but “the administrative authority is represented by the district chief and four guards.”³⁶⁸ Captain Zilov called for more ships and men willing overwinter on the coast to protect the walrus.³⁶⁹ But there were no additional ships. And those in Chukchi waters had little jurisdiction over foreign vessels, their mandate limited to issuing trading licenses with “no mention of walruses, seals and polar bears.”³⁷⁰ The result was starvation. “The coastal Chukchi especially suffer illness by way of hunger, which originates in years with bad harvest of marine animals,” noted a survey on conditions in the Far East, “the hunger causes them to eat the meat of dead dogs, the skins of marine animals, [leather] straps, bits of clothing and even human and animal excrement.”³⁷¹

By the eve of the First World War, Russia was beginning to consider that its national interest in walrus required international legislation.³⁷² Missionaries and biologists in the United States agreed. “Undoubtedly,” wrote S. Hall Young, a member of the Board of Home Mission for Alaska, the killing of the walrus will continue as long as the present market for the products of these animals continues.”³⁷³ The Deputy Commissioner of Fisheries noted that since walrus “go to sea on the ice floes, real protection would be accomplished only in an international agreement,” adding that the Russians were strongly in favor and negotiations with Petersburg were expected.³⁷⁴ 1914 was not an auspicious year to begin negotiations, however. The Russian Empire was at war. The U.S. government started buying walrus oil for munitions manufacturing, and walrus hides were used to polish steel shrapnel cases.³⁷⁵ International agreements over the fate of animals were secondary to international disagreements over the fate of men.

As a result, the first conservation efforts on the Russian side of the Straits were instigated not by the state but by Chukchi and Yupik hunters. By the end of WWI, traders and visitors to the Chukchi coast reported that “the natives [in Chukotka] are exceedingly hostile to anyone who does not take their kill...the seal and walrus are their sole guarantee against starvation, and they refuse to

³⁶⁸ RIGA DV F. 702, Op. 1, D. 275, L. 15.

³⁶⁹ RIGA DV F. 702, Op. 7, D. 85, L. 141.

³⁷⁰ RIGA DV F. 702, Op. 1, D. 1401, L. 83; RIGA DV F. 702, Op. 1, D. 275, L. 16-17; Madsen, *Arctic Trader*, 97. The memoirs of some traders active in Chukotka indicate that the Russian naval vessels and local agents were somewhat effective at regulating what was traded, but had no legal authority to curtail walrus hunting. See also Olaf Swenson, *Northwest of the World: Forty Years Trading and Hunting in Northern Siberia* (New York: Dodd, Mead 1944), 10.

³⁷¹ RIGA DV F. 702, Op. 1, D. 1401, L.61.

³⁷² RIGA DV F. 702, Op. 1, D. 275, L. 20. The U.S. and Russia successfully negotiated fur seal protections in the early twentieth century, but did not manage to create a similar treaty for walrus.

³⁷³ S. Hall Young to the New York Zoological Society, January 12 1914, NARA MD RG 22: Wildlife Service Reports and Related Records 1869-1937 Entry 91. See also: A.W. Evans to Secretary of the Interior, July 30 1913, NARA MD RG 22: Wildlife Service Reports and Related Records 1869-1937 Entry 91. Boone and Crockett Club member Henry Osborne, then the president of the New York Zoological Society, took particular interest in the fate of the walrus in this period.

³⁷⁴ E. Jones Deputy Commissioner of Fisheries to Secretary of Commerce, January 16, 1914, NARA MD RG 22: Wildlife Service Reports and Related Records 1869-1937 Entry 91.

³⁷⁵ Swenson, *Northwest of the World*, 95; “Walrus Catch Largest Known,” *Los Angeles Times*, October 1, 1915.

see anyone wantonly waste what is so vital to their life and prosperity.”³⁷⁶ Joseph Bernard, shipwrecked off Chukotka’s coast in 1921, reported that “Tenastze,” the local leader at the Inchoun walrus beach, had outlawed the use of guns and set times when “All the men went...and killed only what they needed for the year’s supply.”³⁷⁷ Shamans taught generations of coastal Chukotkans that walrus would to refuse to relinquish their bodies in the hunt if badly treated people, and white traders were guilty of just such transgression.³⁷⁸ The result of “these sane conservation methods,” Bernard wrote, was plentiful walrus meat in Inchoun and surrounding villages. Elsewhere on the coast, traders were threatened for disrespecting offerings to the walrus, and a prohibition against guns was enforced at the haul-out on Arakamchechen Island.³⁷⁹

The borders and rules imposed protect walrus in Chukotka were not of the sort recognized by empires and states, and were restricted to places where walrus hauled out on land. People could not easily patrol the shifting, inhospitable geography of the ice. But indigenous conservation was still a political act: an argument for the disposition of power both caloric and moral. It was a politics that drew from values outside the industrializing world, but was also a reaction to the market that industry afforded – the trade in guns, ammunition, metal traps, calico cloth, knives, axes, milled grain and mass-produced matches. More than anything, it was a reaction to ecological revolution: by the early 1920s, people along the coasts had seen the tenuous equilibrium on the sea ice punctuated twice, first in the decade of walrus slaughter from 1870 to 1880, and again in the first two decades of the new century. At Inchoun and Arakamchechen Island wanted a return to the past, with its 200,000 walrus bellowing and breeding on the intra-continental ice.

The hunters at Inchoun were contending with the two ideas born of the industrial revolution alive in the Bering Straits in 1922. One was a faith in markets to bend raw nature to the service of human progress. The other was its inverse: the desire to bring the market to heel so as to protect nature from the consumptive appetite of human advancement. The inevitability of capitalist growth was a given for both ideals; the question was how much the government should legislate the human relationship with non-human things, and how much the market could be trusted to do so alone. Around the edges of these concepts, the ice kept rolling in and rolling back with the sun. Men like Paul Tiulana went out hunting, watching in the 1920s as, very gradually, young walrus began to fill the empty ice with new bodies. With commercial demand for ivory in a post-war ebb, the world revolved toward a new version of an old relationship: each year humans killed a few thousand walrus along the Bering Straits, and each year the walrus came back.

On the Asian coastline, the gradual resurgence of the walrus population was coincident with a new human revolution, industrial in form but communist in content. The Russian Revolution came slowly to Chukotka: in 1917, the Bolsheviks were mostly a rumor spread by newspaper-reading

³⁷⁶ James M. Ashton, *Ice-Bound: A Trader's Adventures in the Siberian Arctic* (New York: Putnam's Sons, 1928), 127.

³⁷⁷ Joseph F. Bernard “Local Walrus Protection in Northwest Siberia,” *Journal of Mammalogy* Vol. 4 No. 4 (November 1923): 224-227, 226.

³⁷⁸ Bogoras, “Chukchee Mythology,” 8.

³⁷⁹ Swenson, *Northwest of the World*, 10-11; ChOKM, Tikhon Semushkin Collection, “Predvaritel’nye materialy po administrativno-upravlencheskoi strukture na Chukotke, sovremennomu sovetskomu stroitel’stvu i perspektivam,” p. 34. This practice at Inchoun is also mentioned by the Soviets in the 1920s; see GARF F. 3977 Op. 1 D. 811. L. 125. In 1945, Norman Whittaker, a government teacher on Little Diomed Island, saw a similar practices on Big Diomed, then part of the Soviet Union. Norman Whittaker to Clifford C. Presnall, January 2 1945, NARA MD RG 22 Entry P-285.

American traders. By 1919, two young communists formed a short-lived *Revkom* (revolutionary committee) in Anadyr. Their ideological commitment was more potent than their strategy, however, and they were overthrown by merchants shortly after announcing the liquidation of all capitalist property. It was not until 1923 that Red Army Commander M.P. Volskii finally declared all “White bandits” vanquished.³⁸⁰ Only a year before Lenin’s death, with war communism mostly given over to the New Economic Policy in western Russia, Chukotka officially became part “of a new world, a new life of fraternity, equality, and freedom.”³⁸¹

For the communists who made their way to the Bering Straits, late to the revolution was better than never, especially since no place in the former Empire seemed more in need of transformation. As G.G. Rudikh, one of the initial Soviets in Cape Dezhnev recalled, “The people lived in dark, windowless *jarangas* (tents), which are lit and heated by fat-burning lamps. The usual food was the meat of seals, walrus, whales – often raw. It was blatantly unsanitary...and [people were] hungry, especially in winter when the sea is completely closed by ice.”³⁸² To a well-schooled Marxist-Leninist, this signaled backwardness. The Yupik and Chukchi lacked material and cultural accumulation in everything from proper food and clothing to education, temperance, scientific credulity, and gender equality. As a result, they lived at a stage of primitive survival that came before feudalism or capitalism, let alone communist utopia. The cause of backwardness, for the early Bolsheviks, was clear. “Look around,” the president of the Anadyr *Revkom* told his comrades in 1921, “everywhere we hear that foreign firms ruthlessly exploit and rob the natives – the labor of a Chukchi is worth a box of biscuits. The Chukchi, as politically backward (*nesoznatel’nye*) elements do not understand what they are doing. If only they could eat... otherwise, they provide an opportunity for the most voracious sharks to gain.”³⁸³ The impoverishing aftereffects of commercial walrusing fit comfortably into the communist understanding of the world: sharks in capitalist clothing had wrested control over the basic things of life – calories and the means to produce them – from the suffering, unconscious, unsanitary natives.

The first revolutionaries in the Bering Straits had a solution. Lenin had already proclaimed that people like the Yupik and Chukchi, with no direct exposure to industrial capitalism, could skip historical stages and leap from primitive to communist “If the victorious revolutionary proletariat engages in systematic propaganda in their midst, and the soviet government assists them through all possible means.”³⁸⁴ Propaganda did not mean slogans and posters, but the complete restricting of native economic life. “The next step,” the 10th Party Congress stated in 1921, “should be economic organization,” in order to move “the toiling native masses from backward economic forms to a higher level - from a nomadic lifestyle to agriculture...from artisanal production to industrial-

³⁸⁰ For a full account of the revolution in Chukotka, see N.N. Dikov, *Očerki istorii Chukotki s drevneishikh vremen do nashikh dni* (Novosibirsk: Nauka, Sib. Otd-nie, 1974), 146-164 and N.A. Zhikharev, *Očerki istorii Severo-Vostoka RSFSR, 1917-1953* (Magadan: Magadanskoe knizhnoe izdatel’stvo, 1961), 37-69. For communist arrival on the coast, see B. I. Mukhachev, ed. *Bor’ba za vlast’ sovetov na Chukotke (1919-1923): Sbornik dokumentov i materialov* (Magadanskoe knizhnoe izdatel’stvo 1967), 131-132.

³⁸¹ N.A. Zhikharev, ed. *Pervyi revkom Chukotki 1919-1920: Sbornik dokumentov i materialov* (Magadanskoe knizhnoe izdatel’stvo 1957), 24.

³⁸² Mukhachev, *Bor’ba za vlast’ sovetov*, 133.

³⁸³ Mukhachev, *Bor’ba za vlast’ sovetov*, 104.

³⁸⁴ V. Lenin, *Polnoe sobranie sochinenii* (Moscow: Politizdat, 1958-65), 41: 245-46.

factory, from small-scale farming to planned collective farming.”³⁸⁵ Transforming the economy from crude subsistence to collective industry would create a surplus for all. “Collectivization in the North,” wrote one expert on northern development was necessary, as it was the only way to “fully increase the productivity of the indigenous economy and its marketability.”³⁸⁶

Moreover, ushering Russia’s many indigenous peoples onto the socialist path was a national imperative. Almost one-third of Soviet territory was under-exploited taiga and tundra, its riches untapped or ill-used by the tsars.³⁸⁷ And of all places in the north, Chukotka was a limit case for northern communism: far from Moscow, close to America, totally destitute and sparsely populated. It was a place even the Bolshevik vanguard found difficult: as One Red Army sailor tasked with fomenting revolution wrote to his superiors, “you cannot even imagine what the Chukotka peninsula is like! ...I am not staying here for anything.”³⁸⁸

Yet some communists did stay. Starting in 1924, their activities were directed by the Committee of the North, a group of Bolshevik leaders and ethnographers who considered themselves “not scholars but missionaries, missionaries of the new culture and the new Soviet state...ready to take to the North the burning fire of their enthusiasm born of the Revolution.”³⁸⁹ These communist missionaries found indigenous backwardness to be so profound that “Collectivization in the North should start with the simplest forms –associations for common use of land, *artels* (workshops) for communal manufacturing of products - and ascend gradually to higher forms of the socialization of production.”³⁹⁰ While capitalism could be bypassed, it would take time for the Yupik and Chukchi to move up the civilizational ladder toward socialism. In the meantime, these “small peoples of the north,” like their brethren across Siberia, required careful tutelage in literacy, hygiene, and socialist economics.

In Chukotka, even this slow program for progress provided difficult. Moving, communicating, and finding adequate shelter “in the hard climate...where the severe winter lasts almost the whole year,” slowed even ardent communists.³⁹¹ Then there was the problem of calories. The walrus were slowly returning, but could still not sate the “more or less acute hunger” along the northern coast.³⁹² “The reasons for this phenomenon,” wrote S.P. Ivanov in 1926, “are primarily: 1) intensive hunting [for profit] by the local native population, with nothing and no one regulating it, and 2) the predation of marine animals by American marauders for entire decades.”³⁹³ The Soviets also needed to supplant American trade in manufactured goods and the attendant evils of capitalist commerce. As one Committee member wrote, only with the “proper organization of supply and

³⁸⁵ KPSS v rezoliutsiakh i resheniakh s'ezdov, konferentsii i plenumov TsK Vol. 2 1917-1922 (Moscow: Izdat.pol. lit. 1983), 367.

³⁸⁶ RGIA DV F. R-4559, Op. 1, D. 1, L. 117.

³⁸⁷ Waldemar Bogoras, “Ob izuchenii i okhrane okrainnykh narodov,” *Zhizn' natsional'nostei* No. 3-4 (1923): 169.

³⁸⁸ Mukhachev, *Bor'ba za vlast' sovetov*, 124.

³⁸⁹ V.G. Bogoras, “Podgotovitel'nye mery k organizatsii malykh narodnostei,” *Sovetskaia Azija* No. 3 (1925): 48. Some of the communist missionaries were quite ardent; Swenson said that he had “never seen such passionate sincerity as some of the young communists showed,” *Northwest of the World*, 170.

³⁹⁰ RGIA DV F. R-4559, Op. 1, D. 1, L. 118. For a discussion of the origins, staff, and goals of the committee, see Slezkine, *Arctic Mirrors*, 150-163.

³⁹¹ Mukhachev, *Bor'ba za vlast' sovetov*, 124

³⁹² RGIA DV F. R-2333, Op. 1, D. 45, L. 9. See also GARF F. 3977, Op. 1, D. 881, L. 85b Mukhachev, *Bor'ba za vlast' sovetov*, 133, 168.

³⁹³ GARF F. 3977, Op. 1, D. 881, L. 126.

other measures,” would the Soviets be able “to keep the border (*krai*). Otherwise [the native] will fade away completely and seek the wilderness.”³⁹⁴ The communist missionaries needed caloric sovereignty to assure the progress of Soviet civilization.

Such sovereignty was on the horizon. Supply ships from Vladivostok began to supplant American trading vessels by the late 1920s. For Yupik and coastal Chukchi, access to ammunition, boats, and other technological necessities now came through the state. The Soviet’s new ability to control the means of survival was an excellent recruitment tool.³⁹⁵ Membership in a collective enterprise gave hunters access to boats, guns, and by 1929, outboard motors. And in the early collectives, ad-hoc as they were, came new and more explicit motives for increased production. Soviet marine biologists were optimistic that with proper technological guidance, the future showed “a picture in which the fat of sea animals flows in a fast, broad wave into the tanks of [collectives].”³⁹⁶ Pacific walrus, almost a decade into a respite from aggressive harvesting, were on notice.

IN ALASKA, THERE was also interest in the profits that walrus could yield. The proper relationship between the market, the state, indigenous people, white citizens, and animals, was less clear than among the new collectives on the Russian coast. The doctrine that mapped the Soviet road to real existing communism had clarity, at least at the level of theory: the future required maximizing the barrels of oil rolled off the ice. Democratic capitalism spent most of the first half of the twentieth century wavering toward a different answer to the question of what the walrus might contribute to civilization.

In some respects, the United States and the Soviet Union understood their northern borderland in similar terms. Both saw them as challenging environments whose peoples were woefully unaware of how to eat, dress, bathe, read, and speak properly. The United States, like the Soviet Union, desired economic reforms, for natives to learn what one Congressional report called “our ways of labor, so that they may work understandingly in the new fields of industry which are developing.”³⁹⁷ The task of educating natives in the middle twentieth century fell to both missionaries and employees of the Department of Education. Teachers secular and otherwise were often, like their communist brethren across the Strait, motivated by compassion and a genuine belief that their prescriptions for soap, thrift, hard work, and information about “real estate or property rights.”³⁹⁸ These were the precursors of a better life. The values imposed by conservationists, therefore, might prevent Yupik and Inupiat from becoming fully American.

Also like the communists, American teachers and government agents worried about production. Most were aware, as one missionary wrote, that “Eskimo children” needed taught not

³⁹⁴ GARF F. 3977, Op. 1 D. 11, L. 17. A. Bonch-Osmolovskii, who surveyed the Chukotka coast in 1924, went so far as to argue for an international accord to protect the walrus; see GARF F. 3977, Op. 1 D. 11, L. 19.

³⁹⁵ The manuscript of Mallu (Matlu in Russian), an early Yupik Soviet leader, shows great commitment to the communist cause. ChOKM, Matlu, *Antobiografiia (Rasskaz Matlu)*, Coll. N. 5357. I am glossing over the multiple administrative reforms carried out during the first Soviet decades, and much of the detail of Soviet recruitment among the Yupik, especially as related to historical clan structures. For details, see Krupnik and Chlenov, *Yupik Transitions*, 225-242.

³⁹⁶ GAPK F. 633, Op. 5, D. 33, L. 31, 6.

³⁹⁷ G.T. Emmons, “Condition and Needs of the Natives of Alaska,” *S. Doc No. 106, 58th Cong. 3d Sess.* (1905) 6.

³⁹⁸ F.E. Kleinschmidt, “A Day of Blood,” *The Pacific Monthly* No. 6 (June 1910): 561-579, 569.

just literacy but “the native ways and mode of living, which of necessity they must know to earn a livelihood...The natives have their way of living, which experience has taught is best for this country.”³⁹⁹ But this “mode of living” also needed to produce a surplus for the market. After 1924, Alaskan natives were granted the right to vote, but full entry into the American franchise required participation in the national rites of commerce and ownership.⁴⁰⁰ The Inupiat, even those without any particular ideological commitment to making themselves American, now lived an industrially-inflected life. Using rifles, ammunition, and motor boats required an income. Income required producing a profitable surplus. Along the northwestern coastline, the options for Inupiat and Yupik to make such a living were few. There was reindeer herding, fox farming, sometimes wage labor in mining towns. And there were walrus.

For whom and for what purpose walrus should rightfully die was, however, still in question. Since the Game Laws of 1902 and 1908, walrus in Alaska had been legally separated from commerce. Their normative use was limited to native subsistence. But there was still market demand, especially for ivory. In the years before Soviet control, the trade in walrus parts avoided American fines by hunting in Russian waters.⁴⁰¹ But with Bolshevik patrols off the Chukotka coast, hunting for Alaskan ivory became more attractive. In remote villages, indigenous hunters could usually kill unobserved and sell raw ivory in the bars and back alleys of Nome, where it tricked out to the wider world. Ships hunted in international waters. Even the ice worked against the three-mile limit of national control, allowing hunters to walk the frozen ocean past U.S. jurisdiction and kill for ivory legally.⁴⁰² Where, by whom, and for what purpose a walrus was killed and its ivory or hide entered the market was difficult to trace or control.

Not all observers were worried about the indigenous harvest. One teacher reported that he could justify the “killing of large numbers of walrus because they form a large part of the livelihood of these peoples.”⁴⁰³ Missionary Benedict Lafortune wrote that “were it not for [the ivory] all the King Islanders would have to be put on relief. The seals give them their food and fuel, and the walrus give them their clothes and ammunition and outboard motors etc. etc.”⁴⁰⁴ By the 1930s, the Bureau of Indian Affairs actively cultivated indigenous ivory-carvers and marketed their work as part of an “industrial education...in the economics of their Arctic life,” a practice that tacitly encouraged hunting for ivory.⁴⁰⁵

³⁹⁹ J.P. Olson, “Teller Orphanage Closed,” *Eskimo Land*, Missionary Paper of Igloo Alaska, No. 17 (April, 1933): 2

⁴⁰⁰ In 1915, Alaska natives who had “adopted the habits of a civilized life” could become a citizen – with five white sponsors and after a judge’s hearing. In 1924 the right to vote was given to all indigenous Alaskans.

⁴⁰¹ Some trade in ivory also went on in Alaska during this period, although numbers are lacking. In 1911, for example, the Cutter Service reported finding walrus killed just for their ivory; see Report of the *Bear*, 1911, NARA MD RG 48 Central Classified File 1907-1936, File 6-12.

⁴⁰² Statement of John Buckland October 9, 1914, NARA MD RG 22, Reports and Related Records 1869-1937, Entry 91; Statement of Ira Rank, October 31, 1928, NARA MD RG 22, Reports and Related Records 1869-1937, Entry 91.

⁴⁰³ C. Sullivan to Claude Hirst, September 17 1936, NARA AK RG 75, Alaska Reindeer Service Administrative Correspondence 1934-1953.

⁴⁰⁴ B. Lafortune to Claude Hirst, August 18 1939, NARA AK RG 75, Alaska Reindeer Service Administrative Correspondence 1934-1953. See also F.A. Zeusler to Claude Hirst, August 19, 1936, NARA AK RG 75, Alaska Reindeer Service Administrative Correspondence 1934-1953.

⁴⁰⁵ Joseph Chilberg, George A Diamond, G.L. Lomen and Conrad Freeding to the Secretary of Commerce and Labor, July 7 1919. NARA MD RG 22 Reports and Related Records 1869-1937 Entry 91.

Agents for the BIA and the Bureau of Biological Survey, however, were concerned that native hunters were too focused on making tusks into cash, imperiling the biological future of the walrus and the economic future of northern peoples. Without an accurate census of the herd or the annual harvest in Alaska, no government agency had a grasp of whether or not the population was rising or falling. Nor did government agents have particular faith in indigenous prudence when it came to hunting. In a 1925 article widely circulated among game managers, Joseph Bernard observed how hunters seldom “bring anything but the ivory tusks ashore. Thus they sacrifice tons of good meat.”⁴⁰⁶ Accounts of headless or tuskless walrus washing up along the coast in the 1920s and 1930s alarmed the Bureau of Biological Survey enough to stop the export of walrus products from Alaska from 1928-1930. The Yupik of Gambell, on St. Lawrence Island went a step further, passing an ordinance restricting their kill to the number of animals needed for food and clothing.⁴⁰⁷

Both indigenous hunters and government agents were trying to reconcile the tensions of producing a profitable surplus with northern ecology ill-disposed to produce at a commercial level. In the interwar years, capitalist demand seemed ready to take more walrus than the species could supply. Yet the demand for walrus was one of the few things that allowed the Yupik and Inupiat to participate in the market like their fellow citizens. Selling raw ivory or carvings for profit was a critical part of rolling back indigenous otherness. In 1941, in an effort to reconcile the local need to produce with the danger of consuming too much, Congress restricted walrus hunting to indigenous peoples. Selling raw ivory was illegal, as was killing walrus specifically for their tusks. It was a legal innovation meant to privilege both particular use and particular users of walrus.⁴⁰⁸ Because the market logic of supply and demand historically asked more than the ocean could give, indigenous people became the only hunters legally able take. Yupik and Inupiat were made different in order to participate in the civic and economic sameness of commerce.

BY THE MIDDLE of the twentieth century, access to walrus bodies in America became a special privilege. In the Soviet Union, walruses were seen as of potential use to all. The border between the United States and the Soviet Union was still permeable for man and beast, but the line now defined a different set of relationships between what the icy coastlines produced, the local form of production, and the national aspirations for both. By the 1930s, the scope of Soviet aspirations for walrus, and for everything, was on the rise. Subsistence was a satisfactory goal in the 1920s, but insufficient once Stalin was in power. Soviets needed tangible proof of ideological fealty and economic progress. Neither Marx nor Lenin offered an especially precise description of what real existing socialism would look like, but ever-expanding annual production was a quantifiable way to prove advance on the road to communism. In Chukotka, where production had little agricultural or industrial potential, walrus were valuable as a rare source of harvestable fat and other raw materials. But Stalinist walrus needed produce more – in hides, ivory, and blubber – than early communist walrus, or capitalist walrus. The question was how.

⁴⁰⁶ Joseph Bernard, “Walrus Protection in Alaska,” *Journal of Mammalogy*, Vol. 6 No. 2 (May, 1925): 100-102, 100.

⁴⁰⁷ Francis H. Fay, *Pacific Walrus Investigations on St. Lawrence Island, Alaska* (Anchorage: Alaska Cooperative Wildlife Unit, 1958), 4. This local conservation ethic was not shared by all North American walrus hunting communities; King Island and the Diomedes had a reputation for aggressive hunting in this period.

⁴⁰⁸ “Protection of Walrus in Alaska,” 77th Cong. 1st Sess. H. Report No. 883 (1941), 2.

The Stalinist practice of communist ideology had an answer. Development among the small people of the north needed to look like development everywhere else, since collectivization and industrialization were “the basic and decisive element in the creation of the socialist economy, and in the transformation of the economic modes, as well as in social consciousness and psychology.”⁴⁰⁹ Once collectivized, production would increase. Increased production would make people conscious communists. And Stalin’s Five Year Plans demanded this transformation as soon as possible. There were no more allowances, as Committee of the North member Anatolii Skachko wrote, for people “who, because of their extreme backwardness, cannot keep up either economically or culturally with the breakneck speed of the emerging socialist society.”⁴¹⁰ The Committee of the North had to abandon their plans for a graduated march toward socialism.⁴¹¹ Keeping up was mandatory in the 1930s. It was no longer permissible to be extremely backward or less than extremely productive.

It was, however, quite possible to be an enemy. Across the Soviet Union, collectivization was accompanied by the hunt for any dissenting voice or remnant of capitalism, imagined or otherwise. Among the reindeer Chukchi, resistance to collectivization was fierce, and the hunt for class enemies was brutal. But when the early ad-hoc coastal hunting *artels* were rapidly converted into more formally administered collective farms (*kolkhozy*) in the late 1920s, the Soviets found few class enemies along the coasts. Collective hunting was traditional, especially among the Yupik, as was sharing the catch. Communist hunting parties retained many features of their pre-Soviet form. The shift to full state oversight of catch distribution and state-mandated annual hunting targets was thus not an unbearable intrusion into community life. As a result, there were few class enemies for Soviets to arrest. A few men and women were charged with practicing shamanism, since the Soviets were ideologically committed to replacing spiritual belief with communist rationality, and traditional leaders with party fealty. The charge was used to evict Ekker, an interloping Chukchi man who had taken control of the walrus haul-out on Arakamchechen Island with his ability to “kill by casting a spell.”⁴¹² The campaign against him was led by Matlu, a devoted Yupik communist who used the Soviet rhetoric that “shamans ruined the people” to force Ekker’s removal – an outcome that simultaneously restored traditional Yupik hunting access and fell in line with Soviet politics. Even when he was finally evicted, Ekker went peacefully.⁴¹³ And except for these campaigns against shamans, the Chukchi coast transitioned into collectives with little open resistance or violence.⁴¹⁴ By the late 1930s, virtually the entire coastline was collectivized.

⁴⁰⁹ V.N. Uvachan, *The Peoples of the North and Their Road to Socialism* (Moscow: Progress Publishers, 1975), 149.

⁴¹⁰ Anatolii Skachko, “Problemy severa,” *Sovetskii sever* No. 1 (1930): 15-37, 33

⁴¹¹ The Committee on the North attempted to temper the pace of industrial change by creating regional ethnic territories that would offer some degree of protection from rapid development. See Slezkine, *Arctic Mirrors*, 269-275. This effort was mostly subsumed under increasing industrialization pressures led by the Main Administration of the Northern Sea Route (GUSMP) and Dal’stroi, the eastern branch of the Gulag, discussed in chapter 4.

⁴¹² ChOKM, Tikhon Semushkin Collection, “Predvaritel’nye materialy,” 34.

⁴¹³ Matlu, *Antobiografiia*. Records indicate Ekker lived in Lavrentiya until the late 1930s but it is unclear what happens to him during the purge years. His children did survive the late 1930s. See Krupnik and Chlenov, *Yupik Transitions*, 234.

⁴¹⁴ The relative peacefulness of collectivization was especially notable among the Yupik, where Krupnik and Chlenov argue that most Yupik were loyal and fairly involved in Soviet activities in this period; see *Yupik Transitions*, 230-232. For a case of open resistance, see Peter Schweitzer and Evgeniy Golovko, “The ‘Priests’ of East Cape: A Religious Movement on the Chukchi Peninsula during the 1920s and 1930s” *Etudes/Inuit/Studies* No. 31 Vol. 1-2 (2007): 39-58. There is considerable nostalgia among Yupik elders for this period, well discussed in Anna Kerttula, *Antler on the Sea: The Yup’ik and Chukchi of the Russian Far East* (Ithaca NY: Cornell University Press, 2000).

If the Soviets found the coastal indigenous population generally willing to participate in the new socialist economic form, however, they still needed to make walrus flesh follow. In the 1920s, collectives harvested less than 1500 walrus per year on average.⁴¹⁵ Local leaders and national planners alike were underwhelmed. Party meetings in the 1930s spent hours discussing how to increase, standardize, and make predictable the marine mammal catch. One answer was technology. A typical report from 1931 noted the need to “streamline and strengthen the fisheries ability to harvest raw materials...especially with power motors.”⁴¹⁶ Soviet planners worried that walrus hides and lipids were wasted because of inefficient processing. As one report noted, walruses killed on land were sometimes not butchered for “many days, which will undoubtedly partially deterred walrus [from returning] and reduces the quality of the products (hides and meat).”⁴¹⁷ Another party official was concerned that “60% of sea animals killed - seal, bearded seal, walrus - remain in the sea, especially in spring and summer,” which wasted useful fat.⁴¹⁸ The loss of pelagic kills was especially worrisome after the small ships *Temp* and the *Nazhim* began hunting walrus at sea in 1934. And even salvaged hides were often used for decidedly un-communist ends. Walrus tents were not a sign of progress. Skin boats needed to be supplanted with motorized, metal versions. There was a correct way to use a walrus, and it was for fat. “From our current moment where the colossal supply of fat is used totally unproductively,” one report noted walrus lipids could be put to “technological purposes,” through “an artisanal blubber processing industry. On this path, the population would receive another item to export, which would give them high profits.”⁴¹⁹ Even walruses were called upon to lubricate the Stalinist drive to industrialize.

By the late 1930s, communism in numbers was starting to appear. Almost 6000 animals were harvested in 1937 by brigades hunting from shore, and nearly 2500 more at sea.⁴²⁰ Communism appeared in other ways: schools opened along the coastline, filled with students who, as one early pupil recalled, initially “didn’t understand a word” of Russian but learned to read in old trader’s cabins with “nothing more than a blackboard.”⁴²¹ Party meetings discussed building hospitals and the need for electricity. Communist ideology replaced hunting rituals, often due to pressure from indigenous activists who, as one Yupik man recalled, “agitated that we ought to stop observing our festivals. They had to be tossed out altogether.”⁴²² Collectives were increasingly successful in “the hunting of large marine mammals, strengthening the capacity to save fat and sea mammal

⁴¹⁵ The records from these years are incomplete, unlike later Soviet walrus tallies. For the complete counts of walrus harvested, see Igor Krupnik and Ludmila Bogoslovskaja, *Ecosystem Variability and Anthropogenic Hunting Pressure in the Bering Strait Area* (Washington, D.C.: Smithsonian Institution 1998), 109.

⁴¹⁶ RGIA DV F. R-2413, Op. 4, D. 974, L. 128. These collectives also hunted other marine mammal species.

⁴¹⁷ GARF F. A-310, Op. 18, D. 329, L. 51.

⁴¹⁸ GAMO F. P-12, Op. 1, D. 14, L. 8.

⁴¹⁹ GARF F. 3799, Op. 1, D. 11, L. 40.

⁴²⁰ Krupnik and Bogoslovskaja, *Ecosystem Variability*, 109; Francis H. Fay and C. Edward Bowlby, *The Harvest of Pacific Walrus, 1931-1989* (Anchorage, AK: U.S. Fish and Wildlife Technical Report, 1994), 20.

⁴²¹ V. Veyi, “Razkaz Vyie,” in Nikolai Vakhtin, *Iazyk sirenneskikh eskimosov: teksty, grammaticheskie i slovarnye materialy* (Muenchen: Incom Europa, 2000), 16.

⁴²² Andrei Kukilgin interview, in Igor Krupnik, *Pust’ govoriat nashi stariki: rassказы aziatskikh eskimosov-iupik, Zapisi 1977-1987 g.g.* (Moscow: Institut nasledia, 2000), 267. Some of these festivals lived on in truncated, private forms for a few more decades before mostly dying out, although some remained in altered and scaled-down form. See Krupnik and Chlenov, *Yupik Transitions*, 256-257.

skins...and training how to hunt, slaughter and process marine mammals, and render fat.”⁴²³ In 1938, the Soviets harvested over 8000 walrus, an annual catch not seen since the nineteenth century.⁴²⁴ With catch numbers matching communist plants, it seemed as if walrus hunters had escaped their backward cycles of unchanging unpredictability. Communist history was overcoming natural history.

REVOLUTION IN SPACE, 1940S-1960S

1938 was the highpoint of Soviet walrus hunts. The annual catch fell to about 4500 animals in 1940, and almost a thousand fewer were killed the following year. The timing of the decline was inopportune. In 1941, Hitler invaded the Soviet Union. The Red Army needed to march, but their stomachs were often empty. As the director of the Soviet whaling fleet N.A. Egorov pointed out, war left an “insufficient supply of fat in the country.”⁴²⁵ Egorov’s solution was to increase the marine mammal kill. Walrus could yield useful lipids, if Chukotka’s “artisanal processing method,” was replaced with centralized rendering facilities able to double the production of useful products.⁴²⁶ Egorov’s projection was not so easy to realize in practice. In 1942, *kolkhozy* in Chukotka harvested less than half the number of walrus planned.⁴²⁷ Discussions of the low harvest, however, blamed technology rather than biology. “Our motors,” one report concluded, “are not designed for continuous operation with a heavy load,” and were exposed to “rain and damp, not to speak of the storms which happen so frequently in the north-eastern sea.”⁴²⁸ Yet the harvest went on: never meeting the dictates of the plan, but always with the expectation that plans could be satisfied. The value of the walrus was in their potential to feed an army, and to fill plans.

In the United States, the war years also made walrus desirable, although not on the scale or for the reasons demanded by the fat-starved Soviets. After the bombing of Pearl Harbor and Japanese landfall in the Aleutian Islands, maritime Alaska became the focus of intensive military intervention, even as far north as the Bering Straits. Lend-lease planes flew from Nome to Russia. The military built installations on St. Lawrence Island. Paul Tiulana was drafted. Three hundred thousand military personnel came into Alaska over the course of the war. Few had cause to interact directly with walrus. The U.S. military did not feed its men or lubricate its engines with walrus fat. But the flux of people into remote villages provided a surging market “for both carved and uncarved ivory...and thus stimulated the harvest of walrus.”⁴²⁹

By 1944, agents from the Fish and Wildlife Service (FWS) were convinced that Alaskan natives were killing too many walrus, for ivory and because it “is the propensity of the Eskimo to shoot at anything he sees.” Although reports from local teachers varied considerably in their

⁴²³ RGIA DV F. R-2413, Op. 4 D. 974, L. 87.

⁴²⁴ Fay and Bowlby, *The Harvest*, 20.

⁴²⁵ GARF F. R-5664, Op. 46, D. 1137, L. 3.

⁴²⁶ GARF F. R-5664, Op. 46, D. 1137, L.15.

⁴²⁷ GAMO F. P-22, Op. 1 D. 122, L. 4, 81.

⁴²⁸ GAMO F. P-22 Op. 1 D. 213, L. 71.

⁴²⁹ John L. Buckley, *The Pacific Walrus: A Review of Current Knowledge and Suggested Management Needs* (Washington D.C.: Government Printing Office, 1958), 2. For a discussion of what WWII spending did for Alaska, see Stephen Haycox, *Alaska: An American Colony*, (Seattle: University of Washington Press, 2002), 257-272.

assessments of indigenous wastefulness, the Bureau of Indian Affairs concurred.⁴³⁰ The indigenous hunters, meanwhile, killed according to their ongoing belief that walrus spirits could not be antagonized by overharvest lest they “return to their own kind to report on how they had been treated.”⁴³¹ Without the Soviet’s meticulous harvest accounting, however, neither the BIA nor the FWS had accurate tallies of annual kills or the size of the herd. What the agencies did know was that indigenous independence from the federal dole was ideologically and practically important, and independence required walrus for food and crafts. Moreover, Japanese landfall in Alaska, and by the end of the war, mounting tension with Russia, made the presence of American citizens along Alaska’s coast strategically important.⁴³² In 1942, the sovereign benefits of the Yupik and Inupiat were made explicit with the formation of the Alaska Territorial Guard, a reserve unit of “Eskimo...some of the wilyest [sic] breeds of fighting men known to the north American continent.”⁴³³ The ATG spent the next five years patrolling the coast with military-issue guns and ocean-issue foodstuffs.

IN CHUKOTKA, THE possibility of Japanese invasion from the sea also militarized the region. Lend-lease planes landed in Uel’kal, Provideniya, and Anadyr. In 1941, the military installed heavy artillery across the bay from the deep-water port at Lavrentiya. Strategically, the best location for the battery was in the village of Avan, where soldiers “learned to shoot,” as Yuri Pukhlouk recalled. “But we were taken away from there, so we wouldn’t bother it.”⁴³⁴ Pukhlouk and his family, like the other Yupik residents of Avan, were moved to the larger settlement of Ureliki. For the Soviets, unlike the Americans, concluded that its indigenous residents were more a risk to security than a vanguard of northern sovereignty. It was a worry that outlasted the war, and hardened the territorial distinction between Asia and North America. In the early years of Soviet control, the border had been open enough for a Norwegian Lutheran missionary to proselytize in Chukotka.⁴³⁵ Even in the 1930s, the border remained essentially open, with the Soviets requiring only perfunctory checks after 1938.⁴³⁶ As a result, a small but steady current of people came and went across sovereign lines. Then, in the summer of 1948, seventeen American citizens from Little Diomedé set off to visit friends and relatives on Soviet Big Diomedé. Before reaching the island, a Soviet patrol arrested the party and

⁴³⁰ Albert Heinrich to Clifford Presnall, March 20 1945, NARA MD RG 22 Entry P-285. Heinrich noted that while the Little Diomedé hunters he was describing killed more walrus than necessary, they were not like the King Island natives who hunted specifically for ivory. Presnall had read Bernard’s description of walrus preservation at Ichoun, Chukotka, and wanted to see if a similar method was used or could be implemented in Alaska. See Kathleen Kimble to Clifford Presnall, February 5, 1945, NARA MD RG 22 Entry P-285.

⁴³¹ Margaret Seeganna, quoted in Lawrence Kaplan and Margaret Yocom, *Ugiwangmiut Quliapyyuit - King Island Tales: Eskimo History and Legends from Bering Strait* (Fairbanks: Alaska Native Language Center, 1988), 25. Seeganna was born in 1914 and spent her childhood on King Island.

⁴³² A. Day to Office of Indian Affairs, November 30 1944, NARA DC RG 75 Central Classified File 1940-1957.

⁴³³ M.R. Maraton, Major U.S. Army to Captain Sterling G. Croell, December 12 1942, NARA DC RG 75, BIA Central Classified File 1940-1957.

⁴³⁴ Krupnik, *Pust’*, 499.

⁴³⁵ APRCA, Oscar Brown Papers, Box 1, p. 18-19. This missionary work may have been related to one of the few open rebellions against Soviet power, described in Schweitzer and Golovko, “The ‘Priests’ of East Cape.”

⁴³⁶ Copies of the permissions filed with the Soviet government can be found in NARA AK RG 75, Mission Correspondence 1935-1968.

detained them for weeks. The border guards informed the American Yupik that, concurrent with the Berlin airlift, the Soviets had ended all exchange with the U.S. along the Bering Strait.⁴³⁷

On paper, the Cold War froze the crossing between Asia and North America for forty years. On land, foreign – now enemy – territory remained in the minds of both states perilously close. Rowing from St. Lawrence Island to Russian Chaplino took twenty-four hours, less by motorboat. In the United States, Alaska was seen as a likely point of Soviet invasion, necessitating that Alaska become a “bristling bastille and a major launching point in any future push-button war against any aggressor Nation in the northern hemisphere.”⁴³⁸ J. Edgar Hoover worried about the loyalty of Bering Strait residents.⁴³⁹ In Chukotka, the desire to make the border impermeable probably contributed to the decision of Chukotkan authorities to close more villages.⁴⁴⁰ In 1948, the twenty or so people living on Big Diomede were relocated to Naukan. A decade later, the population of Naukan was dispersed to Lavrentiya, Pinakul’, and Nunyamo. The latter two settlements were in turn closed over the next decades. Coastal populations, with their kinship ties, linguistic forms, local hunting sites, and traditions, were dispersed among ethnic Russians, Chukchi reindeer herders and, at bases like Lavrentiya, the multiethnic ship crews. Consolidation and ethnic mixing was not a new process on the Bering Straits, but under the Soviets the scope and tempo amplified. From 1937 to 1955, the number of inhabited coastal villages in Chukotka dropped from ninety to thirteen.

For Soviet officials and local boosters, village consolidation was presented as a communist intervention for health and safety. Naukan residents were told they lived in a seismically active region, while Chaplino’s drinking water was deemed unpotable.⁴⁴¹ Everywhere people were promised better housing and employment. The less publicized goal was to move coastal Yupik people, many with family and ethnic ties in the United States, into population centers where local identity was more easily subsumed by the leveling force of daily Soviet practices. It made the borders less prone to leak along the lines of shared history and kinship. For the people involved, the physical process of moving was badly planned and rushed, and new settlements were unfinished and dismal. Nina Akuken, a Naukan resident, recalled leaving the village “crying the entire way” and not having time to “go to the graves to bid farewell” to buried ancestors. Upon arriving in Nunyamo, her family found “unfinished houses. Nothing was plastered, and there was no stove.”⁴⁴² At Chaplino, residents were moved so quickly they left pots of soup still boiling. In their new settlement at Tkachen Bay,

⁴³⁷ See Schweitzer and Golovko, “The ‘Priests’ of East Cape,” 45.

⁴³⁸ Bureau of Reclamation, Report on the Future of Alaska, 1947, NARA MD RG 48 Central Classified File 1937-1953

⁴³⁹ For a discussion of Cold War diplomacy and its aftermath, see Michael Krauss, “Crossroads? A Twentieth-Century History of Contacts across the Bering Strait,” in *Anthropology of the North Pacific Rim*, William W. Fitzhugh and Valerie Chaussonnet eds. (Washington, D.C.: Smithsonian Institution Press, 1994), 365-379.

⁴⁴⁰ Security concerns were not part of the public discussion of village closures, or in archival sources I found. That security was on the minds of planners seems especially likely given that two villages with the most connections and historical tie to Alaska were closed – Naukan and Chaplino. Krupnik and Chlenov make a similar observation regarding the lack of open discussion of security by the state in *Yupik Transitions*, 271.

⁴⁴¹ This is particularly true after 1957, when the Central Committee of the Communist Party and Soviet Ministers adopted Decree No. 300, “On Measures for Further Development of the Economy and Culture of the Peoples of the North,” which focused on increasing the indigenous standard of living, especially housing. Khrushchev was also in the process of reforming collective farming. See Tobias Holzlehner, “Engineering Socialism: A History of Village Relocations in Chukotka, Russia,” in S.D. Brunn ed. *Engineering Earth: The Impacts of Megaengineering Projects*, (Dordrecht, Netherlands: Springer Science + Business Media, 2011), 1957-73.

⁴⁴² Nina Akuken, quoted in Krupnik and Chlenov *Yupik Transitions*, 274-275.

“Nothing was right in some way,” Vladimir Tagitutkak recalled, because “I didn’t hunt anymore...everyone was put into construction.”⁴⁴³ Moving people far enough from the ice to be safe, from a sovereign perspective, was detrimental to hunting; without access to marine mammals, transplanted hunters became unskilled labor in towns like Novo Chaplino and Provideniya. The promises of real existing socialist housing, schools, hospitals, or the triumphant benefits of working on a state farm were often not forthcoming.

The disorientation and loss of displacement was not experienced only by Soviet Yupik and Chukchi. In Alaska, the first half of the twentieth century saw numerous sites used by semi-nomadic hunters abandoned for the permanent settlements around mission schools and other infrastructure.⁴⁴⁴ King Island, where Paul Tiulana learned to hunt walrus and *ugruk* on the ice as a young man, and re-learned after being wounded in the Second World War, was gradually shuttered in the 1950s. Tuberculosis was endemic on the island and many hunters moved to Nome for treatment. Other families moved to the mainland so their children could complete high school. The final blow to the Inupiat settlement came when the BIA closed the King Island school in 1958. Six years later, with the island essentially abandoned and its former inhabitants living outside Nome, the BIA described them as “in a period of adjustment and it is quite true it is a painful one,” the people caught between their “inherent desire of hunting and fishing and the advantages of permanent work and accessibility to the facilities of public schools, hospitals, stores, and other facilities available at Nome.”⁴⁴⁵ Tiulana recalled the closure of the island with frustration, rejecting in his old age the contradictions imposed by resettlement and the facilities of Nome: “On the one hand we are told that we have to go to school to make a living, more income, cash for our pockets to buy better things for ourselves...We have to learn to compete with Mother Nature, and nobody knows what Mother Nature is going to do.”⁴⁴⁶

MODERN SOCIETY ON the Asian side of the Straits was, in the early 1950s, still trying to win the competition with the forces of nature. Despite the fact that walrus hunters had continued difficulty fulfilling their annual plans for pounds of fat and yards of skin, the country was under new ideological pressure to make socialism a reality. Among the many changes that came following the death of Stalin in 1953, the Soviet north was the subject of economic and social reforms meant to cast out the shadow of the Gulag and finally integrate the cold periphery into the Soviet body politic.⁴⁴⁷ Some of this integration was ethnic, as more non-natives moved north and native northerners were moved into larger towns. And in the towns, integration came from building the trappings of civilization: the state constructed new houses, schools, medical facilities, post offices, stores, electrical plants and roads. The rate and results of this construction were often far from the

⁴⁴³ Krupnik, *Pust'*, 218.

⁴⁴⁴ See for example Elizabeth Marino, *Losing Ground: An Ethnography of Vulnerability and Climate Change in Shishmaref, Alaska* (PhD Dissertation: University of Alaska, Fairbanks, 2012), 138-139.

⁴⁴⁵ R.E. McLean to Robert Bennett, September 21 1965, NARA AK RG 75 Mission Correspondence 1935-1968. For an overview of the relocation and its aftermath see Deanna Kingston and Elizabeth Marino, “Twice Removed: King Islanders’ Experience of ‘Community’ through Two Relocations,” *Human Organization* Vol. 69 No. 2 (Summer 2010): 119-128.

⁴⁴⁶ Senungetuk and Tiulana, *A Place for Winter*, 38-40.

⁴⁴⁷ See Slezkine, *Arctic Mirrors*, 337-345 for a discussion of the “thaw” and the far north .

ideal – “of the planned construction for 1954 only four properties have been completed,” one Party report noted, the issue being the lack of “construction timber.”⁴⁴⁸ But gradually walrus-hide *yarangas* were replaced with apartment blocks that looked like those in any Soviet town from the Baltic to the Pacific.

The reforms were above all about making more surplus issue from coast and tundra, the economic proof of socialist progress. In many ways, the 1950s brought to the far north the industrial and urbanizing emphasis that Stalinism and WWII had initiated earlier in the south. Small *kolkhozy*, where the workers owned the means of production, were merged into to *sovkozy*, where the state was ultimate owner. The number of Chukotkan collectives contracted from forty-six to twenty six in the eight years following Stalin’s death.⁴⁴⁹ And with the *ukreplenie* (consolidation), production was expected to increase. The language of the reforms borrowed from industrial factory work, with awards set for hunters who applied “Stakhanovite work practices by overfilling the annual production plans.”⁴⁵⁰ In this climate, hunting from shore was seen as primitive. During the early years of Khrushchev’s reforms, state-owned vessels with non-native crews increased pelagic hunting, sometimes selling back the catch to former walrus hunters now staffing mechanized Chukotkan marine-mammal processing plants.⁴⁵¹ In the short term, the results followed socialist logic: the 1950s saw a surge in the number of walrus killed. Over five thousand animals were harvested by ships and collectives in 1955 alone.⁴⁵²

While human borders had become firm along the Bering Straits by the 1950s, they were not meaningful demarcations for walrus. The absences left by Soviet harvests were felt across the Straits, especially on the Bering Sea islands. But hunting for ivory also remained problematic for conservationists. Observers in the BIA and FWS worried that Yupik and Inupiat killed too many walrus and wasted much of the meat.⁴⁵³ Biologist Francis Fay concluded that the walrus herd could not survive unrestricted killing.⁴⁵⁴ The reason for a declining herd was not a mystery on the coastlines. As a Yupik man on St. Lawrence Island told the local teacher, “It looks like we are saving the walrus for the Russians,” an observation the teacher seconded, writing that “with the killing taking place among the United States and Siberian Eskimos I do not see how the herd can exist very long.”⁴⁵⁵ It was not an inaccurate assessment. The herd has lost probably half its number by the mid-1950s.⁴⁵⁶

⁴⁴⁸ GAMO F. R-22 Op. 1 D. 659, L. 9. Northern construction was often plagued with problems, from the structural difficulties of building on permafrost to bad insulation. The degree of continuous disrepair that resulted legitimated, in the argument of Nicolai Ssorin-Chaikov’s *The Social Life of the State in Subarctic Siberia* (Stanford: Stanford University Press, 2003).

⁴⁴⁹ E.E. Selitrennik, “Nekotorye voprosy kolkhoznogo stroitel’stva v Chukotskom natsional’nom okruge,” *Sovetskaia etnografiia* No. 1 (1965): 13-27, 16.

⁴⁵⁰ GAMO F. P-12 Op. 1 D. 84, L. 107. Stakhanovites were exceptionally productive workers.

⁴⁵¹ See Krupnik and Chlenov, *Yupik Transitions*, 282-283 for a discussion of how pelagic fishing and relocations were tied together at Plover Bay.

⁴⁵² Krupnik and Bogoslovskaiia, *Ecosystem Variability*, 109.

⁴⁵³ Brooks, “The Pacific Walrus and Its Importance to the Eskimo Economy,” 503-511.

⁴⁵⁴ Clarence J. Rhode to William H. Olsen, February 1956, NARA AK RG 75 Juneau Area Office 1933-1963, File 923.2. See also Dale Belcher to L.B. Williams, June 4, 1954, NARA AK RG 75 Juneau Area Office 1933-1963, File 937.

⁴⁵⁵ Albert Reed to General Commissioner for Indian Affairs, August 12 1947, NARA AK RG 75, Juneau Area Office 1933-1963, File 920.

⁴⁵⁶ Fay, Kelly and Sease, “Managing the Exploitation of Pacific Walrus,” 4.

The United States was rather behind the times when it came to understanding the Pacific walrus. Annual catch records were not kept until 1959. In the Soviet Union counting dead walrus, like counting anything else associated with production, was ritualized in annual and Five Year plans. Moreover, Soviet marine biologists began observing Chukotka's walrus in the 1930s. Twenty years later, they were well aware that the population was in decline. Of "33 former coastal concentrations on the Chukotsk Peninsula," wrote biologist S.E. Kleinenberg "only 3" remained in 1954.⁴⁵⁷ The result, as the Academy of Sciences reported to the Council of Soviets, was "a significant reduction in the number of walruses, which has a very painful effect on the situation of the local indigenous population of the Chukchi and Eskimo, for whom walrus hunting provides necessary food and household items."⁴⁵⁸

Walruses had, in essence, stopped obeying the promise that socialist production, once organized in large farms and armed with sophisticated technology, would continue to grow. It was an uneasy position, ideologically. Marx promised utopia when humans bent the non-human world completely to serve human needs. Soviet practice conflated increased production with serving people, whether the products were needed or not.⁴⁵⁹ Falling productivity signaled communist retreat. But so did the threat of actual hunger in remote villages.

Admitting that walruses had their own limits was made thinkable in part by Stalin's death: under Khrushchev, prior excess could be ascribed to prior leadership. The thaw in international communication also helped. Marine biologists were able to meet foreign colleagues. A 1954 meeting of the International Union for the Protection of Nature proved especially helpful to the walrus, as Soviet delegates left the meeting convinced that conservation of Arctic species had "high urgency and not just internal, but international, importance."⁴⁶⁰ It was also a chance to make the U.S.S.R. a leader in world issues. While socialism might generally mean more production, it could also mean comparatively *smarter* production. "Capitalist and colonial countries," explained a report on conservation measures, experienced the "profound and irreversible depletion of natural resources...before they realized the need for conservation. The Soviet Union cannot and should not repeat this path."⁴⁶¹ Or, as Kleinenberg pointed out, capitalist countries brought their walrus stocks to a "catastrophic condition," while in the U.S.S.R. walrus were "preserved in bigger numbers."⁴⁶² Cold War pride required keeping them that way.

The fate of national minorities along the Chukchi border also required. As early as 1950, the Sixth District Party Conference discussed the "decisive and radical reconstruction" of Chukotkan fishing, including a prohibition on harvesting walrus in open water due to the large number of dead

⁴⁵⁷ S. E. Kleinenberg "Ob okrane morzha," *Priroda* No. 7 (July 1957), trans. D.E. Sergeant, *Fisheries Research Board of Canada Translation Series No. 199* (Montreal: Fisheries Research Board, 1959), 5.

⁴⁵⁸ RGAE F. 544 Op. 1 D. 32, L. 13.

⁴⁵⁹ See for example Karl Marx, "Economic and Philosophic Manuscripts of 1844," and "Capital, Volume One," *The Marx-Engels Reader*, ed. Robert C. Tucker (New York, 1978), 76, 345.

⁴⁶⁰ RGAE F. 544, Op. 1 D. 32, L. 1. For more context on international ties and their importance to conservation efforts, see Douglas Weiner, *A Little Corner of Freedom: Russian Nature Protection from Stalin to Gorbachev* (Berkeley: University of California Press, 1999), 261-282.

⁴⁶¹ RGAE F. 544 Op. 1 D. 60. L. 3. "Conservation" is an American term – the Soviets generally used "nature protection."

⁴⁶² Kleinenberg, "Ob okrane morzha," 5.

animals that sank, unused.⁴⁶³ Chukotka without walrus ran the risk of “losing the cash income from sea mammal hunting, which is the age-old and main source of livelihood for the Chukchi and Eskimo collective farmers.”⁴⁶⁴ Suddenly producing more was subsumed by the need not to consume too much. In 1956, at the urging of the Academy of Sciences, the Soviet Ministers of the RSFSR passed a decree prohibiting industrial pelagic hunting. On land, indigenous *kolkhozy* could kill walrus for subsistence purposes, but the “purchase of fat and hide” by other organizations was prohibited, as was killing nursing females.⁴⁶⁵ It took several years for these regulations to make their way from decree in Moscow to practice in Chukotka, but by the 1960s, only about a thousand walrus were killed per year, and only by indigenous hunters.⁴⁶⁶

THE SLEEPING ICE

In 1972, the U.S. and U.S.S.R. signed the Environmental Protection Agreement, which formalized joint management of arctic and subarctic regions, and their wildlife. The United States and the Soviet Union decided the species was necessary for the ongoing habitation of their northern borderlands. The walrus harvest in both countries was restricted to indigenous peoples. Curtailing the walrus hunt for the sake of the walrus also meant curtailing indigenous participation in the national rituals of production and consumption on both sides of the Straits. Within the United States, with its devotion to productive liberty, not all were free to kill walrus; in the Soviet Union, where equality was ideologically paramount, not all had equal access to the hunt. The legislation ended a century of punctuated catastrophes for the walrus: the commercial killing in the 1870s and 1880s, again in the early twentieth century, and followed by twenty years of unrestrained communist pursuit starting in the 1930s.

The legislation also showed that the value of walrus was determined outside of strict accordance with capitalist or communist ideals. In the U.S., conservationists, biologists, and bureaucrats concluded that the free market valued the animals irrationally, as it was unable to prevent overkill. Their communist counterparts found Marxist technological promises, with the assumed ability to increase production year after year, a bad match with reality. In both countries, the value of sovereignty and the realities of ecology reshaped the practice of ideology. The desire to people the shoreline border meant that communist and capitalist states alike required walrus energy. Dependence on the walrus required not killing them all for an idea. The appetite of the capitalist market and the socialist collective – the former sometimes overly demanding, the latter potentially infinitely so – were abridged to protect the livelihoods of the few people the state could depend upon to live on the arctic shore. Conservation was, essentially, a program of local energy supply long before legislation like the Endangered Species Act conferred on the walrus the intrinsic right to exist, or before indigenous peoples began pushing for recognition of a traditional right to hunt.

⁴⁶³ GAMO F. P-12 Op. 1, D. 89, L.13. This measure also called for a protected zone around Wrangell Island. Open water hunting did not stop for over a decade.

⁴⁶⁴ GARF F. A-259, Op. 7, D. 8580, L. 4.

⁴⁶⁵ Kleinenberg, “Ob okrane morzha,” 5.

⁴⁶⁶ Krupnik and Bogoslovskaja, *Ecosystem Variability*, 109.

In the United States, ideas about conservation grew up alongside the practice of commercial hunting. Capitalism was always open for debate. These debates, about the proper relationship between the market, the state, and non-human things thrust differing ideas about value into the discussion of walrus, sovereignty, and indigenous peoples from the beginning. The politics of who should kill a walrus when and for what purpose had a long history of wariness toward market solutions. The Soviet Union took longer to arrive at a conservationist program, but communism also proved able to accommodate ways of valuing walrus beyond their productive potential. There were essentially no debates about the value of walrus in the 1930s or 1940s, and those that emerged in the 1950s did so within the framework of Cold War competition. But as in the United States, the discussion of the worth of the species – was it for its energy alone, for its ability to create capitalist or communist producers, for sovereign preservation, or intrinsic to the species – drew on values external to market or communal relations. Through these values, the Soviets and the Americans produced mirrored policies. Capitalists tempered the free market, and communists adopted hunting regulations influenced in part by old patrician American ideas of conservation. Through it all, the walrus were a breeding, bellowing, blubbery, if unacknowledged, reminder that the grand promise of capitalism – a better life through better consumption – and communism’s proffer of freedom through ever increasing production were severely curtailed by the geographical realities of the north.

In the wake of the 1970s legislative protection, the Pacific walrus took the space given by governmental concessions and filled it with new bodies. By the late twentieth century, Pacific walruses birthed their population back to the numbers that likely existed before on onset of commercial harvesting. Life rears up when and where it can. Walrus in the North Pacific again do the work of diving and digging and roughing the sea floor into greater productivity. Yet, the history of change on the ice-floe did not end with the cessation of industrial hunting. Winters are now warmer. Summers are longer. It is another consequence of the global appetite for energy that revolutionized human and walrus life over the prior century, an appetite that spent the twentieth century burning fossil fuels into the arctic atmosphere. The result is a new revolution on the shoreline. More villages will move or close, not for commerce or politics, but to avoid drowning: the community of Kivilina, on the Alaskan coast, may be underwater as early as 2025. At Shishmaref, two hundred feet of coastline has eroded off the edge of the village in the last forty years. Communities that ceded their adaptive mobility to settled life for the sake of civilization – for missionaries, schools, hospitals, electric lights, and the other products of modern surplus – now sit at the sharp point of civilization’s ultimate discontent. The ice that Paul Tiulana said never sleeps will stop awakening. And as the ice retracts into itself, pulling further north year by year, walruses flail on crowded, shrinking beaches, their babies crushed or miscarried in stampedes. Many of them may in the next century never make it to dry land. Having chosen not to kill walrus in blood, our species may yet kill them with water.

CHAPTER THREE: THE LAND

1890-1970

THE MOVING TUNDRA

At the northern edge of Asia and North America the land rolls inland from the sea, the open plains snaked by rivers and dotted with ponds, the undulating hills crumpling upward into worn mountains. Underfoot, the Beringian landscape is a patchwork of peat bogs, fields of ice-filled hummocks, shrub-covered plateaus, and lichen-furled rock. The sky presses down without the interruption of forest. There is a tree line with latitude as with altitude, and above it the tundra summer is only long enough for willows to grow a few hundredths of an inch each year. Even south of the line, the spruce and birch of the taiga do not soar. The wind blows all things low. Snow can fall in September and stay until June. Vegetation is buried under drifts that refract most of the sun's energy away from hungry leaves. When the snow melts, plants endure weeks too cold for photosynthesis. Roots fan and scabble against permafrost. And while cold is a consistent feature of the northern landscape, years are not consistently cold. Growth must endure the uncertainties of an early frost or a heavy rain.⁴⁶⁷ Beringia is not a place where plants easily make tissue from light. Yet there are calories fixed in the lichens and moss, in the sedges and grasses that scabble for purchase on hillsides, and in the dozens of plants that burst from melting snowbanks already in bloom. These truncated, tenacious green things are the stuff of life for some of the largest herds of herbivores on earth. Through these hundreds of thousands of *Rangifer tarandus*, known in Eurasia as reindeer and in North America as caribou, the tundra feeds wolves as large as men.

The open tundra is scarred by *Rangifer* trails, trammed half a foot deep in places by their spade-like hooves. They are gangly, long-nosed, and knob-kneed, but also imposing: an adult bull can weigh four hundred pounds and stands as tall at the shoulder as a short person. As they move, the tendon in the foot slips over the bone with a click. A moving herd sounds gently percussive. And everything about the animal is built to move. They swim well and without trepidation. Calves run within hours of birth, and their mothers eat while walking. Caribou trot with their eyes closed, apparently asleep. Even their fat is mobile, remaining liquid at low temperatures.⁴⁶⁸ Movement is how reindeer and caribou stay alive. There is not enough arctic vegetation for permanence, and too many predators for stillness. Their sensory world is tuned to places of good pasture and shelter. In spring, pregnant cows move from the lichen pastures of the interior toward the sea. They arrive at

⁴⁶⁷ For a summary of the climatic challenges posed to plants by the arctic climate, see E.C. Pielou, *A Naturalist's Guide to the Arctic* (Chicago: University of Chicago Press, 1994), 86-98.

⁴⁶⁸ For the evolution of reindeer and caribou, see E. Anderson, "Who's Who in the Pleistocene: a Mammalian Bestiary," in *Quaternary Extinctions: a Prehistoric Revolution* ed. P. S. Martin and R. G. Klein (Tucson: University of Arizona Press, 1984), 5-89, 40-89. For the physiology and adaptations of *Rangifer*, see Valerius Geist, *Deer of the World: Their Evolution, Behavior, and Ecology* (Mechanicsburg, PA: Stackpole Books, 1998), 315-336. For an overview of migration and its ecological consequences see B. C. Forbes and T. Kumpula, "The Ecological Role and Geography of Reindeer (*Rangifer tarandus*) in Northern Eurasia," *Geography Compass* No. 3 (2009): 1356-1380. The apparent sleepwalking of caribou is a personal observation, although one confirmed by experienced hunters.

the coast thin, coats patchy and ragged, and give birth where ocean breezes push away the summer's torment of mosquitoes. Bulls and barren cows follow, seeking the open plains where wolves rarely den and vegetation is thick. In autumn, the vast communal herd splinters, turning their fat-insulated backs to the howling wind for the march inland.

In their great aggregations, *Rangifer* spread like the tributaries of a living river. Where the gray strands pool together they cover the landscape to the point of becoming it. That caribou and tundra are indistinguishable is more than a visual illusion. In life, as caribou paw and yank at their fodder, they churn nutrients and dead plants into the earth. As these plants rot, soil temperature rises. Warmth is a scarce and precious thing in the north, and in its presence seeds germinate and new shoots unfurl. A grazing herd, if it does not eat foliage to the quick, amplifies the primary productivity of the tundra's botanical life.⁴⁶⁹ They feed swarms of mosquitoes and flies so massive the insects can drain half a liter of caribou blood in a day. In death, reindeer muscle feeds bears, foxes, ravens, eagles, wolverines, and humans. The movement of the great herds brings up living matter from moss to raptor to wolf pup. The wolf pup grows and drags down a reindeer. Around the stripped carcass arctic poppies bud. *Rangifer* migration is the respiration of the tundra, an oscillation of energy rather than air.

There are periods when the respiration of caribou and reindeer from coast inland and from inland coastward falters. Across the arctic, herds collapse once or twice each century, with dips and swells every ten to twenty years. There are many reasons for precipitous decline, but most are linked to climate.⁴⁷⁰ The arctic land retains less solar energy than the sea, and this scarcity amplifies the influence of variation. Land animals do not carry enough fat in their bodies to wait out lean years with the patience of a whale. As a result, they are more vulnerable to periodic undulations of warm and cold, of precipitation and vegetation. Reindeer, as creatures of ice ages, are most prosperous in the dry winters of colder phases. Light snow makes for easy grazing, fast running, and little disease. Over the course of a cool decade, the caribou population surges. Migratory territories expand as fat calves mature and roam. In places, herds eat lichens and shrub to the quick. Fifty to ninety years later, the climate warms. Winter snow is thick, the surface made into sharp ice by periods of thawing and freezing. The energy needed to move and eat surpasses the energy many animals reserved in their fat. Late migration catches herds in river breakup, shunting carcasses to shore with outgoing ice. In hot summers, caribou refuse to eat, their weakened flanks tormented by especially fierce

⁴⁶⁹ For the role of reindeer grazing in primary productivity, see J. Olofsson, S. Stark and L. Oksanen, "Reindeer Influence on Ecosystem Process in the Tundra," *Oikos* Vol. 105 No. 2 (May 2004): 386-396; Johan Olofsson, Heidi Kitti, Pirjo Rautiainen, Sari Stark and Lauri Oksanen, "Effects of Summer Grazing by Reindeer on Composition of Vegetation, Productivity, and Nitrogen Cycling," *Ecography* Vol. 24 No. 1 (February 2001): 13-24; Heidi Kitti, B.C. Forbes and Jari Oksanen, "Long- and Short-term Effects of Reindeer Grazing on Tundra Wetland Vegetation," *Polar Biology* Vol. 32 No. 2 (February 2009):253-261. Overgrazing can be a serious issue, especially for slow-growing lichen communities; for a good overview of this literature, see Forbes and Kumpula, "The Ecological Role and Geography of Reindeer," 1356-1380.

⁴⁷⁰ Christian Vibe has written the classic work on arctic population cycles, which he argues have a primary, long period of 689 years, inset with shorter periods of 116.3 years, these divided into ecological cycles of 11.6 years. While these numbers may seem forced in their elegance, arctic animal populations do seem to follow these years roughly. See Christian Vibe, "Arctic Animals in Relation to Climatic Fluctuations," *Meddelelser om Gronland* 170 (5), Copenhagen 1967. Historical sources describe wild reindeer populations following this pattern in the Chukchi region; see Igor Krupnik, *Arctic Adaptations: Native Whalers and Reindeer Herders of Northern Eurasia*, trans. Marcia Levenson (Hanover: University Press of New England, 1993), 145.

insects. Cow's bodies are stressed beyond the ability to bear calves. Wolves contract around their prey. Bears feast. Hoof disease spreads.⁴⁷¹ Then the winters cool again. *Rangifer* and the species that depend on them do not only migrate through space: their numbers are unfixed in time. There is no one historical moment when these arctic populations are not either recovering or preparing to falter.

Human beings have followed this migratory breath for thousands of years. During the last ice age, people tracked herds into southern Europe, were hunters painted charging bulls on the cave walls of Lascaux.⁴⁷² When the ice age glaciers retreated fifteen to twenty thousand years ago, people followed reindeer back to their origin along the Asian-North American juncture.⁴⁷³ Around eight thousand years ago, artists in Chukotka painted themselves hunting reindeer on skins.⁴⁷⁴ The Thule killed caribou alongside whales. Across time and space, *Rangifer* allowed people to inhabit places otherwise uninhabitable. Reindeer bodies concentrate the calories of indigestible plants into protein and fat, and propel that energy deep into the tundra and taiga, hundreds of miles from the lush productivity of the ocean and coast. Just as critical as calories eaten are calories preserved. In winter, cold can kill a bare-fleshed person in a matter of hours, and this cold lasts for months. Caribou hides keep warmth from escaping human control. Any Inupiat hunter or Chukchi sewer knew that the skins of fall-killed cows were best for parkas. Bull hides with winter hair made mats for sleeping. Calf skins were soft enough for underwear. The thin hide peeled from bony forelegs was pliable enough for mittens and boot tops. To stay clothed, a family needed at least a dozen pelts per year, and more for the leather used in sleds, tents, and the harnesses on their dogs.⁴⁷⁵

For their bipedal hunters, reindeer were essential but capricious. Killing them required that people either expend their own precious energy following the herds, or take the chance of intercepting the animals during migration. Over several centuries, the desire to keep herds close provoked a third method. In western and central Siberia, hunters began capturing live reindeer to bait herds. Over centuries of mutual adaptation, often forced by changes in the climate, people broke calves to pull sleds. A reciprocal relationship developed. Reindeer that stayed near humans were protected from wolves, and people who kept reindeer close were protected from starvation. Hunters learned to select breeding stock. As the practice spread east, reaching Chukotka a few

⁴⁷¹ There is considerable literature on the periodic crash-boom cycles of reindeer herds. The paragraph here is drawn from Krupnik, *Arctic Adaptations*, 143-147; Anne Gunn, "Voles, Lemmings and Caribou – population cycles revisited?" *Rangifer* Special Issue No. 14 (2003):105-111; J. Putkonen and G. Roe, "Rain-on-snow Events Impact Soil Temperatures and Affect Ungulate Survival," *Geophysical Research Letters* Vol. 30, No. 4 (February 2003), DOI: 10.1029/2002GL016326; and Leonid M. Baskin, "Reindeer Husbandry/Hunting in Russia in the Past, Present and Future," *Polar Research* Vol. 19, No. 1 (2000): 23-29.

⁴⁷² The environmental scientist Valarius Geist believes that reindeer allowed the late Pleistocene takeover of *Homo sapiens* from Neanderthals in Europe; he argues we owe our humanity, literally, to this species. See "Of Reindeer and Man, Human and Neanderthal," *Rangifer* Special Issue no. 14 (2003): 57-63.

⁴⁷³ For the spread of people in the wake of reindeer, see Vladimir Pitul'ko, "Ancient Humans in Eurasian Arctic Ecosystems: Environmental Dynamics and Changing Subsistence," *World Archeology* Vol. 30 No. 3 (1999): 421-436. For the people of the New World, see Stuart Fiedel, "The Peopling of the New World: Present Evidence, New Theories, and Future Directions" *Journal of Archaeological Research* Vol. 8 No. 1 (2000): 39-103 and John F. Hoffecker and Scott Elias, "Environment and Archeology in Beringia," *Evolutionary Anthropology* Vol. 12 (2003): 34-49. The dating of human habitation in the Bering Straits and in North America is hotly debated by archeologists; current research points toward multiple migrations into northeast Eurasia and across the Straits. For an excellent summary, see Charles C. Mann, *1491: New Revelations of the Americas Before Columbus* (New York: Knopf, 2005).

⁴⁷⁴ N. Dikov, *Naskal'nye zagal'dki drevnei Chukotki: Petroglify Pegtymelia* (Moscow: Nauka, 1971).

⁴⁷⁵ Ernest Burch Jr., *Caribou Herds of Northwest Alaska, 1850-2000* (Fairbanks: University of Alaska Press, 2012), 148.

hundred years before Europeans, reindeer genes also moved.⁴⁷⁶ Human ingenuity combined with the prerogatives of evolution to make a new subspecies of *Rangifer* in Eurasia: unlike their wild Alaskan cousins, they were smaller, lighter in color, and partly domesticated.⁴⁷⁷

WHEN EMISSARIES OF the Russian and American governments arrived in Beringia, domestic Chukchi herds appeared to be a familiar technology. Reindeer were beasts of burden and nutrition, solving in one gangling creature the vexing Arctic problems of calories and transit. It helped that reindeer meat was palatable to Europeans and reindeer herding recognizably pastoral. Unlike whales or walrus, the migratory habits of *Rangifer* were generally and comfortingly national.⁴⁷⁸ The capitalist market had not coveted domestic herds to the verge of extermination. Most importantly, domesticated reindeer acted like domesticated animals anywhere: they could be owned, sold or collectivized, bred for size and butchered for profit. In the late nineteenth and early twentieth centuries, missionaries of capitalism, Christianity, and Marxist communism alike saw in the thousands of ungulate bodies the opportunity to make of the otherwise barren tundra a recognizable, agrarian, profitable space.

Across Beringia's long twentieth century, capitalists and communists used domestic reindeer as the productive base of their revolutions. The two countries were involved in inverted projects: the Americans sought to transform a generally collectivist people into owners of privately property, while the Soviets wanted to make Chukchi private property collective. Changing economic form was critical, for both Americans and Soviets, because doing so would make the Inupiat and Chukchi participant in the national future.⁴⁷⁹ Both states found their indigenous peoples to be outside the progressive arc of human history. As long as the peoples of the north were confined to bare subsistence, as long as they produced no surplus, their lives would be ruled by want. For Americans looking north, history of the progressive capitalist sort was possessed by people who owned the means of making value. The Inupiat, who had limited private property, owned nothing they could bequeath to their children or use to guarantee their political liberty. The Soviet Union, meanwhile, found the Chukchi to be less without time than living in the wrong one. If Marxist history was a progression from feudalism to capitalism to socialism and onward to utopia, then the Chukchi were stuck in an immiserated, pre-feudal past.

⁴⁷⁶ Baskin, "Reindeer Husbandry/Hunting in Russia," 23-29, and Krupnik, *Arctic Adaptations*, 166-168.

⁴⁷⁷ There are also wild populations of reindeer across the Eurasian north. I will refer to wild North American *Rangifer* as caribou for the remainder of this chapter, domestic *Rangifer* as reindeer, and un-domesticated Eurasian populations of *Rangifer* as wild reindeer. The domestication of reindeer is not complete – while herds do live and reproduce under human guidance, they can also return to a wild state quickly. They are, however, an example of what historian Edmund Russell calls the "evolution revolution," as human beings have to some extent shaped the genetic trajectory of the species in ways that have also fundamentally altered human life in the arctic. See Russell, *Evolutionary History: Uniting History and Biology to Understand Life on Earth*, (New York: Cambridge University Press, 2011).

⁴⁷⁸ This is true of the Western Arctic Caribou Herd in Alaska, and the reindeer herds on the Chukchi Peninsula, which stay within the United States and Russia, and are the subject of this chapter. There are international *Rangifer* herds, the Porcupine Caribou Herd being perhaps the best known for its migration between the Arctic Slope in Alaska and the central Yukon Territory in Canada.

⁴⁷⁹ In Chukotka, Chukchi were the main but not exclusive owners of reindeer herds; some other native populations also had the tradition. In North America, reindeer herding was introduced among the Yupik as well, including herds on St. Lawrence Island. For the sake of coherence, this chapter deals with the majority ethnicities involved in both projects.

The following chapter traces the attempt to reform the tundra in the image of capitalist or communist national progress. Reindeer herds were the technology of this state-making. They carried in their social, edible bodies the potential to make the tundra home to modern ideas about consumption and production, and fundamentally altered the politics of ownership in Beringia. In comparing this transformation as it unfolded in the U.S. and Soviet Union, the chapter makes two primary arguments. First, that despite broad similarities in agenda – to civilize, to increase production, to raise standards of living and political participation, to bring the tundra under the rationale of Marxist history or market values – the capitalism in the United States and communism in the Soviet Union functioned differently at the level of ideology, not just economy. Capitalism emerges, in the narrative that follows, as an inconsistent practice. What it meant to be capitalist changed often, making market logic appear less than logical to many Inupiat. Communism was the opposite, its eschatology inspiring both violent resistance and, eventually, more complete conversion. The result altered how humans valued reindeer on the two sides of the Bering Straits. Secondly, and in unpredictable ways, using reindeer to groom the northern landscape put state ambition under the influence of things beyond human politics and values. Some were as passive as the climate, others as active as wolves. None were open to complete or lasting control. Capitalists and communists found they could change what people valued, but their plans to make the tundra valuable to only people were embedded in the landscape itself, in the wills of other species and in the workings of time and climate.

THE HUMAN TUNDRA, 1600-1850

In the late summers of the nineteenth century, the Chukchi were on the move. Groups of families, sometimes only a few, sometimes a dozen or more, wrapped their belongings in hide bundles, strapped them to sledges, and yoked their lives to reindeer broken in harness. The name *Chukchi* meant to be rich in reindeer.⁴⁸⁰ This richness was recent. In the decades prior to the seventeenth century, hunters on the peninsula learned from the Tungus people how to capture reindeer and breed them as draft animals.⁴⁸¹ Groups of nomadic families kept a few dozen reindeer, which they scrupulously avoided eating. For several hundred years, wild herds still clothed people, and wild herds along with the corpus of things hunted and gathered fed people.

Sometimes a herder would suck milk from the udder of a nursing doe, spit it into a bladder, and share it as a rare delicacy.⁴⁸² Drinking reindeer milk was a quiet prelude to a slow transformation – one that began, like many things in the north, with the climate. The eighteenth century was cool in the arctic; more does brought their fawns to term and more fawns survived. For the next fifty to eighty years, the domestic herds grew but the wild reindeer hunt continued. The Chukchi increased

⁴⁸⁰ Waldemar Bogoraz, *The Chukchee*. Memoirs of the American Museum of Natural History, vol. 11 (New York, NY: The American Museum of Natural History, 1904), 11.

⁴⁸¹ Krupnik, *Arctic Adaptations*, 161.

⁴⁸² Bogoraz, *The Chukchee*, 83.

trade with their coastal neighbors and with Russians along the western edge of the Peninsula.⁴⁸³ Reindeer hides and meat became the connective tissue between fat on the coast and manufactured goods traded from inland rivers. Herders learned to breed stock with new precision, tracking the lineage of does for generations and culling unfit bulls. Then the climate warmed near the turn of the nineteenth century. Domestic herds collapsed, as did the population of wild reindeer. Driven by a need for meat and pelage, herders began to kill their stock. The practice continued when cold weather returned and herds boomed. Reindeer breeders found themselves with a massive, self-perpetuating surplus.⁴⁸⁴ There were enough animals to quadruple the number of people living on the tundra in four or five generations.⁴⁸⁵

The human children of this reindeer revolution grew up notching the ears of domestic calves, marking them as their family's property. Owning reindeer gave Chukchi herders the energy to power bodies and the bodies to power politics. Chukchi nations fielded armies of over a thousand men. In the eighteenth century, when the Russian Empire attempted to make herders pay tribute, reindeer-fueled armies repulsed the tsar's army and sacked the Imperial fort at Anadyr. By the early nineteenth century, the Chukchi generally used their reindeer wealth for trade rather than war, remaining unconquered peoples in Imperial law. The disposition of reindeer, like the organization of land, religion, and justice, remained in Chukchi hands. And the disposition was not equal. There were poor herders, rich herders, and struggling families who worked for the wealthy.⁴⁸⁶ Being rich came with prestige and political power, the ability to give gifts and further trade partnerships, and to go to war. But Chukchi wealth was capricious. Fortunes changed when herds were lost in blizzards, to disease, or to the many beings, not all of them human, who made mischief on the tundra. The spirit that mastered a herd might turn them wild. A rich man could die at the hands of a destitute or mistreated hired herder.⁴⁸⁷ Yet, while herders knew that mistreatment of their stock violated animal souls, and observed rites of slaughter, domestic reindeer did not choose at whose hands they would die, as did wild creatures.⁴⁸⁸

⁴⁸³ Russian traders preferred dark colored fawn skins. Bogoraz, *The Chukchee*, 75-76. For a discussion of the social roots of the pastoralist shift see I. Gurvich, "Sosedskaiia obshchina i proizvodstvennye ob"edineniia malykh narodov Severa," in *Obshchestvennyi stroi u narodov Severnoi Sibiri* I. Gurvich and B. Dolgikh eds. (Moscow: Nauka, 1970), 384-417 and I.S. Vdovin, "Istoricheskie osobennosti formirovaniia obshchestvennogo razdeleniia truda u narodov Severo-Vostoka Sibiri," in *Sotsial'naiia istoriia narodov Azii* (Leningrad: Nauka, 1975), 143-157.

⁴⁸⁴ This paragraph is a synthesis drawn from Krupnik, *Arctic Adaptations*, chapters four and five; I.S. Vdovin, *Ocherki istorii i etnografii Chukchei* (Leningrad and Moscow: Nauka, 1965), 15-22; and Bogoraz, *The Chukchee*, 73-90.

⁴⁸⁵ Krupnik, *Arctic Adaptations*, 179. Krupnik notes that between the 18th and 19th centuries, reindeer herding completely transformed the human relationship with the environment, showing the quite radical capacity for change. The population in 1600 was probably around 2000 people, and reached almost 9000 by the end of the 1800s, when growth stabilized. Some of the tundra population increase also came from coastal peoples moving to join herders.

⁴⁸⁶ L. M. Baskin, *Severnyi olen': Upravlenie povedeniem i populiatsiiami olenevodstvo okhota* (Moscow: KMK, 2009), 182-188. Superficially, reindeer operated in Chukotka similarly to domestic animals imported to North America by Europeans, by creating classes of owners. See, for example, Elliott West, *The Contested Plains: Indians, Goldseekers, and the Rush to Colorado* (Lawrence, KA: University Press of Kansas, 1998). Unlike the Comanche in this example, however, domesticating reindeer generally reduced internecine violence. Moreover, reindeer domestication was a technology of entirely indigenous origin.

⁴⁸⁷ Bogoraz, *The Chukchee*, 643. Bogoraz also notes that charity was more common among maritime Chukchi than reindeer herders, although reindeer herding produced fewer outright destitute people.

⁴⁸⁸ Bogoraz, *The Chukchee*, 89.

Owned reindeer were also, in evolutionary terms, vitally subject to human desires, bred for docility, strength at harness, fattiness, and coloration.⁴⁸⁹ They were not bred for the wiles and strengths that had, for most of history, made reindeer successful. Humans therefore labored to compensate for ungulate frailties. The year was organized around caring for herds, from sheltering cows from wind as they gave birth to separating trampling bulls from calves. Families claimed pastures according to the season and fodder conditions, but without strict ownership of space.⁴⁹⁰ In the process, the lives of domestic animals fell out of rhythm with wild herds: mating earlier in the fall, dropping fawns when the weather was still cold, migrating to match human claims as well as biological needs. Animals grew shorter and slower. Herds became less attuned to wolves.⁴⁹¹ Dogs and men listened for the wolves that came with nights of heavy snow. Animals infected with scabies or hoof rot were killed. Herders gelded young bucks with their teeth, using them for draft animals to spare pregnant does. Tending the swirling half-wild stock, especially in the rut or in the stampeding madness brought on by biting flies, was the work of the whole camp. Women spelled their husbands at watch during the dusky midnights of summer. Children as young as ten knew how to lasso a calf.⁴⁹² And the labor came due. In early autumn, people moved from camp to camp celebrating the ceremony of slaughter, giving gifts and dancing, racing and gambling, eating bone marrow until grease rolled off their elbows, the shaman's drum punctuating the bustle with prayers of thanksgiving.⁴⁹³

IN THE LATE summers of the early nineteenth century, Inupiat nations were also on the move. The revolution of domestication had not broken eastward into North America. Even if reindeer could have been coxed into open Inupiat boats to cross the Straits, the Chukchi knew the power of their animate technology. Selling live reindeer was taboo. So from summer fishing camps and berry-studded hillsides, men and teenage boys fanned out across the tundra to find caribou. Older hunters taught younger men the local habits of migration, the rivers where caribou crossed and ridges where winds kept the mosquitoes away. Small groups stalked their prey with bows and arrows. Some nations built funnel-shaped corrals of stones and brush; the fastest runners, male or female, drove part of a herd into the narrow point, where animals were snared or speared in their milling, white-eyed panic.⁴⁹⁴ Others killed swimming caribou from kayaks. In some places, the hunt went on into the winter, when hunters drove scattered caribou into deep snow. A strong man could run down a cow on snowshoes.⁴⁹⁵

⁴⁸⁹ Bogoraz reported that wild reindeer in Chukotka were uniformly gray, and all other colorations or markings belonged to domestic or feral animals. *The Chukchee*, 82.

⁴⁹⁰ Bogoraz, *The Chukchee*, 75-87, V. Nuvano, "The Historical Experience of Reindeer-Herding in the Chukchi Peninsula," in *Beringia Days: International Scientific and Practical Conference Papers* (Moscow: Sovetsky Sport, 2004), 174.

⁴⁹¹ Eigil Reimers, "Wild Reindeer in Norway – population ecology, management, and harvest," *Rangifer Report* No. 11 (2006): 39.

⁴⁹² Vdovin, *Ocherki*, 15-22 and Bogoraz, *The Chukchee*, 73-90.

⁴⁹³ For a full description of the slaughter festivals, see Bogoraz, *The Chukchee*, 372-376.

⁴⁹⁴ APRCA, Charles V. Lucier Collection, Box 3, Folder: Buckland Ethnographic Notes, 3-4.

⁴⁹⁵ Descriptions of Inupiat hunting are summarized from virtually the entirety of Ernest Burch Jr.'s masterful *The Inupiaq Eskimo Nations of Northwest Alaska* (Fairbanks: University of Alaska Press, 1998), which details the local resource use of individual Inupiat nations, and from personal experience. References to caribou herd migrations come from Burch's equally sweeping *Caribou Herds of Northwest Alaska*, 67-91.

While technology and technique depended on the geography and season, no hunter could expect success if they did not relate to their prey as fellow-feeling beings. Caribou are social animals. They based their willingness to die on the social behavior of their human killers. Family harmony, the Inupiat understood, made hunting fruitful. If a man was lazy and disrespectful to human persons, caribou saw a cloud of black hanging over him and fled.⁴⁹⁶ A boy's first kill was divided among the old people to assure future success.⁴⁹⁷ Behavior toward caribou persons also mattered. A caribou could be insulted by the wound of a sloppy hunter.⁴⁹⁸ It was bad form to speak ill of the herds, especially since some caribou were once human.⁴⁹⁹ It was polite to cut off the head of a dead caribou so the soul could return to its herd, and offensive to cook its flesh in the same pot used for seal.⁵⁰⁰ Good hunters knew what caribou valued about the landscape –the best fodder, the slower rivers, the fewest bears – and what caribou valued in human beings. People behaved accordingly.

As with whales and other marine species, inland Inupiat nations did not live on caribou alone, and few remained inland exclusively. An autumn spent killing caribou might be married with a winter eating seals. Depending on the year, place, and patterns of trade, life was made from fish, arctic hare, ptarmigan, Dall sheep, moose, seals, walrus, whale, berries, bird eggs, greens, roots, the occasional bear. Catholic consumption and transience was as much a human adaptation as that of caribou. But hides were needed in villages where most food came from the sea and in communities where fat from the ocean was rare.⁵⁰¹ In the deeper interior, people ate every ungulate calorie, storing marrow bones until the lean months of late winter when women would pray, as they boiled them, for plentiful grease.⁵⁰² In other places and years, the hunters killed for hides more than the inches of pure fat that cover the muscle of a fall bull. Caribou bodies were part of trading partnerships between the many small, territorially distinct nations of Inupiat Alaska. Between people like the *Akuinigmint*, of the interior, and the *Kivallinigmint*, along the coast north of the Seward Peninsula, hides became gifts, and gifts became alliances across the boundaries of space. Meat anchored feasts between nations and sometimes across linguistic boundaries. *Rangifer* herds were wound into the political world of northwestern Alaska, supporting both warfare and diplomacy.⁵⁰³

American Beringia before the mid-nineteenth century was home to seven populations of *Rangifer*, herds defined by their habitual calving grounds and migrations, some of them half a million

⁴⁹⁶ APRCA, Charles V. Lucier Collection, Box 3, Folder: Deering Ethnography 3-9.

⁴⁹⁷ APRCA, Charles V. Lucier Collection, Box 3, Folder: Buckland Ethnographic Notes 3-4.

⁴⁹⁸ APRCA, Charles V. Lucier Collection, Box 3, Folder: Deering Ethnography 3-9.

⁴⁹⁹ Edwin S. Hall Jr., *The Eskimo Storyteller: Folktales from Noatak, Alaska* (Knoxville: University of Tennessee Press, 1975), 78-79; 211.

⁵⁰⁰ Nicholas J. Gubser, *The Nunamiut Eskimos: Hunters of Caribou* (New Haven: Yale University Press, 1965), 200.

⁵⁰¹ There is some disagreement in the anthropological literature regarding the degree of interdependence between coastal and inland hunting societies. Glenn Sheehan argues that the coastal need for hides and the interior need for fat made them essentially interdependent; see *In the Belly of the Whale: Trade and War in Eskimo Society* Aurora Monograph Series 6 (Anchorage: Alaska Anthropological Association, 1997), 184. Burch contends that the coast-interior relationship mostly bettered the material condition of the Inupiat. Having lived for several years with the Gwich'in, a people that historically ate a great many caribou and no sea mammals, I am inclined to agree with Burch. See Ernest Burch Jr., *Alliance and Conflict: The World System of the Inupiaq Eskimos* (Lincoln: University of Nebraska Press, 2005), 211-212. In either case, demand for caribou was high and facilitated both contact and conflict between coast and interior.

⁵⁰² Burch, *The Inupiaq Eskimo Nations*, 45.

⁵⁰³ For a full discussion of trade relationships, including those between Inupiat and Athapaskan people, see Burch, *Alliance and Conflict*, 145-173 and 53-66 for a discussion of warfare.

strong.⁵⁰⁴ Yet despite times of abundance, the stories of Inupiat hunters are filled with the warnings of what could go wrong on a hunt. It could rain, turning the tundra to knee-deep mush. Warm weather could rot meat, spoil fat, and sour hides. Snow might come early, stay late, or fall too thick. Human bones snapped. Muscles fatigued. Women and children left at fish camps might be attacked by other nations.⁵⁰⁵ There were valleys inhabited by wild babies, called *iraaq*, who ate unsuspecting hunters or tickled them to death. Giant fish lived in some lakes and could swallow kayaks whole.⁵⁰⁶ The tundra was open but not empty, inhabited by things of uncertain visibility and menace. Of these hazards, the nonappearance of the herds was always possible, and terrible. But when they came caribou were good to eat, good to trade, and good to think. A successful hunt was a thing of joy. So the hunters went out.

BARREN LAND, ALASKA 1890S-1920S

To European eyes, North American Beringia did not look like a place of joy or thanksgiving, or even a place of likely habitation. In the eighteenth century, Captain Cook noted that nature had made the place “extremely barren.”⁵⁰⁷ Over a hundred years later, a young whaler described hills “dotted with blackened skeletons of old ice – an utterly desolate land.”⁵⁰⁸ For Americans who staked national progress to the advance of agriculture, the “impassable deserts of snow, vast tracks of dwarf timbers, frozen rivers, inaccessible mountain ranges” made Alaska seem “absolutely useless.”⁵⁰⁹ Rain might follow the plow, but there was no plowing permafrost. Yet, when Ella Smith was born into the *Nuataagmiut* nation in the early 1880s, her family would not have used such terms for their land.⁵¹⁰ In some years, the berry patches were deep, the game fat, the fish plentiful. In other years, the jarring

⁵⁰⁴ Burch, *The Caribou Herds*, 119.

⁵⁰⁵ APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 5, Box 227, Folder H88-1D-1, p.7. Unlike many indigenous peoples in North America, keeping captives from these raids was not common, and certainly did not motivate warfare; see Burch *Alliance and Conflict*, 67, 110-111.

⁵⁰⁶ For an overview of the types and behaviors of supernatural beings encountered in northwestern Alaska, see Ernest Burch Jr., “The Nonempirical Environment of the Arctic Alaskan Eskimos,” *Southwestern Journal of Anthropology*, Vol. 27 No. 2 (Summer 1971): 148-165. Specific examples here taken from APRCA, Charles V. Lucier Collection, Box 3, Folder: Buckland Ethnographic Notes 3-4 and APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 5, Box 227, Folder H88-1B-9, p. 23.

⁵⁰⁷ John A. Cook and James King, *A Voyage to the Pacific Ocean undertaken by command of His Majesty, for making discoveries in the Northern Hemisphere: performed under the direction of Captains Cook, Clerke, and Gore: in the years 1776, 1777, 1778, 1779, and 1780: being a copious, comprehensive, and satisfactory abridgement of the voyage*, Vol. 3 (London: Champante and Whitrow, 1793), 34. Cook’s account was not always so grim, and sometimes shows the influence of Romantic conceptions of the natural world. John Muir also saw great beauty – and great bounty – in the Beringian landscape. See John Muir, “Botanical Notes,” in *Cruise of the Revenue-Steamer Corwin in Alaska and the N.W. Arctic Ocean 1881* (Washington, D.C.: Government Printing Office, 1893), 47-53.

⁵⁰⁸ Walter Nobel Burns, *A Year with a Whaler* (New York: Outing Publishing, 1913), 149.

⁵⁰⁹ This was Horace Greely’s opinion, which was considerably harsher than most. See the *New York Daily Tribune*, New York NY, April 11 1867. However, the lack of agricultural potential was an issue even for Alaska’s boosters; even Charles Sumner, an advocate for the potential of Alaskan fisheries and furs, noted that the climate was generally too cold for winter wheat or rye. See, *Speech of Hon. Charles Sumner of Massachusetts on the Cession of Russian America to the United States* (Washington, D.C.: Congressional Globe Office, 1867), 33.

⁵¹⁰ APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 3, Box 124, “Western Arctic Herd Sequence,” no page numbers.

amplitudes that route all biological life in the arctic shifted away from abundance. There were many rehearsals for lean seasons. But Ella's parents had come of age when the caribou herds migrated in strength. Caribou could be killed just for their hides and the best meat, or sold to passing ships without diminishing the herds.⁵¹¹

Then, sometime before Ella's tenth birthday, the caribou stopped coming. Her parents had already heard rumors of trouble. Some blamed shamanic warfare.⁵¹² Others noted how the caribou vanished just like the walrus and the whales. Whatever the reason, the hunt failed along Norton Sound and on the Seward Peninsula, beginning in the late 1860s and 1870s. Over the next decade, absence crept north.⁵¹³ In places, there were so few caribou that essential skins were traded from Chukotka by the Diomed Islander.⁵¹⁴ Over the next twenty years, the seven great caribou herds collapsed into two.⁵¹⁵ And as with the caribou, so too with the people. Inupiat nations were on the move, across not as hunters now, but as refugees. Famine began along Kotzebue Sound and points north in 1881. People traveled from one region of harvest failure to the next – and everything was failing in the 1880s, from fish to whale to caribou. In desperation, formerly distinct nations folded together. Most of Ella's people dispersed over hundreds of miles, some reaching the edge of the Mackenzie River Delta.⁵¹⁶ Two generations later, the children of survivors carried memories of starving people freezing in their tracks.⁵¹⁷

For American observers, the famines of the late 1800s reinforced the forsakenness of the tundra. Yet many also laid the cause with something other than latitude. "Formerly," noted M.A.

⁵¹¹ Christopher Tingook, quoted in APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 3, Box 124, "Western Arctic Herd Sequence," no page numbers. The British expedition to find John Franklin's lost ships bought caribou in the 1850s, as did the Western Union Telegraph Expedition in the late 1860s, and the International Polar Year crew in the 1880s. See John Bockstoce, *Furs and Frontiers in the Far North: The Contest Among Native and Foreign Nations for the Bering Strait Fur Trade* (New Haven: Yale University Press, 2009), 144-146 and Burch, *The Caribou Herds*, 120-121.

⁵¹² Burch, *The Inupiat Eskimo Nations*, 47, 374. My informants in the arctic have credited this belief with making Christian conversion more appealing. Research on how the dynamics of animal populations and ecological stress contribute to dependency on European goods and ideas has a rich historiography in other locations; see for example Richard White's classic *The Roots of Dependency: Subsistence, Environment and Social Change among the Choctaws, Pawnees, and Navajos* (Lincoln: University of Nebraska Press, 1988); Marsha Weisiger's *Dreaming of Sheep in Navajo Country* (Seattle: University of Washington Press, 2011) and Steven Hackel's *Children of Coyote, Missionaries of St. Francis: Indian-Spanish Relations in Colonial California, 1769-1850* (Chapel Hill: University of North Carolina Press, 2005).

⁵¹³ For accounts of the diminishing caribou herds, see William Henry Dall, *Alaska and its Resources* (Boston: Lee and Shepard, 1897), 147; Edward W. Nelson, *The Eskimo about Bering Strait: Annual Report for 1896-97* Vol. 18, pt. 1 (Washington, D.C.: United States Bureau of American Ethnology, 1899), 118, 229; Johan Jacobsen, *Alaskan Voyage 1881-1883: An Expedition to the Northwest Coast of America, from the German Text of Adrian Woldt* trans. Erna Gunther (Chicago: University of Chicago Press, 1977), 151; Charles Townsend, "Notes on the natural history and ethnology of northern Alaska," in M.A. Healy, *Report of the Cruise of the Revenue Marine Steamer 'Corwin' in the Arctic Ocean in the year 1885* (Washington, DC.: Government Printing Office, 1887), 87; John Murdoch, *Ethnological Results of the Point Barrow Expedition*, (Washington DC: Smithsonian Institution Press, 1988 [1892]), 267-268; Henry Woolfe to Sheldon Jackson, December 18, 1890, in Sheldon Jackson, *The Introduction of Reindeer into Alaska, Preliminary Report of the General Agent of Education in Alaska to the Commissioner of Education 1890* (Washington: Government Printing Office, 1891), 15; Jackson, "Destitution Among the Alaska Eskimo: An Interview with Capt. M.A. Healy," *The Introduction of Reindeer... 1890*, 10. In some places, fish and other resources kept people fed, and reindeer skins were traded in from Chukotka. In others, the simultaneous absence of land and sea mammals was too severe and large scale famines resulted.

⁵¹⁴ Tom Lopp to Miner Bruce, May 13, 1893, in Smith and Smith, *Ice Window*, 58.

⁵¹⁵ Herschel Island was established in 1890. For a geographic outline of the late nineteenth century caribou herd collapse, see Burch, *The Caribou Herds*, chapters 4 & 5.

⁵¹⁶ For a full description of what happened to the Nuataagmiut, see Burch *Inupiat Eskimo Nations*, 106-109.

⁵¹⁷ Burch, *The Caribou Herds*, 84.

Healy, captain of the Revenue Cutter *Bear*, “numbers of deer [caribou] made yearly visits. Now it is rare to find that the natives...have seen or tasted deer meat.”⁵¹⁸ Nature was not so much poor as robbed. Less clear was the identity of the thief. Paul Niedieck, a sport hunter in the Teddy Roosevelt mold, described the “wholesale massacre perpetuated by the natives.”⁵¹⁹ Naturalist William Nelson agreed that “as soon as fire-arms were introduced among the people they began to slaughter deer with true aboriginal improvidence.”⁵²⁰ Others observed that the slaughter was not without value, since caribou were hunted to supply the demands of white men. When whalers began overwintering in at Herschel Island in the 1890s, sailors needed “tons of venison for food,” in the words of one captain.⁵²¹ Market hunting along the northern coast brought some Inupiat the security of trade with whites, from flour to rifles. Simon Paneak recalled how in his childhood many “people going up that way north and east along the coast. Because everybody wanted to be caribou hunters, you know, because getting rich... That’s why all the Eskimos were moving up that way. The whalers pulled them up.”⁵²² As whales and walrus fed the global market, caribou fed that market’s laborers, and the debt of energy left in the oceans rippled from the sea to the coast and inland. But hungry whalers and desperate Inupiat hunters did not act alone on the caribou herds. The climate in the last half of the nineteenth century was warm. *Rangifer* stocks were failing around the arctic. Herds numbering in the hundreds of thousands find dozens of ways to die.⁵²³ The caribou of northwestern Alaska were caught in a perfect storm of human need and inhuman change.⁵²⁴

⁵¹⁸ Jackson, “Destitution Among the Alaska Eskimo,” 10.

⁵¹⁹ Paul Niedieck, *Cruises in the Bering Sea: being records of further sports and travel*, trans. R.A. Ploetz (New York: C. Scribner’s Sons, 1909), 115. Although caribou were killed in large numbers by native hunters with rifles, I am disinclined to take all accounts of native “overkill” at face value. Most contemporary white observers do not have a grasp of how many caribou are required to feed and clothe a family, nor do accounts like Niedieck’s deal with the desperation of the times or hunting ethics very different than his own.

⁵²⁰ William Edward Nelson and F.W. True, “Mammals of northern Alaska,” in W.E. Nelson, *Report Upon Natural History Collections Made in Alaska Between the Years 1877 and 1881*, (Washington, D.C.: U.S. Army Signal Service, 1887), 285.

⁵²¹ Harston H. Bodfish, *Chasing the Bowhead: as told by Captain Harston H. Bodfish and Recorded for Him by Joseph C. Allen* (Cambridge: Harvard University Press, 1936), 154.

⁵²² APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 3, Box 124, “Northeast Coast: Caribou, Informant: Simon Paneak,” no page numbers.

⁵²³ See Krupnik *Arctic Adaptations*, 144-145, and Bockstoce, *Furs and Frontiers*, 319-320.

⁵²⁴ The degree to which native hunting caused the caribou decline is not a settled question. Richard Stern et al. argue against any overhunting. Edward Arobio, Larry Naylor and Wayne Thomas, *Eskimos, Reindeer and Land* (Fairbanks: Agricultural Experiment Station, School of Agriculture and Land Resources Management, University of Alaska-Fairbanks Bulletin 59, 1980), 14 Burch contends that overhunting was the primary cause of the generalized crash, prompted by the introduction of firearms and trade demand with whalers. John Bockstoce disagrees, contending that even overwintering whalers at Barrow or Herschel Island would not have such a radical impact on herds of hundreds of thousands of animals; this debate can be found in Burch, *Caribou Herds*, 147-150 and in John R. Bockstoce “Conversations with Tiger: Forty Years of Dialogue...and One Uncompleted Project,” *Arctic Anthropology* Vol. 49, No. 2 (2012): 196-200. From my reading of the sources, it seems that native desire to participate in trade, made an explicit need by the late 1800s in many locations by harvest failures and epidemic disease, increased hunting pressure on caribou – a species already in decline due to usual climatic flux. In this sense, the caribou hunt marries market pressures, indigenous-white relations, and stochastic populations in a way that echoes bison hunting on the Great Plains, although without the habitat destruction, settler pressure, and proximity to industrial markets; see Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750-1920* (New York: Cambridge University Press, 2000) and Theodore Binnema, *Common and Contested Ground: A Human and Environmental History of the Northwestern Plains*, (Toronto: University of Toronto Press, 2004), chapters 1-2. Caribou populations also recovered to a large extent, something clearly not true of bison. Periodic herd decline is not addressed explicitly in the Burch-Bockstoce debate referenced above, but seems to me a significant factor to the caribou crash of this period. What is irrefutable from both oral histories and written

POLITICALLY, THE MOST influential explanation for Beringia's biological scarcity came from Alaska's first Commissioner of Education, Sheldon Jackson. Jackson came of age as a missionary among the Choctaw, and arrived in Alaska sharing the general post-bellum commitment to indigenous assimilation via Christian education and capitalist production.⁵²⁵ His task as commissioner, he wrote, was, "not only to teach reading, writing, and arithmetic, but also how to live better, how to make more money in order to live better, and how to utilize the resources of the country in order to make more money."⁵²⁶ Sailing the northwest coast with Captain Healy on the Cutter Service *Bear* in 1890, however, he found the resources of the country mostly gone. "Commerce wanted more ivory," Jackson reported to Congress, leaving the walrus nearly extinct. Whales were "sacrificed" merely "for the fat that encased their bodies," and rifles drove away the caribou.⁵²⁷ An unchecked market in wild things made for a native population too poor to survive in body, let alone be saved in soul.

Jackson found a solution when the *Bear* visited the Asian coast. The Chukchi, he observed, were "good-sized, robust, fleshy, well-fed" and even half-civilized.⁵²⁸ Their vitality, in Jackson's estimation, came from their ownership of domesticated reindeer. In his 1890 report to Congress, Jackson advocated importing tame stock to Alaska. Whales and walrus had gone the way of the bison, he noted, and the vast ocean could not be restocked like a trout stream. Caribou were capricious and implicated in a feral marketplace run by immoral gun and rum traders. But reindeer domesticated northern commerce. They made capitalism terrestrial and ownership private. Jackson, like many of his Congressional supporters, understood progress to be a function of production; hunting and gathering had to give way to an agricultural or industrial existence if the Inupiat were to advance toward civilization. Reindeer, as the Smithsonian naturalist Charles Townsend wrote,

sources is that the caribou stocks were low, and that debates over the native attitudes towards hunting and the impact of contact with whites will go on. They certainly have a distinguished historiography, from Calvin Martin's classic thesis that Ojibwa participation in trapping was the result of epidemic disease in *Keepers of the Game: Indian-Animal Relationships and the Fur Trade* (Berkeley: University of California Press, 1978), to arguments decrying any indigenous proscriptions against overconsumption, as with Shepard Krech III's *The Ecological Indian: Myth and History* (New York: Norton, 1999) and the more nuanced volume edited by M. Harkin and D.R. Lewis, *Natives Americans and the Environment: Perspectives on the Ecological Indian* (Lincoln NE: University of Nebraska Press, 2007). Krech inspired many rebuttals, including E. Hunn, D Johnson, P Russell and T. Thornton, "Huna Tlingit Traditional Environmental Knowledge, Conservation, of a 'Wilderness' Park" *Cultural Anthropology* Vol. 11 (2003): 79-103 and the post-modern critique by Paul Nadasdy, who argues that conservationism is not an objective standard, and therefore dubious as a yardstick; see Nadasdy, "Transcending the Debate over the Ecologically Noble Indian: Indigenous Peoples and Environmentalism," *Ethnohistory* Vol. 52 No. 2 (Spring 2005): 291-331.

⁵²⁵ Jackson was appointed under the Bureau of Education, rather than the Office of Indian Affairs, since Alaskan natives were not seen as dependent on the state in the same way as tribes in the contiguous states; the BIA did not take over indigenous education in the territory until 1931. Jackson himself was so intent on assisting Alaska that he campaigned for the Organic Act, which established a civil government and a federal school budget in 1884, and took his post as Commissioner the following year. For an overview of Jackson's activities, see Roxanne Willis, *Alaska's Place in the West: From the Last Frontier to the Last Great Wilderness* (Kansas: University Press of Kansas, 2010), 24-25. For a discussion of Jackson's views vis-à-vis the era's general attitude toward Indian education, see Stephen W. Haycox, "Sheldon Jackson in Historical Perspective: Alaska Native Schools and Mission Contracts, 1885-1894," *Pacific Historian* 26 (1984): 18-28.

⁵²⁶ Sheldon Jackson, "Education in Alaska," *49 Cong., 1 sess., Sen. Exec. Doc. 85* (1886) 30.

⁵²⁷ Jackson, *The Introduction of Reindeer into Alaska...1890*, 4-5.

⁵²⁸ Jackson, *The Introduction of Reindeer into Alaska... 1890*, 7.

“render a wild people pastoral or agricultural,” and “the first step toward their advancement.”⁵²⁹ Moreover, the Inupiat could own reindeer without extinguishing native title via treaties or land allotments, and without public assistance, making the animals an alternative to the Dawes Act and failed Indian policy on the prairies.⁵³⁰ Moreover, property-owning Inupiat would advance to the “position of civilized, wealth-producing American citizens.”⁵³¹ Since few people anticipated a rush of whites to Alaska, Inupiat would do a settler’s sovereign work, making the tundra home to the American narrative of progress through capital accumulation. They solved Alaska’s agrarian barrenness, and with it its human backwardness.

In the early years of the program, progress on the tundra had an ideal form. Reindeer would turn hunters into Jeffersonian yeoman herders and thus into Americans, and Americans would transform the tundra from waste into productive space. In the short term, this required bodies: missionary bodies, ministered bodies, and reindeer bodies. Their coalescence in Beringia involved bodies politic. When Jackson initially proposed importing reindeer, Congress declined to fund the project, leaving Jackson to solicit from church groups. Permission from the tsar to buy the animals was more forthcoming, but when the *Bear* arrived in Chukotka, Jackson found the tsar was indeed very far away. It was the Chukchi who owned the reindeer, and they saw in Jackson’s plan a direct threat to their trade in reindeer hides across the Straits.⁵³² It took weeks of negotiation for Jackson to secure 171 reindeer and hire four Chukchi to instruct the Inupiat in husbandry. When the cargo of quivering, bruised animals and their handlers landed near Port Clarence in 1892, Jackson discovered that the Chukchi had sold a disproportionate number of bulls.⁵³³ The hired Chukchi, meanwhile, came with habits that horrified their employers, from eating warble fly larvae off reindeer backs to guiding the herd with a pouch of human urine.⁵³⁴ And the Inupiat near the new Teller Reindeer

⁵²⁹ Charles Townsend, “The Reports of the Committees of the House of Representatives,” *52nd Congress 2nd Session 1890-1891*, 12. Townsend and Captain Healy discussed reindeer importation to Alaska in 1885, a discussion that Healy likely continued with Jackson in 1890.

⁵³⁰ Sheldon Jackson, *Annual Report on the Introduction of Domestic Reindeer into Alaska, 1892* (Washington: Government Printing Office, 1893), 14. In the critique of residential schools, reservations, and public assistance, Jackson, and Townsend as well, were clearly influenced by the recently published and highly influential polemic *A Century of Dishonor*, by Helen Hunt Jackson, which outlined the consequences of U.S. Indian policy in the west and cited welfare dependence on reservations as one of the many negative outcomes. For an overview of residential schooling and debates around it, see David Wallace Adams, *Education for Extinction: American Indians and the Boarding School Experience, 1875-1928* (Lawrence: University Press of Kansas, 1995). Conveniently, reindeer were privately owned but herded on common land, thus avoiding the need to settle land title, which the federal government was disinclined to do. Jackson’s critique of capitalist excess also fit well with the nascent Progressive movement.

⁵³¹ Sheldon Jackson, *Report of the Commissioner of Education for the Year 1894-95, Vol. 2* (Washington: Government Printing Office, 1896), 1438.

⁵³² Sheldon Jackson, “Report on Introduction of Domestic Reindeer into Alaska with Maps and Illustrations,” *52nd Cong. 2d Sess. Senate Doc. 22* (1893), 8. Jackson bought 16 reindeer in 1891 and landed them in the Aleutian Islands as a trial for the major import in 1892. Bogoras notes that the trade with the Inupiat was mostly handled by white middlemen-whalers by this point, and the Chukchi feared that their already slipping hold on cross-strait trade would worsen. *The Chukchee*, 65. In 1892, however, Miner Bruce reported that virtually all the skins used the Port Clarence – Teller region were imported from Siberia, caribou being a rare curiosity. “Miner Bruce Report to Sheldon Jackson,” in Sheldon Jackson, *Report on Introduction of Domestic Reindeer into Alaska 1894* (Washington: Government Printing Office, 1895), 33.

⁵³³ “Miner Bruce Report to Sheldon Jackson,” Jackson, *Report on Introduction of Domestic Reindeer into Alaska 1894*, 31. It is also possible that more bulls than cows died in transit.

⁵³⁴ Sheldon Jackson, *Report on Introduction of Domestic Reindeer into Alaska 1894*, 42, 63.

Station threatened to slaughter the Chukchi herders, as their presence roused memories of past cross-Strait wars.⁵³⁵

Despite the atmosphere of barely contained violence, a few missionaries, government teachers, Inupiat, and Chukchi managed to unite around keeping the miniature herd of domestic reindeer at Teller Station alive. The goal was held in common, but the value of the animals was not. Most of the first Inupiat to join the project were sons of *umiaq* captains from near Cape Prince of Wales, where the worst of the famine had passed, and traditional concepts of prestige and gift exchange remained.⁵³⁶ Promised herds of their own, eventually, the apprentices spent the first winter learning how to lasso and corral and drive a reindeer sled. In April, they watched the birth of calves, over sixty of them taking shaky legs. For these young men, owning reindeer had the potential to bolster networks of trade and patronage without relying on Chukchi suppliers.⁵³⁷ In an era of collapsing small nations, reindeer turned the tundra into tradable wealth and with it political power.

For the government teachers and missionaries who began trickling into northwestern Alaska after 1890, the reindeer were valuable for their ability to transform scattered, impoverished people and the landscape they inhabited into part of a single, plentiful nation.⁵³⁸ Educators in Alaska were not advocates of residential schooling, as it would remove native children from their tundra-specific economy, but they did seek assimilation.⁵³⁹ This required introducing soap, teaching English,

⁵³⁵ Sheldon Jackson, *Report on Introduction of Domestic Reindeer into Alaska 1894*, 58. This threat came from Inupiat from Cape Prince of Wales, a nation known to be particularly hostile to foreigners Chukchi and otherwise.

⁵³⁶ Harrison Thornton, a missionary teacher at Cape Prince of Wales from 1890-1893, described the Inupiat nearby as “a well-nourished race; though occasionally, when the weather is unfavorable for hunting, food does become scarce...we have seen these people reduced to severe straits, and actual starvation may take place at any time.” Harrison Thornton, *Among the Eskimos of Wales, Alaska, 1890-1893* ed. Neda Thornton and William Thornton Jr. (Baltimore: Johns Hopkins Press, 1931), 192.

⁵³⁷ There is debate in the anthropological literature regarding the decline in regional herds and the impact on indigenous residents, especially near the Teller station. Dorothy Jean Ray and Dean Olson both argue that on the Seward Peninsula, caribou herds did not decline enough to cause major hardship or emigration; see Olson *Alaska Reindeer Herdsmen: A Study of Native Management in Transition* (Fairbanks: University of Alaska, Institute of Social Economic and Government Research, 1969), 20 and Ray, *The Eskimos of Bering Strait, 1650-1898* (Seattle: University of Washington Press, 1975), 112-113. Although there are areas of the Seward Peninsula where fish and other resources mitigated the herd crash, a lack of hides was still a serious issue. Burch argues that this led to mass migration; see Burch *Caribou Herds*, 73-75. Burch’s careful reading of written sources and extensive oral interviews make his case stronger for the general northwest Alaska region. However, Olson’s observation that Inupiat men were not always interested in herding speaks to their considerable adaptability even to famine conditions, to the alternate sources of food and clothing available, and the substantial adjustments a herding life required, and thus remains helpful in understanding the dynamics at play at the Teller station. Moreover, it does not seem from contemporary missionary reports that the 1889 or 1890 were famine years around the station, even if they were for points north, where Burch is more expert.

⁵³⁸ In the first decade of federal education in Alaska, the line between government-hired and missionary teachers was blurred, with government teachers often married to missionaries and the content of government lessons quite religiously inflected. Jackson was open to missions of all denominations and divided Alaska into territories overseen by each, although the majority came from Protestant churches. The King Island mission was a notable and influential exception in the Bering Strait region, as the long-time priest serving there was Catholic. There was also a Catholic community in Nome. For a full list of the denominations and their territories, see Arthur Lazell, *Alaskan Apostle: The Life Story of Sheldon Jackson*, (New York: Harper and Brothers, 1960), 65.

⁵³⁹ Residential schooling was generally rejected by education officials working in Alaska, in large part because perceived environmental exceptionalism of the region. See Sheldon Jackson, “Education in Alaska,” *49 Cong., 1 sess., Sen. Exec. Doc. 85* (1886), 30-32; “Report on the Condition of the Indians” 1885, NARA CA RG 48, M-430, Roll 1. A few Inupiat children were sent to the Carlisle Indian School. Ellen Lopp lamented that they “won’t be satisfied to live like Eskimos again.” See Ellen Lopp, September 16, 1899, in Smith and Smith, *Ice Window*, 231.

discouraging polygamy, and imparting the metaphysics of investment, capital, private property, and Christian salvation. The challenges were considerable. There were few moral examples of commerce, as the missionaries nearly all found the whalers and traders to be immoral, drunken cheats. Ethics were difficult to translate. Ellen Lopp, who taught at Cape Prince of Wales, wrote home about her attempt to convey the wrongness of theft through the parable of Saul, “I might have said he disobeyed God, but I don’t know any word for disobey. These people don’t use such a word much. They have no government to obey, or Bible.”⁵⁴⁰ That the missionaries taught fealty to new people and powers did not go unnoticed. At Kotzebue, shamans threatened death to any Inupiaq who fed the local missionaries.⁵⁴¹ Christianized Inupiat complained of social isolation.⁵⁴² Some missionaries noted that it took epidemic disease to make converts.⁵⁴³ Others kept tallies of taboos and rites they saw passing away.⁵⁴⁴ Respected whites, like the Lopp family, found themselves hunting as much as ministering, their children fluent in Inupiaq rather than English. They wondered how to teach religion and civilization when between denominations and interpretations of Christianity “we don’t agree among ourselves even” on “what to tell them they should or shouldn’t do.”⁵⁴⁵

The reindeer did not require their human minders to agree on their value in order to multiply. Born onto tundra nearly without caribou, calves flourished on abundant lichen. Even wolves were rare. In 1897, the number of domesticated *Rangifer* was over two thousand head. Four years later, the population had doubled. The growth of the herds seemed to confirm the tundra’s potential productivity. “The deer have taken kindly to their new home,” the *Washington Post* reported, and “the native boys...grow proficient in their management.”⁵⁴⁶ Congress granted the program annual appropriations. Herds spread outward from Teller Station, husbandry now taught to Inupiat apprentices by Norwegian Saami, invited to Alaska by Jackson and heralded in the national press as Christian, blue-eyed, and civilized.⁵⁴⁷ Thomas Lopp, who was fluent in Inupiaq and well-respected in Inupiat communities, reported growing enthusiasm for herding.⁵⁴⁸

Less clear was precisely how capitalism should look on the tundra, and who made a good capitalist. The reindeer program had been sold to Congress, and to potential native herders, as an Inupiat-only industry, a guarantee of subsistence at the least and source of profit at best. When the discovery of gold at Nome brought 40,000 hungry whites to the Seward Peninsula, the possibility of profit became real. But profit required ownership. And ownership, in the eyes of Jackson and his

⁵⁴⁰ Ellen Lopp, April 16, Smith and Smith, *Ice Window*, 55.

⁵⁴¹ Journal of Friends Mission, Entries for March 23 1901, March 24 1901 and Summary of traditions broken in 1900-1901, California Yearly Meeting of Friends Church Archives, Whittier CA, copy in APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 3, Box 74, file “California Yearly Meeting of Friends.” See also T.L. Brevig, *Apaurak in Alaska: Social Pioneering Among the Eskimos*, trans and ed. J. Walter Johnshoy (Philadelphia: Dorrance & Co, 1944, 180-181.

⁵⁴² Tom Lopp, June 1895, Smith and Smith, *Ice Window*, 109.

⁵⁴³ Brevig, *Apaurak in Alaska*, 158.

⁵⁴⁴ Journal of Carrie Samms, October 13 1897, California Yearly Meeting of Friends Church Archives, Whittier CA, copy in APRCA, Ernest S. Burch Jr. Papers, USUAFV6-627, Series 3, Box 74, file “California Yearly Meeting of Friends.”

⁵⁴⁵ Ellen Lopp, June 15 1893, Smith and Smith, *Ice Window*, 64.

⁵⁴⁶ “Put an End to Famine: Natives of Alaska Supplied with a Substitute for Walrus,” *Washington Post*, Washington, D.C., December 19, 1893. Coverage of the reindeer project in the 1890s and early 1900s in the press fills two folios in the National Archives; see NARA DC RG 75 Entry 821, showing coverage in all major US cities and smaller towns, helped by an uptick in public interest in Eskimos and the arctic in the late 1800s. See Wills, *Alaska’s Place*, 28.

⁵⁴⁷ “Herders of Reindeer,” *Washington Post*, Washington D.C., July 1st 1894. See also Willis, *Alaska’s Place*, 31.

⁵⁴⁸ Tom Lopp to Miner Bruce, May 13, 1893, Smith and Smith, *Ice Window*, 59.

missionary partners, required civilization. The Inupiat were seen as too childlike and irresponsible to be given herds without proper education in herding, literacy, and Christian values first. Reindeer were transferred from federal herds to Inupiat owners only after white teachers deemed each individual worthy. For Inupiat, this meant years caring for animals they were prohibited from killing, punished for eating, and chastised for leaving untended in order to fish or hunt, all while living away from their families.⁵⁴⁹ As a result, herds had little obvious political or practical use for young Inupiat men. And even when a herd passed into Inupiat hands, they did not always stay there. Charlie Antisarlook, an influential Inupiat trader and shaman, received a herd of his own, only to have the government request it back in order to aid whalers iced in at Point Barrow.⁵⁵⁰ The Saami, meanwhile, were rapidly accumulating reindeer as part of their government salary. And in 1914, Carl Loman, an entrepreneur based in Nome, bought 1200 animals from a Saami herder and began developing his own enterprise. Thus, just as the market for draft and food animals boomed with the gold rush, the profits passed from miners to Saami, white owners, and missions. Private property functioned according to the perception of civilization, and civilization tracked onto race. For many Inupiat, accustomed to seeing in the tundra possibilities other than pastoralism, reindeer were no more certain than hunting. As a result, nearly fifty percent of the reindeer in Alaska were in non-native hands a decade after the program began.⁵⁵¹

In the first decades of the twentieth century, with tens of thousands of reindeer spread out across Alaska, the Bureau of Education was impressed by the potential of the herds.⁵⁵² Less impressive was the lack of indigenous ownership. Instead of making the Inupiat self-sufficient, missionary education “along material and temporal lines has largely been a series of failures,” wrote one Superintendent, “making the natives dependent by feeding them.”⁵⁵³ Implicit in the critique of missions was their inability to instill a functional understanding of the earthly future. Inupiat pupils were not trained to understand profit, and religious education had not made Inupiat proprietors. Without property, Inupiat were still a financial burden and isolated from civic participation. It was secular management of people and land which would guarantee the prosperity of both.⁵⁵⁴ Given this,

⁵⁴⁹ The exact terms of how the Inupiat would earn their animals changed frequently. At first successful apprentices would receive ten head after two years. In 1893, the reindeer station began giving each apprentice a few deer per year, and in 1894 the term of apprenticeship was extended to three years; by 1896, the term had grown to five years with the possibility, rather than the guarantee, of receiving a starter herd at the end.

⁵⁵⁰ While Sheldon Jackson reported the drive of reindeer as a success, Charles Brower, who ran the Barrow shore whaling station, wrote that the whalers had plenty of local food and the reindeer arrived too thin to eat; see *Fifty Years Below Zero: a Lifetime of Adventure in the Far North* (New York: Dodd, Mead and Company, 1942), 212-213.

⁵⁵¹ Stern, et al., *Eskimos Reindeer and Land*, 25-26.

⁵⁵² U.S. Bureau of Education, *Report on the Education of the Natives of Alaska and the Reindeer Service 1910-11* (Washington D.C.: Government Printing Office, 1912), 23; U.S. Bureau of Education, *Report on Work of the Bureau of Education for the Natives of Alaska 1913-1914* (Washington, D.C.: U.S. Government Printing Office, 1917), 7.

⁵⁵³ Walter Shields, Report Superintendent N.W. District, June 30 1915, p.10-11, NARA DC RG 75, General Correspondence 1915-1916, Entry 806.

⁵⁵⁴ The desire for secular management of both people and environment was part of the general expansion of resource governance as part of the expansion and consolidation of the state during the first decades of the twentieth century. See Bruce J. Schulman, “Governing Nature, Nurturing Government: Resource Management and the Development of the American State, 1900-1912” *Journal of Policy History*, Vol. 17 No. 4 (October 2005):375-403. Schulman interprets resource management in this era less as a battle between conservationists and preservationists than as a program of expanding and consolidating federal control, although the emphasis on efficiency that Samuel P. Hays identified seems alive and well in

the Bureau reversed its earlier position, concluding that ownership was a precursor to civilized behavior, not its reward. By 1907, the policy of the newly formed U.S. Reindeer Service was to make herders of as many Inupiat men as possible.⁵⁵⁵ The apprenticeship program was abandoned. The Service arranged annual reindeer fairs, with contests in lassoing, butchering, and sled racing. In the turmoil of gold rush market booms and busts, epidemics, and changing trade patterns, many Inupiat found much to recommend owning reindeer. By 1915, two-thirds of the 70,000 reindeer in Alaska were owned by native herdsmen.⁵⁵⁶

The Reindeer service had created yeoman farmers. But reindeer yeomen were not creating profit. The local market for reindeer meat surged and ebbed with the gold rush: initially, miners were so desperate they paid thirty cents a pound for meat, or simply stole reindeer off the range.⁵⁵⁷ Then the white population stole away altogether, as mining sites were claimed or proved a bust. And regardless of the market, there was the practical issue of private ownership in common space. “The Lapp reindeer herd and the Native herd were mixed last summer,” wrote one teacher, so “it is a hard task to keep these two herds apart, because the herds are getting too big and the grazing grounds too small.”⁵⁵⁸ Claims to ownership became fraught. The state, through the Reindeer Service, was officially in charge arbitrating reindeer transactions, but herds traded hands without records.⁵⁵⁹ Some Inupiat, interested in staying near their families and fishing sites, tended not move their herds, and “Deer that are herded over the same ground after the food is depleted will scatter and it is almost impossible to bunch them into quiet herds again.”⁵⁶⁰ The situation grew worse after the 1918 flu pandemic killed many herders, leaving their stock to wander the range half-feral.

Into this chaos came a new capitalist model for the tundra. Carl Lomen, an entrepreneur based in Nome, saw in the milling ill-tended herds a potential fortune from reindeer. In the early years of the Reindeer Service, Lomen bought animals from Saami and missions. By the early 1920s, with a herd in the thousands, the Loman Company ran a ranch-like operation where hired Inupiat minders tending herds that fanned out from central butchering and cold-storage facilities. Lomen aggressively marketed reindeer products outside Alaska, seeking contracts with elite restaurants, dog-food companies, and tanneries. Lomen even courted the U.S. Army as a buyer for hides.⁵⁶¹ In the years leading up to the Depression, almost 6.5 million pounds of reindeer products were sold outside of Alaska, most by Lomen.⁵⁶² Many Inupiat, meanwhile, grew used to selling Lomen their steers or working for wages. The result was an increasingly turn toward the market and its values for

Alaska; see *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge: Harvard University Press, 1959).

⁵⁵⁵ The Service was run by former Sheldon Jackson employee William Lopp, who came to see Jackson’s policies as harming the Inupiat. Lopp’s desire for more native ownership also came at a time when federal interest in supporting religious education was on the wane.

⁵⁵⁶ U.S. Bureau of Education, *Report ... 1910-11*, 23; U.S. Bureau of Education, *Report ... 1913-1914*, 7.

⁵⁵⁷ Sheldon Jackson to W.T. Harris, January 14, 1904, NARA CA RG 48 M-430, Roll 10; Brevig, *Apaarak*, 287.

⁵⁵⁸ Unalakleet Teacher Wellman, Annual Report 1922-1923, NARA AK RG 75 Alaska Reindeer Service Historical Files, File: History-general, 1933-1945.

⁵⁵⁹ Erik Nylín to Supt. Dupertuis, May 18 1923, in APRCA, Fosma and Sidney Rood Papers, Box 2.

⁵⁶⁰ Fred Tait to Supt. Evans, April 1 1921, in APRCA, Fosma and Sidney Rood Papers, Box 2.

⁵⁶¹ Willis, *Alaska’s Place*, 40-41.

⁵⁶² Olson, *Alaska Reindeer Herdsmen*, 14.

labor. As one Bureau teacher complained, “the Natives want pay for everything they do and have everything possible for nothing.”⁵⁶³

What did not pay, much to the Reindeer Service’s frustration, were small native-owned reindeer herds. The fine margin of calories on the tundra meant that reindeer birth one fawn per female per year. The average Inupiat herd of fifty animals did not yield a profitable surplus, once herders fed themselves and saved breeding stock. The small farmer on the tundra would only ever be a subsistence farmer. But large herds like Lomen’s were making money. Inspired by this model, and concerned that Inupiat would be pushed out of owning their own herds, the Reindeer Service facilitated the creation of joint stock corporations. Individual Inupiat owners pooled their animals into large herds, and shared the profits.⁵⁶⁴ These ventures were usually managed hierarchically, with Reindeer Service officials at the top and day-to-day management overseen by a chief herder.

Raising reindeer in large herds had support from scientists as well. L.J. Palmer, a senior biologist at the Bureau of Biological Survey, recommended treating *Rangifer* like cattle on the western prairies.⁵⁶⁵ In this model, large herds should be let graze freely over the range, rather than herded closely. Doing so would rationalize the animal’s use of fodder. Basing his analysis on the emerging concept of carrying capacity, Palmer concluded that open herds were less likely to damage lichens through overgrazing.⁵⁶⁶ Rational allotment of rangeland was also critical. Without control over who grazed their animals where, some parts of the tundra were over-used and others left fallow. This limited the number of reindeer the tundra could support. Palmer calculated that with managed herds, each reindeer required thirty acres of good browse, meaning the tundra could support three to four million animals.⁵⁶⁷ But these future profits did not come from small yeoman farmers. Instead, science prescribed a different sort of capitalism: one with large farms, a few chief herders, and many wage laborers.

Rangeland capitalism was the 1920s ideal. In reality, tundra remained a mess of unmarked herds and conflicting ideas about who should own them and where their value lay. For some Inupiat, reindeer were valuable sources of food. For others, they were wage work. Seen as one economic option on a plentiful landscape, many Inupiat were ambivalent.⁵⁶⁸ So was the state. On the one hand, reindeer were propagated and regulated as a specifically indigenous resource – Inupiat herders were not even allowed to sell female deer to whites, in order to keep stock in native hands. Reindeer were valued, in this view, for their ability to further assimilation and self-sufficiency. Yet some federal observers found the Lomen’s marketing efforts compelling. As early as 1914, the Secretary of the Interior favored a plan allowing white ownership in order to best exploit the

⁵⁶³ W. Johnson to Lopp, April 11, 1917, NARA AK RG 75 Alaska Reindeer Service Historical Files, File: History-general, 1933-1945.

⁵⁶⁴ U.S. Bureau of Education, *Report ... 1914-1915*, 8.

⁵⁶⁵ Seymour Hadwen and Lawrence Palmer, *Reindeer in Alaska* (Washington D.C.: Government Printing Office, 1922), 69.

⁵⁶⁶ Lawrence Palmer, *Raising Reindeer in Alaska* (Washington D.C.: United States Department of Agriculture Miscellaneous Publication No. 207, 1934), 23.

⁵⁶⁷ Hadwin and Palmer, *Reindeer in Alaska*, 4.

⁵⁶⁸ Margaret Lantis, “The Reindeer Industry in Alaska,” *Arctic* Vol. 3 No. 1 (April 1950): 27-44. Olson contends that the degree of specialization required for herding did not mesh well with the generalist orientation of indigenous economic production; *Alaska Reindeer Herdsmen*, 97.

tundra.⁵⁶⁹ For better or worse, men like Lomen were better schooled in the arts of investment and marketing and might make more of the industry. “A Native cannot see the possibilities of the reindeer business,” wrote one government teacher, “he has no vision. For him today is sufficient unto itself.”⁵⁷⁰ And someone needed to manage the growing herds. By 1929, 400,000 domestic reindeer were eating their way across Alaska. The extravagance of their reproduction seemed proof that civilization was overcoming the paucity of arctic nature. And civilization tied the frontier to the rest of the country through the market. William Randolph Hearst went so far as to cite reindeer as a solution to New York’s booming, potentially protein-starved 1920s population.⁵⁷¹ In this view, reindeer were valuable not as a tool of capitalist pedagogy among the natives but as a commodity for the nation. That the nation would find a reason to buy this commodity was, as Arctic adventurer John Burnham observed, “a commonplace statement of the inevitable.”⁵⁷²

CONTESTED LAND, CHUKOTKA 1900S-1940S

Moving north out of the taiga, with its wind-beaten spruce and low alder, large patches of the tundra surface appear pale. Here mats of greenish-grey reindeer lichen cling to dry rock and sandy soil, each minute horn-like branch made from interdependent fungus and algae. Where water is held on the surface by permafrost, meadows of sedge grass and primrose are broken by mounds of undecomposed plants, their ancient carbon become the peaty home for shrub birch and cloudberries. Further north still, bright splays of red and yellow lichen pool on bare stone. Across these miniature biomes come the *Rangifer* herds, their bodies composites of more than four hundred species of shrubs, sedges, grasses, mosses, and lichen. In Chukotka, the reindeer move with their minders, who rest their animals on good pasture and rest pastures from the damages of grinding ungulate teeth.

In the 1860s, a Chukchi boy named Ei’heli grew up on the Omolon River, learning to route the migration of his father’s stock from meadows of fattening grasses in autumn to the beds of lichen that kept does healthy through winter.⁵⁷³ Ei’heli came of age in a time of plenty. His father, Amar’wkurgin, owned two large herds. Ei’heli grew to have five, and almost as many wives. As with the reindeer, so too with the people. Growing populations shifted ranks and territories. Some Chukchi became traders, hauling their wares on reindeer sledges from coast inland. Seal hunters turned to reindeer husbandry. Poor men settled among walrus huts. It was, in the words of one Chukchi man, a time of peace, when “everybody thinks only of gain, and all tribes and nations

⁵⁶⁹ “Reindeer to help the meat supply,” Newsprint clipping, June 15 1914, NARA MD RG 48, Central Classified File 1907-1936, file: 6-2/6-4; Lewis Laylin, Sec. of Interior to Hon. James Wickersham, March 12, 1913, NARA AK RG 75, Alaska Reindeer Service Historical Files, File: History-general, 1933-1945.

Interior oversaw the Bureau of Education, which in turn ran the reindeer program in these years.

⁵⁷⁰ Erik Nylin Annual Report from Wales 1922-1923, in APRCA, Fosma and Sidney Rood Papers, Box 2.

⁵⁷¹ William R. Hunt, *Arctic Passage: The Turbulent History of the Land and People 1697-1975* (New York: Charles Scribner’s Sons, 1975), 219.

⁵⁷² John B. Burnham, *The Rim of Mystery: A Hunter’s Wanderings in Unknown Siberian Asia* (New York: G.P. Putnam’s Sons, 1929), 281.

⁵⁷³ Bogoraz spent considerable time with Ei’heli during his sojourns among the Chukchi, see *The Chukchee*, 73.

intermingle.”⁵⁷⁴ Some gained a great deal. By the first years of the twentieth century, between five and ten percent of herders controlled between half and two-thirds of the Peninsula’s domestic herds.⁵⁷⁵ But prosperity was tied to the reindeer, and the reindeer to the tundra, and the tundra to the fundamental pulse of climate. The twentieth century came in warm. The land was covered by sleet, pinning reindeer in poor pastureland. Wolf packs grew. Some herders lost half their animals.⁵⁷⁶ Ei’heli’s luck turned foul with an outbreak of hoof disease.

The stochastic disposition of the tundra was no mystery to Imperial Russia’s regional governors and local officials. Herd crashes often meant starvation among the people the tsar was meant to govern. Rapid reversals in fortune and prestige troubled attempts to anoint hereditary, tribute-paying chiefs among the Chukchi.⁵⁷⁷ And the politics were more than local. Without formal bonds of loyalty – or a monopoly on violence and commerce – the Russian state watched Chukchi-controlled furs go to Americans along the coast rather than merchants on the Kolyma. But Chukotka’s regional administrators had an eye on Alaska for another reason. American schools, one administrator wrote, produced “consciousness on the part of their natives regarding their need for culture,” not to mention expanding herds.⁵⁷⁸ Education seemed to be making more Americans and more reindeer. Imperial administrators wanted similar schools for the “mental development” of herders, to “raise their level of initiative and the transition to a more advanced use of natural goods [*blago*],” while “introducing Russian culture.”⁵⁷⁹ At the least, Russianized Chukchi might avoid starvation. At best, they could domesticate an international market, and perhaps even pay taxes.

Charitable and sovereign ends were conveniently aligned, if only the number of reindeer would stabilize. And stabilizing reindeer herds seemed a more manageable and urgent task than finding teachers for “the very scattered population of the Peninsula.”⁵⁸⁰ In 1897, the Military Governor of Primorskaia Oblast’ requested 1823 rubles for a veterinarian to study reindeer diseases in Kamchatka and Chukotka.⁵⁸¹ Over a decade later, the Governor was still arguing for the necessity of veterinary assistance, since “the industry of reindeer herding, given [the region’s] conditions, has such serious economic importance.”⁵⁸² Finally, in 1911, two vets went north, equipped with “the physical health permitting them to serve in the far districts” but without medical supplies or the

⁵⁷⁴ Bogoraz, *The Chukchee*, 44-45.

⁵⁷⁵ Baskin, *Severnyi olen*, 186-187.

⁵⁷⁶ RGIA DV F. 702, Op. 1, D. 1682, L. 13; S.A. Buturlina, *Otchet upolnomochennago Ministerstva vnutrennykh del’ po snabzheniiu prodovol’stvem v 1905 godu, Kolym’skago i Okhotskago kraia* (St. Petersburg: Tipografia Ministerstva vnutrennykh del, 1907), 70-72; RGIA DV F. 702, Op. 3, D. 160, L. 28.

⁵⁷⁷ Amar’wkurgin was anointed the “Highest Chief of all the Chukchi” by Kolyma official Baron Maydell (Maidel’) in the 1860s, see Baron Gerhard Maydell, *Reisen und forschungen im Jakutskischen gebiet Ostsiбириens in den jahren 1861-1871* (St. Petersburg: Buchdruckerei der K. Akademie der wissenschaften, 1893-96). His son inherited this title, at least in the eyes of the Russians. See Bogoraz, *The Chukchee*, 73, 706-708.

⁵⁷⁸ RGIA DV F. 702, Op. 3, D. 414, L. 87. N.F. Kallinikov went so far as to advocate a program modeled explicitly after the U.S. union of missions and herding; RGIA DV F. 702, Op. 1, D. 682, L. 3-5a.

⁵⁷⁹ RGIA DV F. 702, Op. 3, D. 414, L. 89.

⁵⁸⁰ RGIA DV F. 702, Op. 1, D. 682, L. 93. As of 1911, only one school not on the coast or at the administrative and trading hubs of Anadyr and Markovo, where many of the pupils were Cossacks, was in operation.

⁵⁸¹ RGIA DV F. 702, Op. 3, D. 160, L. 13-14.

⁵⁸² RGIA DV F. 702, Op. 3, D. 160, L. 40.

training visit to the Teller Station that Petropavlovsk's commander suggested.⁵⁸³ Once in Chukotka, the young men faced considerable difficulty. The Chukchi did not want to discuss their herds' condition with outsiders. There were no roads. Even the etiology of hoof disease was unclear. One report noted that U.S. scientists attributed the illness to bruising from rocky ground, whereas the Russians believed it was infectious.⁵⁸⁴ Four years after the veterinarians' arrival, the climate warmed again. Chukotka's domestic herds lost more than 300,000 animals to disease, wolves, and starvation. Wild reindeer nearly vanished entirely.⁵⁸⁵

FOR THE CHUKCHI, the sudden poverty of the tundra was an expected revolution, and one that, in the experience of men like Ei'heli, cycled back to cold winters, fat fawns, and new distributions of reindeer luck. Less expected were the Bolsheviks. The Russian Revolution came to the tundra first as rumor: skirmishes in Anadyr, unrest along the coast. Then trade faltered. But neither the Red nor the White armies could move easily on the tundra, and fighting stayed close to the ocean and rivers.⁵⁸⁶ For many Chukchi, 1917 was nearly a decade in the past before they met in the flesh any emissaries of the new Soviet state. The men and women who finally did come out among the mountains and lakes, were, according to ethnographer Waldemar Bogoras, "missionaries...ready to take to north the burning fire of their enthusiasm born of the Revolution."⁵⁸⁷ Inspired by ideology, lured by the exotic, or pragmatically interested in salaries, many shared with their American counterparts an impression of the northern landscape, as "a most depressing sight: bare tundra, black mountains in the distance, not a sign of life."⁵⁸⁸ Also like the missionaries to the east, their task was to convert barrenness into abundance. Reindeer were critical to this process. "Judging from the example of Alaska," a Committee of the North report noted, "reindeer herding can achieve significant development and deliver an important industry not only for natives of the north, but to the national economy as a whole."⁵⁸⁹

Such development required the transformation of human life on the tundra. As primitive sufferers of Tsarist rule and American predation, the Chukchi lagged far behind the historical trajectory of the revolutionary state. They needed "A NEW LIFE...a new, healthy, cultured

⁵⁸³ RGIA DV F. 702, Op. 1, D. 682, L. 45, 62. The regional governors during the early 20th century were very aware and interested in what the American reindeer were doing, particularly given the apparently boundless growth of U.S. herds. See also RGIA DV F. 702, Op. 3, D. 160, L. 33.

⁵⁸⁴ RGIA DV F. 702, Op. 1, D. 682, L. 25. *Necrobacillus*, a bacterial infection of the hooves, is the most common disease among reindeer in northeastern Eurasia and is prevalent during hot years when warm, damp conditions allow the bacteria to breed. Damaged hooves are also more susceptible. See K. Handeland, M. Moye, B. Borgsjo, H. Bondal, K. Isaksen, and J.S. Agerholm, "Digital Necrobacillosis in Norwegian Wild Tundra Reindeer (*Rangifer tarandus tarandus*)" *Journal of Comparative Pathology*, Vol. 143 No. 1 (July 2010): 29-38.

⁵⁸⁵ RGIA DV F. 702, Op. 3, D. 563, L. 147-148. The local administrator at Anadyr blamed the loss of wild reindeer on gold prospectors' overhunting, which will be discussed in Chapter Four. Wild reindeer had to compete, in Chukotka, with domesticated animals, and their population was already under pressure before the adverse events of the early 20th century. See Krupnik, *Arctic Adaptations*, 173-175.

⁵⁸⁶ RGIA DV F. R-2333, Op. 1, D. 120, L. 9, 70.

⁵⁸⁷ Waldemar Bogoras, "Podgotovitel'nye mery k organizatsii malykh narodnostei," *Sovetskaiia Azïia* No. 3 (1925): 48.

⁵⁸⁸ N. Galkin, *V zemle polunochnogo solntsa* (Moscow: Molodaia gvardiia, 1931), 36. For a detailed discussion of the motives and demographics of the early Soviets in the north, see Yuri Slezkine, *Arctic Mirrors: Russia and the Small Peoples of the North*, (Ithaca: Cornell University Press, 1994), 150-163.

⁵⁸⁹ GARF F. 3977, Op. 1, D. 225, L. 188.

existence in step with peasants and workers throughout this Soviet country.”⁵⁹⁰ In part, this entailed literacy, hygiene, women’s emancipation, medical care, and an end to displays of backwardness like snacking on lice. But, as good Marxists, social advancement emerged from the economic base. For the Soviets, this required making all production the result of collective industry. And collective industry required eliminating the class structure Soviets saw in how reindeer were distributed among the Chukchi. The tundra had a proletariat of poor herders, and an exploiting class of *kulaks*. To achieve liberation from want and equality between all, poor herders needed to pool their animals and the rich “exploiting” class had to relinquish their stock for the common good. From these new herds, cooperative *artels* would advance to collective farms, or *kolkhozy*, or even fully state-run *sovkhozy*. As the Committee for the North’s Karl Luks argued, the result would “put [the Chukchi] on independent economic footing, giving them the opportunity not only to feed themselves but constantly improve their lives, to become confederates in the worker’s state.”⁵⁹¹

It was this message that the Soviet ethnographers, cadres, and assorted ministry agents brought to the tundra in the 1920s. The tundra had its own messages. Physically, the landscape imposed on every plan. In winter, the only transit was by dog team or draft reindeer. Movement in the summer was nearly impossible. Insects were a torment. Housing was often in *jarangas* filled with horrifying smells and darkness. Injury was frequent, and death possible.⁵⁹² Socially, the tundra was scarcely more inviting. Many Soviets arrived expecting to find primitive communists, not a regime of uneven ownership.⁵⁹³ Translators were few, and even when delivered in Chukchi, the Soviet message was often unwelcome. The Yupik and coastal Chukchi were relatively amenable to grafting Soviet terminology onto their collective hunting practices. The tundra Chukchi saw few benefits. Lenin’s promise of national self-determination on the road to socialism was hardly revolutionary, given the Chukchi’s longstanding *de facto* independence from the tsars.⁵⁹⁴ Moreover, Soviet attempts to learn about the landscape and attempts at benevolence towards its people were easily misinterpreted. The

⁵⁹⁰ GARF F. 3977, Op. 1, D. 225, L. 5.

⁵⁹¹ RGIA DV F. R-2411, Op. 1, D. 66, L. 191. Luks explicitly argues against the dependency that the American reservation system created.

⁵⁹² For example, Vladimir Ivanchikov, a disciple of Bogoras, drowned in Chukotka, and Karl Luks was killed in a firearm accident.

⁵⁹³ This phenomenon occurred across the Soviet Union; see for example, Bruce Grant *In the Soviet House of Culture: a Century of Perestroikas* (Princeton: Princeton University Press, 1995).

⁵⁹⁴ Andrei Znamenski argues that the Chukchi established a “middle ground” between American traders and the Russian Empire; certainly they had carved out a space of unique indigenous sovereignty; see “A Vague Sense of Belonging to the Russian Empire: The Reindeer Chukchi’s Status in Nineteenth Century Northeastern Siberia” *Arctic Anthropology*, Vol. 36, No. 1 /2 (1999): 19-36. What the Chukchi did not have, and what the Soviets believed they needed, was national structure combined with central state economic intervention. Since the Chukchi saw no need for a temporary nation *en route* to communism and liked their economic organization, Soviet nationalities policy had little to offer. For a discussion of Soviet policy that best fits the debates had by Soviet planners in Chukotka, see Yuri Slezkine, “The U.S.S.R. as a Communal Apartment, or How a Socialist State Promoted Ethnic Particularism,” *Slavic Review*, Vol. 53, No. 2 (Summer 1994): 414-452. There is a large literature on Soviet nationalities policy, much of which applies more in settled agricultural regions where the creation of national elites was more successful; see Terry Martin, *The Affirmative Action Empire: Nations and Nationalism in the Soviet Union 1923-1939* (Ithaca: Cornell University Press, 2001). Francine Hirsch’s contention that the Soviet Union did not have clear aims regarding national policy does not fit the Chukchi case especially well, as the “communal apartment” approach was well established by the time the Soviets took control of the Peninsula, although her argument that nationalism was not the downfall of the Soviet Union matches the Chukchi case; Francine Hirsch, *Empire of Nations: Ethnographic Knowledge & the Making of the Soviet Union* (Ithaca: Cornell University Press, 2005).

Chukchi took surveys of tundra vegetation to be shamanic curses.⁵⁹⁵ They suspected doctors of killing patients, and a census of reindeer herds of killing their animals.⁵⁹⁶

And then there were the reindeer. “The Chukchi took me in and willingly talked about general, abstract themes and topics that do not affect the fundamental problems of the economy,” reported one Committee of the North agent of his travels in the interior, “But when issues began to touch on the deer and reindeer herding, the Chukchi became wary and stopped talking.”⁵⁹⁷ Ivan Druri, who founded the first Chukotka *sovkhov* in 1929, recalled that rich herders “treated our activities with distrust and suspicion. They understood that we wanted to be *chauchu*, that is, the owners of herds, and feared us as future competitors. The poor shepherds were still under their total influence.”⁵⁹⁸ Arguments that the Soviets only wanted to “help the Chukchi organize deer farms so the whole population of Chukotka is prosperous” produced no rush of new communists.⁵⁹⁹ Where reindeer were collectivized, the herds were so small and supplies so short that, as one cadre wrote, “We bought reindeer. We ate them all... So in reality there are no reindeer collectives.”⁶⁰⁰ One report estimated that less than one percent of Chukotka’s reindeer were held collectively by the early 1930s.⁶⁰¹

THE SOVIETS WANTED for reindeer, but it was not due to the size of the herds wandering the Chukchi Peninsula. Epizootics waned, the weather waxed colder, and by the end of the 1920s there were over half a million domestic animals scattered among many owners.⁶⁰² But the ideological climate had turned. The era of graduated change and voluntary participation ended along with the New Economic Policy in 1928. With Stalin’s first Five Year Plan, collectivization became part of an open war against the past, the past was defined by class, and class by a lack of collectivization or affiliation with any belief incommensurate with communism. Mostly the past meant a lack of progress, and progress meant increasing production. That too required collectives. “Only by transitioning to the collective economic form,” wrote one dedicated Committee of the North advocate, “can the complete and comprehensive implementation of all measures for the development and growth of the economy be ensured.”⁶⁰³ Backwardness, whether expressed in the desire to own reindeer or consult shamans or simply carry on life without joining a collective, suddenly made many Chukchi enemies of the state.

It was with the Five Year Plans and Stalin’s war against backwardness that the Russian Revolution and the revolutionary state moved from rumor, or perhaps the nuisance of a visiting communist, to full presence on the tundra. As with most Russian plans on the Peninsula, it also

⁵⁹⁵ GARF F. A-310, Op. 18, D. 88, L. 44.

⁵⁹⁶ RIGA DV F. R-4315, Op. 1, D. 32, L. 3.

⁵⁹⁷ GARF F. A-310, Op. 18, D. 88, L. 42.

⁵⁹⁸ I. Druri, “Kak byl sozdan pervyi olenesovkhoz na Chukotke,” *Kraevedcheskie zapiski* XVI (Magadan, 1989), 9.

⁵⁹⁹ GARF F. A-310, Op. 18, D. 88, L. 42.

⁶⁰⁰ GAMO F. 91, Op. 1, D. 2, L. 94.

⁶⁰¹ GARF F. 3977, Op. 1, D. 716, L. 24.

⁶⁰² Counts of reindeer and the number collectivized very somewhat between sources, and are certainly all estimates given the difficulty of counting thousands of moving animals. The total of 556,000 domestic head in 1926-1927 given by I.S. Garusov is about average. See *Sotsialisticheskoe pereustroistvo sel'skogo i promyslovogo khoziaistva Chukotki 1917-1952* (Magadan: Magadanskoe knizhnoe izdatel'stvo, 1981), 81.

⁶⁰³ GARF F. A-310, Op. 18, D. 18, L. 113.

came a few years late. In 1929, even the administratively central Anadyr *raion* had only a single *kolkhoz*. By 1931, such stagnation was no longer tolerable even in Chukotka. Collectivization had transformed from a method of procuring grain to an ideological loyalty test and sign of professional and political competence. Thus Chukotka's Party leadership wrote "to exert maximum energy toward the organization...of collective farms" and "resolute struggle against the remnants of the tribal system."⁶⁰⁴ Propaganda increased, with traveling "red tents" sent far into Chukchi land to bring the Soviet word to nomads. Although some teachers tried to recruit nomadic pupils to come live in coastal residential schools through what teacher Tikhon Semushkin called "a voluntary understanding on both sides," many Chukchi were not persuaded.⁶⁰⁵ Parents who kept their children risked arrest.⁶⁰⁶ One cadre reported that his proclamations of equality and reindeer gained traction among poorer herders, but "Kiol' – a kulak, owner of a large reindeer herd – told me quite shamelessly that 'I will not go to the Soviet authority, and may it not come to me either.'"⁶⁰⁷

The authorities did come to him, however, or at least many herders like him. Proof of individual ideological fealty, and the immediacy of community utopia, was in increased production. To prove they were good communists and that communism was real, agents of the state needed new collectives to report and more reindeer in them to count. Given the reticence of the Chukchi to participate in the Soviet project, the drive to make the future present translated, on the tundra, to forced collectivization. In the early 1930s, the Soviets began seizing private herds. In response, Chukchi avoided any sign of the state, from school to hospital. Converted Yupik and a few Chukchi communists charged them with being kulaks. Herders suspicious of Soviet veterinarians became shamans. Shamans were detained. Some detainees never returned.⁶⁰⁸ One Chukchi woman remembered passing by a *kolkhoz* where the chairman "told us to put our *yaranga* in the village, but we refused. This man was not good to people who did not understand Russian...I said to the chairman: 'I am not going to work for you, you have killed many people. Where are they now?'"⁶⁰⁹

⁶⁰⁴ RGIA DV F. R-2413, Op. 4, D. 974, L. 66.

⁶⁰⁵ Tikhon Semushkin, *Children of the Soviet Arctic*, (London: Hutchinson, 1934), 29. This is a fictionalized account of Semushkin's work in Chukotka. For a discussion of residential schooling in Chukotka, see Patty Gray, *Patty Gray, The Predicament of Chukotka's Indigenous Movement* (Cambridge: Cambridge University Press, 2005), 110-115; Anna M. Kerttula, *Antler on the Sea: The Yup'ik and Chukchi of the Russian Far East* (Ithaca: Cornell University Press, 2000), 14-15; Nikolai Vakhtin, "Native Peoples of the Russian Far North, in *Polar Peoples: Self-Determination and Development* (London: Minority Rights Group, 1994), 29-80, 61.

⁶⁰⁶ D.I. Raizman, "Shaman byl protiv," in L.S. Bogoslovskaiia, V.S. Krivoshchekov, and I. Krupnik, eds. *Tropoiu Bogoraza: Nauchnye i literaturnye materialy* (Moscow: Russian Heritage Institute-GEOS, 2008), 95-101, 95.

⁶⁰⁷ GARF F. A-310, Op. 18, D. 88, L. 43. The response to residential schooling across the Russian north is roughly comparable to the U.S. experience; see Adams, *Education for Extinction*.

⁶⁰⁸ Full accounts of arrests are likely in the Party archive in Magadan, where access to sensitive materials is often restricted. Vladislav Nuvano's interviewees describe arrests and disappearances in "Tragediia v selakh Berezovo i Vaegi 1940 i 1949gg," in L.S. Bogoslovskaiia, V.S. Krivoshchekov, and I. Krupnik, eds. *Tropoiu Bogoraza: Nauchnye i literaturnye materialy* (Moscow: Russian Heritage Institute-GEOS, 2008), 85-90.

⁶⁰⁹ Nuvano, "Tragediia," 88. These interviews stand in contrast to the Soviet version of events, which claim that Germav'e refused to relinquish his reindeer and was planning to murder the commissioner in charge of collectivization. See Garusov, *Sotsialisticheskoe pereustroistvo sel'skogo*, 131. Nuvano, who conducted many oral histories in the Berezovo region and is a reindeer herder himself, strongly contests this version, arguing that the attack was unprovoked; personal communication, May 2014.

By 1932, resistance to collectivization became openly violent. Chukchi attacked local activists, Party members, and Soviet personnel.⁶¹⁰ Other Chukchi families fled. At the 1932 Second Congress of Soviets for the Anadyr District, a poor reindeer herder and delegate “without a cry stabbed himself through the heart with a Chukchi knife,” an act of political protest and desperation that was interpreted by local Party leaders as the “provocation of kulaks and shamans.”⁶¹¹

Such acts did not go unnoticed in Moscow. Control of reindeer country rested on having reindeer, and reindeer depended upon herders, now inspired to open revolt by “the policy of restricting the kulaks and Sovietization.”⁶¹² It took several years for Stalin’s 1930 reprimand of local administrators, whose coercive tactics he blamed on being “dizzy with success” rather than his own directives, to reach Chukotka.⁶¹³ But by 1934, officials softened their approach, allowing private ownership of up to 600 reindeer among *kolkož* members. Although this diminished the talk of liquidating kulaks somewhat, the end of the 1930s did not see the end of disputes between Chukchi and Soviet ways of being. Parents did not want to part with their children. Herders did not want to part with their reindeer. Men like Karauv’e, from the Chaun tundra, were sentenced to ten years in prison for practicing shamanism and preventing his children from joining the Komsomol.⁶¹⁴

During the years of the Stalinist purges, such acts spread violence beyond Chukchi camps. Committed communist missionaries, like the hapless comrade Karpov, found themselves accused of fraud and “wrecking the work of the traveling culture bases” when Chukchi interest remained low.⁶¹⁵ Others were taken to lethal task for their supposed debauchery, excessive drinking, or the fact they “led no struggles against the kulaks.”⁶¹⁶ In the late 1930s, the Soviets’ need to form collectives became as much a question of personal survival as ideological investment. The results spiraled violence back to the tundra. Yagyrgikai, who lived near the village of Beryozovo, remembered this as a time when “many died, because we could not live with the life that was imposed on us. From the start we were crushed by the force of the authorities. They took absolutely everything. The sleds, even rope and burlap – they took every bundle.” Without sleds and draft deer, many families were unable to follow their herds to new pastures, and had little choice but to join *kolkožy*. Many who did otherwise were arrested. In 1940, near Beryozovo, three sons of a wanted kulak named Gemav’e were killed and their camp burned. Yagyrgikai, who survived the violence, remembered digging through the snow to bury the bodies of children.⁶¹⁷

And as with people, so too with the reindeer. The first wave of collectivization did eventually increase the number of *kolkožy*; by 1940 there were 21 in the Anadyr raion, and some even

⁶¹⁰ N.N. Dikov, *Istoriia Chukotki s drevneishikh vremen do nashikh dnei* (Moscow: Mysl’, 1989), 211; Garusov, *Sotsialisticheskoe pereustroistvo sel’skogo*, 130-132. The frequency of these attacks was difficult to gauge, as most reports are in Party files that were open to Soviet scholars (who did not elaborate the extent of the violence) but are currently closed.

⁶¹¹ TsKhSDMO F. 22, Op. 1, D. 2, L. 35.

⁶¹² GARF F. A-310, Op. 18, D. 90, l 20b. This report clearly identifies social unrest as causing the loss of thousands of reindeer to resistance and out-migration of Chukchi fleeing collectivized districts.

⁶¹³ *Pravda*, February 27 1930.

⁶¹⁴ Raizman, “Shaman byl protiv,” 95-96.

⁶¹⁵ RGAE F. 9570, Op. 2, D. 3483, L. 17.

⁶¹⁶ RGAE F. 9570, Op. 2, D. 3483, L. 14, 15.

⁶¹⁷ Z. G. Omrytkheut, “Ekho Berezovskogo vosstaniia: Ochevidtsy o sobytiakh 1940 i 1949 gg,” in L.S. Bogoslovskaiia, V.S. Krivoshchekov, and I. Krupnik, eds. *Tropoiu Bogorazha: Nauchnye i literaturnye materialy* (Moscow: Russian Heritage Institute-GEOS, 2008), 91-93. Similar accounts appear in Nuvano, “Tragediia,” 85-90.

functioned beyond paper declarations. But the Chukhokan herds lost over 100,000 animals between 1930 and 1940.⁶¹⁸ The cause was more the revolutionary climate than the atmospheric one. In the chaos of collectivization, migrations routes were disrupted, stressing pregnant cows. Untended reindeer went feral, joining their wild kin. In a response that made Chukchi herders act in kind with agricultural peasants across the country, many simply killed their stock rather than hand it over to the state.⁶¹⁹ Both the Soviets and the Chukchi saw reindeer as critical to physical existence and social welfare on the tundra. Beyond this, the two peoples found little congruence. The Soviets promised the triumph of human history over natural whims, an offer that rang false across the cultural divide of Chukchi camps. The promise of utopia required that the Chukchi relinquish their hold on the most consistent and socially rewarding creature on tundra, and relinquish it for an idea. It was a political demand at its most basic, asserting how the fruits of human labor should be distributed, and the non-human stuff of the world possessed. In the contest between believers in collective and private property, and between the veracity of a shaman's powers or Marx's prophecies, human attention was diverted from the landscape. In the breach, other living relationships on the tundra rearranged themselves. Beds of lichen were eaten to the quick. Other pastures lay untrammled. Untended animals mingled with the Peninsula's small wild herds. And alone on the tundra, domesticated reindeer, bred for traits other than wariness, fell prey to growing packs of wolves.⁶²⁰

THE COMPETITION OF WOLVES, ALASKA 1930-1960S

In the tundra spring, wolves begin to den.⁶²¹ A wolf pack is made of blood relations, anchored by a single breeding pair, and it is the task of this collective to rear up a new generation. As they follow the migrating *Rangifer* herds, a pack looks for a likely den site, a place to dig their pregnant female a shelter. They feed the nursing mother, and when month-old pups wobble and blink into the midsummer daylight, they are fed and taught by their older siblings. Young wolves must master a sensory world dense with meaning. Part of this world is social. The movements of wolves' grey-white bodies, some weighing nearly 150 pounds, are a syntax of posture, expression, voice, and tail position. Communication between wolves enables them to coordinate pursuit of their prey. Wolves

⁶¹⁸ Decade-by-decade averages of Chukotka's domestic reindeer population taken from Patty Gray, "Chukotkan Reindeer Husbandry in the Twentieth Century," in David Anderson and Mark Nutall ed., *Cultivating Arctic Landscapes: Knowing and Managing Animals in the Circumpolar North* (New York: Berghahn Books, 2004), 143.

⁶¹⁹ Dikov, *Istoriia chukotki*, 211. Killing reindeer rather than having them requisitioned was common across the Soviet Union; Andy Bruno's work shows that nearly all the reindeer lost in these years in Murmansk were killed in response to collectivization; see "Making Reindeer Soviet: The Appropriation of an Animal on the Kola Peninsula," in Jane Costlow and Amy Nelson eds. *Other Animals: Beyond the Human in Russian Culture and History* (Pittsburgh: University of Pittsburgh Press, 2010), 117-137. For peasant resistance, see Sheila Fitzpatrick, *Stalin's Peasants: Resistance and Survival in the Russian Village after Collectivization* (Oxford: Oxford University Press, 1994) and Lynne Viola, *Peasant Rebels under Stalin: Collectivization and the Culture of Peasant Resistance* (Oxford: Oxford University Press, 1996).

⁶²⁰ Wolves might have been on the increase slightly before the main push of collectivization, given the growing reindeer herds. In 1928, the Soviets issued a bounty on wolf pelts as a measure to protect the herds. See GACHAO F. R-2, Op. 1, D. 2, L. 19.

⁶²¹ Tundra wolves are the same species as wolves that live south of the treeline in the taiga, but migrate after *Rangifer* herds rather than staying to large, defined territories. Migrating *Rangifer* will often encounter both ecotypes if they winter south of the treeline. See Robert D. Hayes and Donald E. Russell, "Predation Rates by Wolves on the Porcupine Caribou Herd," *Rangifer* Vol. 20, No. 5 (2000): 51-58.

need an average of seven and a half pounds of flesh daily; they eat small animals but survive on large ungulates. On the tundra, this means *Rangifer*. But even with their ability to trot for most of a day and sprint at nearly forty miles per hour, wolves do not simply chase their calories. The success of any hunt turns on the interplay of wind, tundra cover, snow depth, light, agility, strength, age, and even the mental states of fearful reindeer and feared wolf.⁶²² In navigating this landscape of attack, wolves use foresight and planning. A pack that hunts together for several seasons develops traditions in coordination and use of the landscape. As a species made globally successful by social adaptation, their place in the landscape is closest to that of humans.⁶²³

Tundra wolves migrate with *Rangifer* through space, and match their abundance in time.⁶²⁴ New packs form when herds are plentiful, and contract when prey is scarce. In the early twentieth century, the wolves of northwestern Alaska retreated with the caribou. Where there had been perhaps five thousand in 1850, a mere thousand remained in 1900.⁶²⁵ Some wolves ended up as pelts trimming the parkas of whalers, or were traded by Inupiat for flour and bullets. Mostly, the packs could not compete with what the market and the climate did to the mutual sustenance of man and beast. People from the sea ate the wolves' calories off the tundra. As a result, domestic reindeer entered North America at a time when humans were essentially their only consumers.⁶²⁶ The absence of wolves gave the landscape the appearance, for the first four decades of the reindeer program, of a space where humans were singular in their designs. The reindeer, after all, just keep breeding, reaching nearly 650,000 head in 1930.⁶²⁷ "Wolves were not there to profit," off the reindeer, wrote Reindeer Superintendent Sidney Rood, "although a struggle was sighted every few years somewhere between Bristol Bay and Barrow."⁶²⁸

⁶²² J.S. Brown, J.W. Laundre, and M. Gurung, "The Ecology of Fear: Optimal Foraging, Game Theory, and Trophic Interactions," *Journal of Mammalogy* Vol. 80 No. 2 (May 1999): 385-399.

⁶²³ "Tradition" is the word used by wolf biologists L. David Mech and Rolf O. Peterson to describe how wolf packs learn and adapt to hunting in a particular territory; see "Wolf-Prey Relations," in L. David Mech and Luigi Boitani ed., *Wolves: Behavior, Ecology, and Conservation* (Chicago: University of Chicago Press, 2003), 131-157. For a discussion of wolf mental processes, see L. David Mech, "Possible use of Foresight, Understanding, and Planning by Wolves Hunting Muskoxen," *Arctic* Vol. 60, No. 2 (2007):145-149. The rest of this paragraph is summarized from L. David Mech and Luigi Boitani, "Wolf Social Ecology," in L. David Mech and Luigi Boitani ed., *Wolves: Behavior, Ecology, and Conservation* (Chicago: University of Chicago Press, 2003), 1-34; Fred H. Harrington and Cheryl S. Asa, "Wolf Communication," in L. David Mech and Luigi Boitani ed., *Wolves: Behavior, Ecology, and Conservation* (Chicago: University of Chicago Press, 2003), 66-103; Todd K. Fuller, L. David Mech, and Jean Fitts Cochrane, "Wolf Population Dynamics," in L. David Mech and Luigi Boitani ed., *Wolves: Behavior, Ecology, and Conservation* (Chicago: University of Chicago Press, 2003), 161-192; Marco Musiani, Jennifer A. Leonard, H. Dean Cluff, C. Cormack Gates, Stefano Mariani, Paul C. Paquet, Carles Vila, and Robert K. Wayne, "Differentiation of Tundra/Taiga and Boreal Coniferous Forest Wolves: Genetics, Coat Color, and Association with Migratory Caribou," *Molecular Ecology*, Vol. 16, No. 19 (October 2007):4149-4170; and Gary Marvin, *Wolf* (London: Reaktion Books, 2012), 11-34.

⁶²⁴ A.T. Bergerud, Stuart N. Luttich, and Lodewijk Camps, *The Return of the Caribou to Ungava* (Montreal: McGill-Queens University Press, 2008), 10; Layne G. Adams, Robert O. Stephenson, Bruce W. Dale, Robert T. Ahgook, and Dominic J. Demma, "Population Dynamics and Harvest Characteristics of Wolves in the Central Brooks Range, Alaska," *Wildlife Monographs*, Vol. 170 No. 1 (2008): 1-18. Wolves in the taiga around rivers eat far more moose, a species that does not migrate.

⁶²⁵ Burch, *Caribou Herds of Northwest Alaska*, 53.

⁶²⁶ Burch, *Caribou Herds of Northwest Alaska*, 52-53.

⁶²⁷ Olson, *Alaska Reindeer Herdsmen*, 14.

⁶²⁸ J. Sidney Rood, "Alaska Reindeer Notes," APRCA, Fosma and Sidney Rood Papers, Box 1, p. 1.

THEN THE WOLVES found the reindeer. In 1925, a few were reported scouting east from rivers deep in the Brooks Range.⁶²⁹ A decade later, Northwestern Alaska suffered what the Bureau of Indian Affairs termed “a conspicuous infestation of wolves, and alarming wolf damage.”⁶³⁰ A female wolf can birth half a dozen pups each year, and when there is plentiful game it takes only two years for these young to splinter into new packs. Once the wolves found the abundant, docile reindeer, the packs could double each year.⁶³¹ For wolves, reindeer were the best eating in the territory. For caribou, reindeer distracted their former predators. For reindeer, the wolves were a torment. The herd near Kotzebue, which had 18,000 animals in 1927, was gone by 1940. At Kivalina, wolves destroyed thirty-four thousand animals, leaving a herd of only six thousand.⁶³² For humans, especially those employed by the Reindeer Service, wolves were variously a menace, a scourge, a plague, an invasion.⁶³³ Reports described the canine excess with horror, even photographing and captioning the gore in one case with a “Female ripped open. Unborn fawn partly ripped out. Fawn’s blood sucked.”⁶³⁴ Others described the packs as a direct threat to humans. Near Barrow, “wolf packs totaling over one hundred wolves each are chasing the natives...on one occasion the natives barely escaped with their lives.”⁶³⁵ Humans were no longer the primary consumer of reindeer. They might even be consumed themselves. “Its war,” one government teacher wrote, “The only question is how is this war to be waged?”⁶³⁶

The war began with snares, steel traps, and guns. The bounty on dead wolves jumped from ten to twenty to fifty dollars over a few decades.⁶³⁷ The Alaska Game Commission hired professional hunters and trappers. There were dissenters from these policies. Inupiat herders did

⁶²⁹ Mo. Rep. Reindeer Supervisor, May 1925. NARA AK RG 75 Alaska Reindeer Service Historical Files, File: History-general, 1933-1945. There were scattered reports of wolves in 1909, but concern only mounts after 1925 for most of the Seward Peninsula and points north.

⁶³⁰ Brief Statement Regarding the Wolf Problem on Reindeer Ranges, May 15 1940, NARA DC RG 75 BIA Central Classified Files 1940-1957, File: 26167.

⁶³¹ National Research Council, *Wolves, Bears and Their Prey in Alaska* (Washington, D.C.: National Academy Press, 1997), 49.

⁶³² Sidney Rood, Message to the delegates of the Association of Bering Unit Herds, April 8 1943, NARA AK RG 75 Alaska Reindeer Service Historical Files, File: History-general, 1933-1945.

⁶³³ The government teachers, biologists, and administrators undoubtedly had conceptions of wolves’ evil well before dealing with them in Alaska, from fairy tales on through the long history of killing wolves in the United States. For a history of the former, see K.S. Robisch, *Wolves and the Wolf Myth in American Literature* (Reno: University of Nevada Press, 2009), and for the latter, see Bruce Hampton, *The Great American Wolf* (New York: Henry Holt and Co, 1997).

⁶³⁴ Report from Wainwright, AK, July 9, 1936, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Predators, 1936-1937.

⁶³⁵ Gerald Collins to Sidney Rood, March 24 1937, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Predators, 1936-1937.

⁶³⁶ Noatak Teacher to Mr. Glenn Briggs, January 25, 1937, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Predators, 1936-1937.

⁶³⁷ Wolves had been subject to a bounty in Alaska since 1915, followed shortly by bald and golden eagles, hair seals, and coyotes. Bears seem to be the only predator that received much sympathy during most of the twentieth century’s first half. Alaska wolf eradication was part of a larger national campaign against the animals. For an overview of U.S. *Canis lupus* policy and its links to perceptions of wolves as immoral, see Jon T. Coleman *Vicious: Wolves and Men in America* (New Haven: Yale University Press, 2004) and in the collection of historical documents in Rick McIntyre, ed. *War Against the Wolf: America’s Campaign to Exterminate the Wolf* (Stillwater, MN: Voyageur Press). Barry Lopez, in his classic study *Of Wolves and Men* calls the scale of wolf eradication, which killed over a million wolves on the Great Plains alone, an American pogrom; his analysis of the dynamics between humans and wild canines remains one of the best (New York: Simon & Schuster, 1995).

not, generally, share the European dread of *Canis lupis*. Having been raised on stories of wolves nurturing children rather than eating them, packs were sometimes hunted and sometimes human, but never irrational.⁶³⁸ Their presence was no more capricious or malevolent than Washington's endless changes to reindeer policy. Daniel Karumn, a native herder, saw wolves as a problem not because of their profligate behavior but because there were too many reindeer. Because the overabundant herds "were starving, all [the wolves] would eat from the reindeer was the tongue, because it makes them fat, you know."⁶³⁹ Some whites blamed the decline in reindeer numbers on lax native husbandry and overgrazing. And a few scientists were beginning see predators like wolves as doing necessary work in an ecosystem. Olaus Murie, a biologist at the Bureau for Biological Survey, argued for "a certain balance between predatory species and game," as early as 1929 and counseled against predator control.⁶⁴⁰ But the majority in the government saw balance as the product of human management, good management as maximizing those things the market could value, and the right to hunt as a human franchise. As reindeer were the northern land's "sole means of turning the vast tundras [sic] to productive use," they required protection.⁶⁴¹ Wolves ripped potential profits from the northern landscape. They interrupted progress.

WOLVES VALUED REINDEER because reindeer enabled wolves' biological will to the future. Despite campaigns to protect them, the value of reindeer for humans was far less clear. The market the Lomen Company managed to create outside of Alaska survived high transportation costs and attacks from beef lobbyists through the 1920s, only the vanish during the Great Depression. Inside Alaska, reindeer outbred human consumption and tundra production. Inupiat herders found the market to be as feckless as wolves, if not more so. And uncertain profit in the future required specialized labor and attention, leaving reindeer herders little time for other subsistence activities.⁶⁴²

Moreover, claiming ownership was difficult. The sheer size of the reindeer population, which stayed at over half a million even as the wolves began their worrying, confused the range. Nor were rights to ownership settled. The Lomens, still convinced that reindeer would become profitable, lobbied against native ownership privileges, casting indigenous herders as unfit and the government as meddling in the market. Inupiat owners accused the Lomens of stealing reindeer and cheating on wages.⁶⁴³ Advocates for both pled their cases to a series of Department of the Interior committees

⁶³⁸ Hall Jr., *The Eskimo Storyteller*, 167-168; 296-298.

⁶³⁹ Dan Karmun, University of Alaska Fairbanks Oral History Program, Project Jukebox, Tape H2000-102-05, Section 4. Reports that only reindeer tongues were eaten appear in federal reports as well; see for example NARA AK RG 75, Telegram Hollingsworth to Area Director Juneau, January 12, 1951, Alaska Reindeer Service Decimal Correspondence, File: Reindeer by-products, misc. 1951.

⁶⁴⁰ Olaus Murie, "Memorandum for Mr. Remington," quoted in Ken Ross, *Pioneering Conservation in Alaska*, (Boulder: University of Colorado Press, 2006), 287. Olaus' half-brother, Adolph Murie, was also critical of predator control following his studies of wolves in Denali National Park in the 1930s. See Adolph Murie, *The Wolves of Mt. McKinley*, Fauna Series No. 5 (Washington, D.C.: National Park Service, 1944). The National Park Service did halt predator control in Alaskan parks in 1935, spurring debate over the role of predators in national parks; killing resumed in 1948.

⁶⁴¹ F.A.O. Medd, "Reindeer Herding and Management," November 17, 1941, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Reindeer Misc. Herds 1949.

⁶⁴² See Olson, *Alaskan Reindeer Herdsmen*, 87-97.

⁶⁴³ Reindeer Committee Report of 1931, quoted in Department of Justice, *United States v. Lomen & Co.*, April 17 1931, NARA DC RG 75 Central Classified File 1907-1939. See also Willis, *Alaska's Place*, 42-45.

tasked with investigating the reindeer situation in the 1930s.⁶⁴⁴ The first of these committees saw the future of the industry in white ownership and called for strict range regulations and a roundup of the ownerless, foraging herds.⁶⁴⁵ Implicitly, these recommendations argued that the market would eventually find a reason to value reindeer. The problem lay in the contortions of badly enforced and managed property. Capitalism on the tundra meant that it was possible to both have too many reindeer and pay hunters to kill the wolves that ate them.

It was the New Deal, and its indigenous variant overseen by John Collier, Roosevelt's Indian Affairs commissioner, that finally settled the issue of ownership. Both Inupiat herders and the Reindeer Service vocally opposed the Interior reports favorable to the Lomen Company. Collier agreed. In the contiguous United States, Collier promoted cultural pluralism, tribal self-government and traditional economies through the Indian Reorganization Act of 1934. The Act did not extend to Alaska, but in his examination of the reindeer issue, Collier applied many of its principles. Herding, he concluded erroneously, was a traditional part of Inupiat existence, one to which whites had no claim.⁶⁴⁶ After considerable political wrangling, the 1937 Reindeer Act transferred control of the project to the Office of Indian Affairs, bought out the Loman enterprise, and made non-native reindeer ownership illegal, in order to "establish and maintain for the said natives of Alaska a self-sustaining economy."⁶⁴⁷ Collier ended the political debate over how reindeer ownership and labor could be distributed on the Alaskan landscape.

The United States government had first created a tradition in the name of assimilation, and then had to protect it in the name of cultural preservation. This invented tradition was already oriented toward the market. As herds were rounded up and counted, the newly invigorated Reindeer Service set about perfecting that orientation. Capitalism on the tundra, like New Deal capitalism across the country, would combine private property with government oversight.⁶⁴⁸ Although many

⁶⁴⁴ For a blow-by-blow of the reindeer legislation, see Stern et al. *Eskimos, Reindeer and Land*, 30-37.

⁶⁴⁵ Survey of the Alaska Reindeer Service 1931-1933, NARA AK RG 75 Alaska Reindeer Service Historical Files, File: Reports – Special Survey of the Alaska Reindeer Service 1933.

⁶⁴⁶ For an overview of the Indian New Deal and Collier's attitudes, see Jon S. Blackman, *Oklahoma's Indian New Deal* (Norman: University of Oklahoma Press, 2013), 54-77. The classic account of Collier's term as commissioner of Indian affairs is Graham D. Taylor, *The New Deal and American Indian Tribalism: The Administration of the Indian Reorganization Act, 1934-45* (Lincoln: University of Nebraska Press, 1980). Alaska's indigenous New Deal policies were in some ways close to Oklahoma's, as neither had reservations. However, Alaska lacked a history of land allotments. Herold Ickes, the Secretary of the Interior under Roosevelt, wanted to settle land title and establish native reservation in Alaska, a policy not supported by Inupiat on the Seward Peninsula concerned about hunting, fishing, and mineral rights, as will be discussed in Chapter Four. For a discussion of the New Deal in Alaska and the Alaska Reorganization Act, the less-sweeping cousin of the Indian New Deal, see Kenneth R. Philip, "The New Deal and Alaskan Natives, 1936-1945," in *An Alaskan Anthology: Interpreting the Past*, ed. Stephen W. Haycox and Mary Childer Mangusso (Seattle: University of Washington Press, 1996), 267-286.

⁶⁴⁷ *75th Cong., 1st Sess.*, June 15th and 22nd 1937 (Washington, D.C: Government Printing Office, 1937), 2. See also, Therese Dillingham, "Playing Reindeer Games: Native Alaskans and the Federal Trust Doctrine," *Boston College Environmental Affairs Law Review* Vol. 26 No. 3 (1999): 649-685, 650. Such federal intervention was not taken lightly by Lomen or by many white Alaskans, who carried the tradition of frontier dependence on federal money while rejecting outside interference to a new extreme.

⁶⁴⁸ Here I see Collier's policies and the actions of the reindeer service as in line with the general expansion of the "environmental management state," as Adam Rome terms it, which grew nation-wide during the Depression, from dam building to dust-storm prevention. See Adam Rome, "What Really Matters in History: Environmental Perspectives in Modern America," *Environmental History* Vol. 7 No. 2 (April 2002): 303-318, especially 304-305. See also Paul Sutter's

herds were still cooperatives or owned by the government, private ownership was the ideal, since “individual enterprisers and their herder-partners” would keep “vigilant custody of such breeding stock as they can manage.”⁶⁴⁹ Running large numbers of animals on the open range became less desirable than small, closely tended herds, the attention of their native owners motivated by the “fear of losing money.” Since herds were owned individually, they would be efficient; the market would determine “the rewards which herders are able to obtain from herd crops: supply and demand.”⁶⁵⁰ Even wolves could be combatted through the vigilance of private ownership.⁶⁵¹ To assist, the government divided the range into territorial units. The Bureau of Biological Survey and the Forest Service began researching plant distribution and lichen growth. Veterinarians and entomologists studied treatments for hoof disease, warble flies, and mosquitoes. With this state-supplied expertise, the laws of economics and biology would produce social self-sufficiency, and “give [native] owners freedom to do what they ought with regard to the rights of others.”⁶⁵² Yeoman farming was again the proper form of capitalism on the tundra.

But the tundra had other plans. By 1940, the number of domestic reindeer in Alaska dropped to under a quarter million.⁶⁵³ The number of wolves only seemed to increase.⁶⁵⁴ So did the need to bring the tundra into the national fold of productive space, at least rhetorically. After Pearl Harbor and Japanese landfall in the Aleutian Islands, the military started eating reindeer, wearing reindeer, and stuffing life-vests with reindeer hair. In wartime, sovereignty meant control over things not just human. And in this context, wolves became an “ancient enemy” fighting on the wrong side of a new war.⁶⁵⁵ “In carrying forward this program,” one federal report noted, predator control made certain that the “Nation’s food supply is safeguarded.”⁶⁵⁶ The pace of wolf extermination increased; like the roads, airstrips, and increased population that the Second World War brought north, militarized wolf killing did not end with Japanese surrender. In the late 1940s and into the 1950s, the Fish and Wildlife Service hunted wolves from airplanes and laced pieces of blubber with

discussion of the environmental management state in “The World With US: The State of American Environmental History,” *Journal of American History* Vol. 100 No. 1 (June 2013): 94-119.

⁶⁴⁹ J.S. Rood, *Narrative re: Alaska Reindeer Herds for Calendar Year 1942, with Supplementary Data*, (Nome: U.S. Bureau of Indian Affairs Alaska, 1943), 151.

⁶⁵⁰ J.S. Rood, *Narrative*, 151

⁶⁵¹ Circular Letter to Eskimo Reindeer Owners, March 15 1937, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Predators, 1936-1937.

⁶⁵² Rood, *Narrative*, 151.

⁶⁵³ Olson, *Alaska Reindeer Herdsmen*, 14-15.

⁶⁵⁴ Estimating the wolf population after the onset of predator control programs is, as Burch points out, difficult, since reindeer and caribou population sizes are no longer a proxy for the number of wolves; *Caribou Herds of Northwestern Alaska*, 53. Reindeer Service personnel and game hunters continued to report predation well into the 1940s, so at least the perception of a problem remained.

⁶⁵⁵ Russell Annabel, “Reindeer Round-Up,” NARA AK RG 75 Reindeer Service Decimal Correspondence, File: General Correspondence 1901-1945. For discussions of reindeer use in military clothing, see NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Information: Fur Clothing, Arctic [1944-1945]. It is not clear from available records how much reindeer was actually consumed by the military, although Russell Annabel does describe a local quartermaster ordering tons of meat, and there was a good market for reindeer meat at Nome. For an overview of the militarization of Alaska during the war, see Stephen Haycox, *Alaska: An American Colony* (Seattle, University of Washington Press, 2002), 257-264.

⁶⁵⁶ Press Release, Fish and Wildlife Service, December 1 1941, NARA MD RG 126, Central Classified File 1907-1951.

strychnine. One reindeer superintendent wanted to use machine guns.⁶⁵⁷ Killing wolves for the bounty became another way to make profits from the tundra. Near Anaktuvuk Pass, wolf hunting was a major source of Inupiat income. Men learned to hunt pups in their dens and lured adults by howling.⁶⁵⁸ Hundreds of wolves died each year. Between 1927 and 1958, Alaska gave out about \$1.5 million for dead wolves and coyotes.⁶⁵⁹ And yet reindeer kept disappearing – gone feral or eaten by wolves. There were never more than 50,000 domestic animals during the 1950s.⁶⁶⁰

The objective of wolf killing, like the reindeer program, was both local and grandiose. After WWII, the Reindeer Service no longer believed reindeer would feed the world, or even the army. The government concluded that the market for tundra products was primarily within Alaska.⁶⁶¹ Wolf eradication, veterinary care, and surveys of tundra growth were ways of providing food for the growing population within the territory, from military and mining cities to remote villages. The state's management of the tundra also ideally removed it, and the humans living on it, from competition with wolves. Once freed of these pests, reindeer would provide stable, enriching employment for a minority otherwise costly to the state, and make that minority part of the national culture through their productive labor and participation in the market economy. The value of reindeer was, therefore, partly in giving purpose to people whose lives seemed to lack it, making them part of a common human trajectory toward liberty and prosperity. It was taken on faith that the market would also find value in reindeer. It was only rational, given that the otherwise barren tundra could provide thousands of pounds of meat and hides in perpetuity. Thus, although capitalism had tried many variations on the tundra – from small farmer, wage worker, entrepreneurial cooperative member and back to farmer – each variation was seen by its advocates as part of the nation's unified, progressive future. The grandiosity was in making the tundra part of this universal history. The landscape would be cleared of all but human desires, and all human desires valued: property and prosperity linked to the good of all through production for the market.

THE PRODUCTION OF SOCIALISM, CHUKOTKA 1945-1960S

The work of a wolf is killing in the service of making more wolves. In bringing down a caribou calf or reindeer bull, wolves thin herds of a few sets of grinding ungulate teeth, allowing a few patches of lichen or knots of willow to survive another year. A pack is one check in a system never quite in balance.⁶⁶² The Chukchi, watching how wolves ate their property, saw predation as the work of evil

⁶⁵⁷ Sidney Rood to Major Dale Gaffney, January 21 1941, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: Predators, 1940-1941.

⁶⁵⁸ Gubser, *The Nunamiut Eskimos*, 266-267.

⁶⁵⁹ Ross, *Pioneering Conservation in Alaska*, 298-299; Donald McKnight, *The History of Predator Control in Alaska* (Juneau: Alaska Department of Fish and Game, 1970), 3, 6-8. 2000 wolves were killed by Fish and Wildlife agents. These numbers cover the entire state, not just the northwestern region of Alaska.

⁶⁶⁰ Stern et al., *Eskimos, Reindeer and Land*, 48.

⁶⁶¹ C.H. Rouse, C.R. Mountjoy, and D.M. Belcher, *Reindeer Survey – 1948* (Juneau: Alaska Native Service, 1948), quoted in Stern et al., *Eskimos, Reindeer, and Land*, 44-45.

⁶⁶² The relationship between wolves and ecosystem regulation remains contentious, with some scientists asserting their primacy in limiting populations and altering the behavior of grazing animals in ways that reshape and make more diverse the entire trophic web, and others calling for a more nuanced view of ecosystem relationships in which wolves play a

beings that lived as killer whales in summer oceans and ate herds in wolf-shape on the winter tundra.⁶⁶³ It was a rare moment of agreement between Chukchi and Soviet. Wolves that “scatter the northern herds into the hills,” were from the earliest days of Soviet presence a problem rivaling foreign alcohol imports.⁶⁶⁴ The Soviets were appalled, however, by how the Chukchi dealt with the packs. “The fight against the major reindeer predator – the wolf – is actually non-existent,” one surveyor wrote in the 1930s. “The Chukchi believe that as the primary resident of the tundra is entitled to its share of the herds.”⁶⁶⁵ As wolf populations surged in the early 1930s, predator control became another entry in a growing Soviet list of alterations to the tundra.

Killing wolves before they killed livestock was an old Russian practice grafted onto a new landscape.⁶⁶⁶ Less familiar were the reindeer. The Soviets took as a given that production could be increased with proper reforms. But while ideology mandated collective herds, beyond this basic economic form Marx and Lenin had little to say about husbandry. In the late 1920s and 1930s, while Stalin was accelerating history with Five Year Plans, early collectivizers were back in hot smelly tents, getting the “advice and help of the local experienced herders.”⁶⁶⁷ From these “regular first-hand observations in the nomad camps,” as Ivan Druri put it, local and federal specialists began assembling an understanding of reindeer production.⁶⁶⁸ Across the north, teams of biologists conducted surveys “to determine the pasture requirements of the reindeer during various seasons, the grazing technique, the size and the composition of the teams of the herdsmen and the state of

significant but partial role in the management of energy flows and biodiversity. Most of these studies have been done with timber wolf populations, the most famous in Yellowstone National Park, not with tundra populations where the arctic climate makes population flux in terrestrial species more stochastic. For an overview of wolf ecology and the question of their role as apex predators, see Emma Marris, “Rethinking Predators: Legend of the Wolf,” *Nature* Vol. 507 (March 13 2014): 158-160. For a classic discussion of how wolves may increase biodiversity, see William J. Ripple and Robert L. Beschta, “Restoring Yellowstone’s Aspen with Wolves,” *Biological Conservation* Vol. 138 No. 3-4 (September 2007): 514-519.

⁶⁶³ Bogoraz, *The Chukchee*, 323.

⁶⁶⁴ B. I. Mukhachev, ed. *Bor’ba za vlast’ sovetov na Chukotke (1919-1923): Sbornik dokumentov i materialov* (Magadanskoe knizhnoe izdatel’stvo 1967), 64-65. The Soviets called both “predators,” although rum was generally considered more the evil spirit than wolves.

⁶⁶⁵ GARF F. A-301, Op. 18, D. 88, L. 86. The report notes that only after repeated attacks would Chukchi attempt to hunt down wolves, and this was rarely successful. Wolf extermination had a long history in Russia, and wolf aggression toward humans was apparently more common in Russia than in North America, where the animals were primarily hated as destroyers of wildlife. The historical literature on this, however, is quite thin, and waiting for comparative work between Russian and North American cases. In English, Will N. Graves rather idiosyncratic *Wolves in Russia: Anxiety Through the Ages* gives good evidence that wolf-on-human violence was far more common in Russia than in North America (Calgary: Detselig, 2007). Russian wolf biologist M.P. Pavlov also argues that the desire to exterminate wolves goes back at least until the mid-19th century in Russia, and that the animals were greatly feared; *Volk* (Moscow: Agropomizdat, 1990), 9-10. There was dissent to the view of wolf beastliness in the 19th century. See Ian M. Helfant, “That Savage Gaze: The Contested Portrayal of Wolves in Nineteenth-century Russia,” in Jane Costlow and Amy Nelson eds. *Other Animals: Beyond the Human in Russian Culture and History* (Pittsburgh: University of Pittsburgh Press, 2010), 63-76.

⁶⁶⁶ Wolf elimination programs, usually employing specially hired hunters or sportsmen from hunting clubs, were common throughout European Russia during the nineteenth century. The damage done by wolves to livestock was extensive, and the number of hunters seems to have rarely been particularly damaging to the wolf populations. See Graves *Wolves in Russia*, 20-31; Pavlov, *Volk*, 100-101.

⁶⁶⁷ Druri, “Kak byl sozdan pervyi olenesovkhoz na Chukotke,” 7. Leonid M. Baskin argues that Soviet scientists across the north were dependent on local knowledge as they developed reindeer science; “Reindeer Husbandry/Hunting in Russia,” 25.

⁶⁶⁸ Druri, “Kak byl sozdan pervyi olenesovkhoz na Chukotke,” 7.

the zoo-veterinary services.”⁶⁶⁹ Chukotka was studied from coastline to mountaintop in the late 1930s. Amid the upheavals of collectivization, bureaucrats and biologists noticed that rich Chukchi, while despicable on an ideological level, had mastered the production of surplus. They sought out the few remaining wild herds to deliberately interbreed their domestic does with wild bulls “to improve the qualities of their reindeer.”⁶⁷⁰ Owners ran herds with a carefully managed high ratio of females to males, as this assured a surfeit for human use. Even when employing these ratios, only large herds offered an economically significant surplus.⁶⁷¹ And a surplus, preferably one that increased year by year, was the Soviet aspiration. Increased production was – on the tundra as on the shore – a rare and clear measure of progress toward an otherwise opaque utopia. Socialist reindeer were maximally productive reindeer, and maximally productive reindeer ran in herds of many hundreds and optimally thousands.

It was the Second World War that made Chukotkan reindeer socialist. The need to increase food production became an existential compulsion with the Nazi invasion. Chukotka was too remote to appreciably supply the Red Army in Europe, although over twelve thousand reindeer and thousands of leather goods were exported during the war.⁶⁷² But with no calorie to spare for food or transport, the war made Chukotka and its growing non-native populace self-sufficient, at least in protein. Beef, pork, and sausage, imported by the hundreds of tons in 1939, were replaced by reindeer when *kolkhozy* began meeting “the needs of the region’s population” in the early 1940s.⁶⁷³ The surplus came from the increasingly large collectivized herds. One typical report noted that the “*kolkhoz* ‘Forward’ had 355 reindeer on January 1, 1941 and by January 1 1945 had 9216 head of socialized reindeer,” showing how “every year the *kolkhoz* overfills the plan for the development of the reindeer industry.”⁶⁷⁴ Reindeer fed mining and construction laborers, as the dueling industrial organizations of northeastern Russia, Glavsevmorput (the Main Administration of the Northern Sea Route) and Dal’stroi (the Main Administration for Construction in the Far North), both established large herds.⁶⁷⁵ Chukotka’s newspaper saw the growing farms as a sign of patriotism, as each “fervently strives to achieve new successes in the construction of *kolkhozy* and thus prove again their support of our war.” Some farms even helped sponsor a tank convoy through the donation of

⁶⁶⁹ P.S. Zhigunov, ed. *Reindeer Husbandry*, trans. Israel Program for Scientific Translations, (Springfield, VA: U.S. Department of Commerce, 1968), 177.

⁶⁷⁰ F. Ia. Gul’chak, *Reindeer Breeding*, trans. Canadian Wildlife Service (Ottawa: Department of the Secretary of State, Bureau for Translations, 1967), 25.

⁶⁷¹ L. M. Baskin, *Severnyi olen’: upravlenie povedeniem i populiatsiiami olenevodstvo okhota* (Moskva: Tovariščestvo nauchnykh izdaniĭ, 2009), and I. Druri, *Olenevodstvo* (Moskva: Izdatel’stvo selkhoz literatury, zhurnalov i plakatov, 1963), 39.

⁶⁷² GARF F. A-310, Op. 18, D. 369, L. 3.

⁶⁷³ GARF F. A-310, Op. 18, D. 369, L. 3. Decentralized provisioning happened across the Soviet Union during the war, especially for protein sources. Central state organizations remained critical in rationing bread and sugar. See Wendy Z. Goldman, “Not by Bread Alone: Food, Workers, and the State,” in Wendy Z. Goldman and Donald Filtzer eds. *Hunger and War: Food Provisioning in the Soviet Union during World War II* (Bloomington: University of Indiana Press, 2015), 44-97.

⁶⁷⁴ GARF F. A-310, Op. 18, D. 369, L. 10. According to this report, the number of collectivized reindeer quadrupled during the war through a combination of breeding, purchases, and taxation.

⁶⁷⁵ GARF F. A-310, Op. 18, D. 369, L. 3; Dikov, *Očerki istorii chukotki*, 253. The relationship between Glavsevmorput and Dal’stroi in Chukotka, and their development activities, will be discussed more in chapter 4.

reindeer and rubles.⁶⁷⁶ But *kolkebozy* herds were also built on wartime taxes, paid in live reindeer from private herds, and military requisitioning.⁶⁷⁷

For many Chukchi, the Second World War was fought on the home front. War requisitioning provoked resistance among herders not yet convinced that *kolkebozy* had much to offer. “Poor people live on the farm, where the government collects all the profit,” the herder Lyatylkot stated, “but I am master of myself. Under the reign of the Chukchi life is better.”⁶⁷⁸ The NKVD disagreed, and answered such statements with arrests for “anti-Soviet agitation.”⁶⁷⁹ In 1944, during a procurement drive for the Red Army, Chukchi herder “Trunko categorically refused to help our country,” a local NKVD commander reported, and later led a group to steal reindeer from collective herd. The commandant recommended using an airplane to “seize Trunko’s counterrevolutionary terrorist group” and “liquidate it” from the tundra.⁶⁸⁰ Sovereignty on the Soviet landscape required both ideological conformity and biological control. It was control that even the Stalinist 1930s had not driven into every corner of the Peninsula. The landscape and the mobile adaptations of both nomads and reindeer worked against the managerial hold of the state.

Yet transience was a better strategy for *Rangifer’s* survival biologically than for the Chukchi politically. “On the 21st of March 1951,” recalled senior security officer B.M. Andronov, the regional Party secretary “decided that the time had come to establish Soviet administration on the whole territory of Chukotka. After all, we were the only area in the country that still sheltered kulaks.”⁶⁸¹ These “kulaks,” living on the northwestern tundra, still failed to see the allure of a Soviet future that required relinquishing both their children and their reindeer to the state. Near the river Amguem, Notanvat committed suicide rather than join a *kokholz*. His son, Rul’tyl’kut, became an active communist, but was drowned by one of his father’s herders, who had sworn never to let Notanvat’s children convert to the way of the collectives.⁶⁸² It was a last, desperate spasm. By the late 1950s, the security services had routed the last openly practicing shamans. The Chukchi herds were mostly socialist in form. Whether their herders were socialist in content was harder to parse. A few, like the Chukchi novelist Yuri Rytkeu, were learning to plot themselves into the role of the indigenous communist intellectual. Quite a few more became Party members.⁶⁸³ And most of the postwar

⁶⁷⁶ *Sovetskaia Chukotka* February 5th 1944.

⁶⁷⁷ Dikov, *Ocherki istorii chukotki*, 253; GARF F. A-310, Op. 18, D. 369, L. 1.

⁶⁷⁸ GAMO F. P-22, Op. 1, D. 180, L. 1

⁶⁷⁹ NKVD is the acronym for the People’s Commissariat of Internal Affairs, one of the many names for the internal security services best known by its final, Cold War era acronym, the KGB. Some of the arrested collective farm workers and suspected agitators were formally rehabilitated in 1991; their records are summarized in D.I. Raizman, “Shaman byl protiv,” 95-96. Most arrests carried a ten year sentence.

⁶⁸⁰ GAMO F. P-22, Op. 1, D. 180, L. 2.

⁶⁸¹ B.M. Andronov, “Kollektivizatsiia po-Chukotski” in L.S. Bogoslovskaiia, V.S. Krivoshchekov, and I. Krupnik, eds. *Tropoiu Bogorazu: Nauchnye i literaturnye materialy* (Moscow: Russian Heritage Institute-GEOS, 2008), 102-126, 103. Andronov was a senior security officer in the MGB (another iteration of the internal police), who had a sincere commitment to collectivization based on these recollections, which were written in the 1980s. Andronov assisted in collectivizing the remaining private herds on the Osinovskaia, Mukhomornenskaia, Amguemskaiia, and Kanchalanskaia tundras. There was also violence in the south; see Omrytkheut, “Ekho Berezovskogo vosstaniia,” 94; and Nuvano “Tragediia,” 87.

⁶⁸² Andronov, “Kollektivizatsiia,” 106. Andronov hints that Rul’tyl’kut was also an informant for the security services.

⁶⁸³ Party membership by Chukchi stayed under 20% of the Chukotka’s total Party participation even in the 1950s, when it was at 17.7%. See Gray, *The Predicament*, 97.

generation learned about dialectical materialism, or at least how to read, in Russian. Regardless of their commitment to the Marxist-Leninist promise for the future, the will of herders to own private property had passed from the tundra. In their place, nearly a hundred collective farms and over 400,000 reindeer were scattered across the socialist landscape.

ONCE COLLECTIVIZED, REINDEER had no excuse but to be fruitful and multiply. The tundra was, after all, now under the direct management of expert scientists, men with advanced training from Leningrad's Institute of Polar Agriculture and Livestock and ready, as *Rangifer* specialist P.S. Zhigunov wrote, to bring northward "a new Soviet socialist culture and have an immediately beneficial impact on the development...of reindeer herding."⁶⁸⁴ Their interventions mapped the tundra according to the life and death of a reindeer, from pasture to meat processing. Tundra plants were studied for "methods of massively improving pastures and enriching them with the maximum number of feed plants...and cultivating methods of rational use."⁶⁸⁵ Ivan Druri published a manual on reindeer management, stressing how collectivization allowed, "the reindeer pastures of each *kolkhoz* and *sovkhos*" to be "divided and allotted to brigades in accordance with the head count of reindeer. As a result of this work, the necessary conditions exist for organizing the correct use of range land with a calculated reserve for regenerating range fodder."⁶⁸⁶ With each farm assigned a territory, and each territory partitioned according to which "seasonal utilization" offered the best reindeer nutrition, and each parcel then rotated periodically to avoid overgrazing, reindeer scientists planned a standard tundra.⁶⁸⁷ The reindeer in these spaces were vaccinated, examined for disease, dusted with DDT, given shade in summer and wind breaks in winter, and bred selectively for size and temperament.⁶⁸⁸ Wild crossbreeding was no longer encouraged, and Chukotka's few wild herds avoided.⁶⁸⁹ Researchers detailed the various products reindeer could supply - "meat, fat, lungs, heart, kidneys, blood, milk, tanned and raw hides, wool, sinew, and horn" - and the best butchery methods for their efficient reclamation.⁶⁹⁰ And because communists were no more tolerant of canine competition than Alaskan capitalists, wolf experts outlined the best methods for exterminating packs grown larger during the bullet rationing of the war years.⁶⁹¹ Biologists like V. Ryabov studied the behavior of wolves, "the true scourge of the reindeer," in order to better hunt packs on the tundra.⁶⁹² Despite a detailed knowledge of wolf breeding, predation, and sensory abilities, the vastness of the landscape and lupine intelligence limited the effectiveness of traps, guns, or poison,

⁶⁸⁴ GARF F. A-310, Op. 18, D. 682, L. 25.

⁶⁸⁵ RGAE F. 8390, Op. 1, D. 2385, L. 36.

⁶⁸⁶ Druri, *Olenevodstvo* (Moskva: Izdatel'stvo selkhoz literatury, zhurnalov i plakatov, 1963), 39. See also GARF F. A-310, Op. 18, D. 682, L. 209-210.

⁶⁸⁷ Zhigunov, *Reindeer Husbandry*, 187.

⁶⁸⁸ A series of large guides to reindeer management were published starting in the late 1930s and through the 1980s; see for example Zhigunov, *Reindeer Husbandry*; Gul'chak, *Reindeer Breeding*; Druri, *Olenevodstvo*; E.K. Borozdin and V.A. Zabrodin, *Severnoe olenevodstvo* (Moscow: Kolos, 1979). See also RGAE F. 8390, Op. 1, Del, 2385, L. 35-39. These manuals detail every aspect of the industry, from the rational use of rangeland to the chemical properties of reindeer milk to treating hides. Druri, after his youth in Chukotka, spent his life researching reindeer across the Soviet Union.

⁶⁸⁹ David Klein, "Conflicts between Domestic Reindeer and their Wild Counterparts: A Review of Eurasian and North American Experience," *Arctic* Vol. 33, No. 4 (December, 1980): 739-756, 755.

⁶⁹⁰ GARF F. A-310, Op. 18, D. 682, L. 48.

⁶⁹¹ Graves, *Wolves in Russia*, 58-59.

⁶⁹² V.V. Riabov, *Istreblenie volkov* (Moscow: Fizkul'tura i sport, 1957), 40.

since “the wolves adapt to it and become more cautious.”⁶⁹³ By the 1950s, the state sponsored every available “technical means in the fight against wolves,” from snowmobiles to helicopters.⁶⁹⁴ The goal became “total extermination,” which as one zoologist wrote, was “the best method of eliminating the losses that these predators inflict.”⁶⁹⁵

The purpose of these interventions was the creation of more reindeer, since reindeer made the tundra useful for humans, and humans, at least socialist ones, “regenerated life on the cold land and conquered the dead wastes.”⁶⁹⁶ More reindeer were a sign of the arrival of real existing socialism. “Collectivization” in reindeer scientist F. Ia. Gul’chak’s words, “put before reindeer breeding higher requirements” and made quantity “the basis of correct organization.”⁶⁹⁷ It was important, therefore, to know the maximum number of reindeer that each collective’s allotted territory could produce. Most Soviet scientists were interested in finding the tundra’s carrying capacity, a fixed maximum number of reindeer that could be determined, as in the U.S., from surveys of plant types and grazing habits. But a few biologists saw the socialist future not as existing in a set number of reindeer, but in the absence of all productive constraint. V. Ustinov, a specialist in the Magadan land-use office, saw set carrying capacity as an “incorrect opinion of certain managers,” and argued that herd size could continue to grow infinitely with “new forms of organizing the reindeer herd.”⁶⁹⁸ Unlike the United States, where overabundance lowered prices, there could never be too many socialist reindeer.

Whether or not the modern arctic could be measured in fixed number of reindeer or in an ever-expanding bounty of meat and hides, it was the consensus among reindeer experts that there was still work to be done. The struggle during collectivization killed so many reindeer that Chukotka’s herds were just returning, in the 1950s, to their pre-revolutionary size. But that political struggle was over. Now wolves were under attack. There were so few wild reindeer that planners paid them no mind. A new reindeer, bred for the maximum quantity of meat now grazed on a pasture organized for maximum growth, in order to give the “northern reindeer industry a large role in our [Soviet] future.”⁶⁹⁹

OVERSEEING THE NEW reindeer was a new type of herder working for a new type of collective. As the managerial control of the state increased, local supervisors began a campaign of *ukreplenie*, or consolidation. The Peninsula’s many dispersed farms were merged, grazing territories redrawn, and herds transferred to maximize efficiency. Socialist form also changed. *Kolkebozy*, where members set production quotas and technically owned their herds as common property, were transformed into *sovkebozy*, a collective enterprise in which the Ministry of Agriculture set production quotas and property was owned by the state. By 1960, the number of collectives had dropped by

⁶⁹³ V.M. Sdobnikov, “Bor’ba s khishchnikamiin,” P.S. Zhigunov ed. *Severnoe olenevodstvo* (Moscow: Ogiz-Sel’hozgiz, 1948), 361.

⁶⁹⁴ Riabov, *Istreblenie volkov*, 5. From 1945 to 1957, the between forty and fifty thousand wolves were killed each year in the Soviet Union. Only in 1965 did the number drop below twenty thousand, as extermination efforts began catching up with the packs. Graves, *Wolves in Russia*, 59.

⁶⁹⁵ Zhigunov, *Reindeer Husbandry*, 324.

⁶⁹⁶ Tikhon Semushkin, *Alitet Goes to the Hills* (Moscow: Foreign Language Publishing House, 1952), 12.

⁶⁹⁷ Gul’chak, *Reindeer Breeding*, 191.

⁶⁹⁸ V. Ustinov, *Olenevodstvo na Chukotke* (Magadan: Magadanskoe Knizhnoe Izdatel’stvo, 1956), 18.

⁶⁹⁹ GARF F. A-310, Op. 18, D. 682, L. 28.

half, and only six percent of domestic reindeer remained private property.⁷⁰⁰ Most herds and herders now worked on *sovkhosy*, an agricultural unit that, according to the head of the Scientific Research Institute of Arctic Agriculture F. Gul'chak, "insured the uninterrupted growth of reindeer breeding."⁷⁰¹ Success was signaled by how well the farms filled, or over-filled, their annual production plans. As the deputy of the *sovkhos* "Anyuiskiy" testified, "In 1961, our farm was created from two *kolkhozy*. If the *kolkhozy* did not fulfill the plans, well in the first year our *sovkhos* met the plan across all sectors," adding that everyone "lives better, and are better supplied."⁷⁰²

Labor on a *sovkhos* was still mostly Chukchi, but Chukchi were no longer experts. Having created a corpus of specialized knowledge and practice, reindeer scientists argued that "the last and decisive priority in developing reindeer herding is the task of training and re-training herders" through "compulsory apprenticeship in reindeer herding brigades...and through the organization of special seminars and courses."⁷⁰³ Husbandry now required formal education and formal education was found in towns, not on the tundra. Families moved to villages around the Peninsula, with Yupik and Russian neighbors. Herders lived in the concrete apartment blocks of regional towns between shifts on the tundra. Some women no longer went onto the land at all, their skinning, tanning, and sewing labor done to benefit the *sovkhos* plans rather than family needs. Those who did go out, as members of herding brigades, kept camp for of four or five trained men and an apprentice, who worked day-long shifts monitoring deer, assessing pastures, treating diseases and hunting predators. At night they slept in huts dragged behind the herds by tractors, and reported their activities to the central *sovkhos* manager by radio.⁷⁰⁴ Reindeer work had become like factory work: run in shifts and following production quotas "based on the projected plan of economic development" in Moscow.⁷⁰⁵ Like Soviet factory work anywhere, there were problems with procurement, with drinking, with illiteracy. Party membership remained low. Promised tractors took years to arrive. Even acquiring seal hides from collectives on the coast was difficult.⁷⁰⁶ But the correct socialist form was in place, a way of organizing reindeer for the good of the Soviet Union and for the creation of "first-rank workers of the tundra, people of a new type, who unflinchingly and every year achieve high indices in the field of reindeer breeding."⁷⁰⁷ And the people of a new type were presiding over growing herds. There was often no demand for the new reindeer; the success of *kolkhozy* was driven less by

⁷⁰⁰ Gray, "Chukotkan Reindeer Husbandry in the Twentieth Century," 143. Gray points out that Chukotka was an experimental region for the move from *kolkhoz* to *sovkhos* – not only was the first *sovkhos* established in 1929, but all the *kolkhozy* had been consolidated by 1980, while in the southern Soviet Union the farm types remained mixed until the collapse of the Soviet Union.

⁷⁰¹ Gul'chak *Reindeer Breeding*, 32. Caroline Humphry argues that *sovkhosy* were seen as a more advanced mode of socialist production than *kolkhozy*; see *Marx Went Away – But Karl Stayed Behind* (Ann Arbor: University of Michigan Press, 1998), 93. Chukotka was one of the few regions where collective farms all became state farms; there were no *kolkhozy* left on the Peninsula by the 1980s. See Gray, "Chukotkan Reindeer Husbandry in the Twentieth Century," 143.

⁷⁰² GACHAO F. R-20, Op. 1, D. 43, L. 6.

⁷⁰³ GARF F. A-310, Op. 18, D. 682, L. 30.

⁷⁰⁴ Zhigunov, *Reindeer Husbandry*, 82; V. Kozlov, "Khoziaistvo idet v goru," in *30 let Chukotskogo natsional'nogo okrug* (Magadan: Magadanskoe Knizhnoe Izdatel'stvo, 1960), 65-69.

⁷⁰⁵ Zhigunov, *Reindeer Husbandry*, 87.

⁷⁰⁶ GACHAO F. R-2, Op. 1, D. 38, L. 88-90.

⁷⁰⁷ Gul'chak, *Reindeer Breeding*, 259-260.

profit than by increasing production. State subsidies paid any shortfall.⁷⁰⁸ If socialist progress was measured by plans filled and over-filled, then the growing herds substantiated utopia growing tantalizingly close.

THE MANAGED TUNDRA

Across the long twentieth century, the state of change anticipated by most environmental managers, both capitalist and communist, was change for the better. Reindeer were the enabling object through which the United States and the Soviet Union managed Beringian space and people, making the landscape and its inhabitants part of a common future. This future was subject to a clear set of natural laws. In the United States, the tundra was disciplined by the value the market gave reindeer and by the land's carrying capacity. The number of reindeer had a set maximum biologically and a changing maximum economically. In the Soviet Union, where ideology supplied demand even when demand was amply supplied, socialist organization of herds would achieve – or perhaps even best – the tundra's maximum sustainable yield. Once carrying capacity or market saturation or maximum production was reached, reindeer would breed and be consumed in changeless balance. To make the tundra part of capitalist or communist progress, it had to become a space outside of history. Reindeer would simply reproduce to fill those eaten every year, and the vegetation would grow up to replenish grazed stubble. In order to make the tundra modern human management had to make it timeless.

The form of human management had broadly similar consequences on both sides of the Bering Straits. For the region's indigenous populations, there were no small nations in 1970 as there had been in 1850, no more wars between shamans or against empires. On the land, government interventions attempted to remove the state of nature and replace it with pure social will. The results – the veterinary care, wolf eradication, pasture management and the rest – created more reindeer. These reindeer in turn helped fundamentally alter Beringian social and economic life. The nature of the transformations foregrounds differences between the ideological practices of the United States and the Soviet Union.

Much of the difference rested with the changeable form of capitalism itself. From its earliest days in Chukotka onward, the Soviet Union saw communism as having a specific, collective form. In Alaska, ideas about how individuals, animals, land, states, and markets shifted by the decade. For the Inupiat, owning reindeer started as a prize for conforming to the missionary vision of civilization. Then ownership became the precondition of civilization. In both cases, religious and secular teachers saw the benefits of property as self-explanatory. They shared a conviction that private property would aid assimilation, that assimilation would increase useful production, and that production would eventually be valued by the market. The issue of value was, for much of the twentieth century, a statement of faith; reindeer were what the tundra produced, and therefore the rational market would assign some value to its consumption.

⁷⁰⁸ Baskin, ““Reindeer Husbandry/Hunting in Russia,” 27; Igor Krupnik, “Reindeer Pastoralism in Modern Siberia: Research and Survival during the Time of the Crash,” *Polar Research* Vol. 19 No. 1 (2000): 49-56.

For the Inupiat, the uneven demand for the herds implied otherwise: in some years the price of reindeer was high, in other years far lower than the profits from furs, bounties, or wage work. Moreover, the vision of what it meant to be a capitalist – a yeoman farmer, a cooperative owner, a wage-earning herder – was as capricious as market valuation. As capitalism went through these iterations, many Inupiat found sources of income, sustenance, and value aside from herding. As a result, government managers found the Inupiat conversion to producing for the market frustratingly incomplete. “When natives work for live reindeer they create an illusion they have interest in stock-raising,” wrote one reindeer specialist, “This is only an illusion. Their interest is in dead reindeer, not live ones...[and in] the possibility of ‘easier street.’”⁷⁰⁹ “Easier street” meant anything other than the delayed and uncertain gratification of herding. Inupiat lived in a world shaped by market demands; in 1960, even a wild caribou died by ammunition purchased in English for hard sovereign currency. But they retained considerable choice about how to engage with that market.

Across the straits, the Soviets left the Chukchi few alternatives as they reformed private property into collective farming. The assurance of Marxist-Leninist thought had a clear trajectory, from the early 1920s through the violent years of collectivization and into the postwar period of consolidation: private property needed to become collectivized, and collectives needed to advance from *artel* to *kolkhoz* to *sovkoz*. Many Chukchi rejected the Soviet vision, but not because it was inconsistent. Collectives were the way of the future, the future would make more reindeer, and more reindeer were the result of collectivized agriculture. Moreover, the Soviet Union, which measured success in production rather than profit, was untroubled by market valuation. In the United States, there could be too many reindeer, both economically and ecologically. Every collective reindeer had value. Some Soviets doubted ecological limits; everyone saw economic success in filling – or better, over-filling – ever-increasing annual plans. As a result, the Soviets were willing to subsidize reindeer farms so long as they made more reindeer. The result was considerably more effective at building committed communists than were the unsteady policies in the U.S. Especially after WWII, with the open violence of collectivization in the past, Soviet reindeer herding came with a steady, state-subsidized salary and the prestige of socialist participation – values for which many Chukchi are now nostalgic.⁷¹⁰

In the 1960s, both systems seemed to be working on their respective terms. In the Soviet Union, there was no more open political resistance or bloody reindeer massacres. Production was up. In the United States, a market for reindeer meat and the profits from sales of antlers and hides slowly expanded in the 1970s.⁷¹¹ The market or the state made demands. The land supplied reindeer. The land had nothing else to do, with wolves exterminated, diseases treated, migration corralled, and grazing regulated. *Rangifer* had been effectively isolated in a space perfect for creating more *Rangifer*. And on both continents, domestic herds were growing. The scale was modest in Alaska, where reindeer populations increased from a low of 25,000 in the mid-1950s to 40,000 a decade later – growth that roughly matched demand. In Chukotka, the increase was more dramatic. There were

⁷⁰⁹ Sidney Rood to A.C. Cooley, August 27, 1943, NARA AK RG 75 Reindeer Service Decimal Correspondence, File: General Correspondence 1901-1945.

⁷¹⁰ Gray, “Chukotkan Reindeer Husbandry in the Twentieth Century,” 149; Grant, *In the Soviet House*, chapter 6.

⁷¹¹ Stern, et al., *Eskimos, Reindeer and Land*, 64-68.

almost 600,000 reindeer on the tundra by 1970, finally surpassing the herds the Soviets found in the early 1920s.⁷¹² The upward line of growth seemed to affirm market rationality or Marxist promise.

BY THE 1970S, both the United States and the Soviet Union had revolutionized a great many lives. But American and Soviet successes, which seemed ample, were also tied to more than human actions. At first this was invisible. Efforts to privatize or collectivize the Beringian landscape began when wild *Rangifer* numbers were low, their herds reduced by the stress of warm years and aggravated by hunting and herding. Domestic herds grew as the climate turned toward cool winters. As wolves, diseases, and range problems were eradicated, the climate lent both states the illusion of control.

The illusion was troubled, initially, by the paradoxical successes of communist and capitalist husbandry. By the 1960s, wild reindeer herds were expanding. Grazing regulation concentrated domestic herds in specific places leaving patches of newly lush pasture open.⁷¹³ Humans killed off the threat of wolves. More wild calves were born, and more lived. The new wild herds, moving in the grooves of their old trails, worried the edges of the postwar environmental management state. Domestic reindeer joined their wild cousins to find better fodder. Some turned feral with a gust of wind: reindeer followed northerly summer breezes away from clouds of insects and into passing caribou herds, never to return.⁷¹⁴ Caribou grazed through reindeer country, picking the most nutritious plants.⁷¹⁵ Soviet reindeer scientist V.N. Andreev referred to the wild herds as “weeds” and called for their “complete removal from the range of domestic reindeer.”⁷¹⁶ In the United States, one Inupiat herder recalled how “the caribou came in just like mosquitoes and took over everything.”⁷¹⁷ Their wildness overran mapped pastures and separated herds. The total number of Beringian *Rangifer* grew in the 1970s and 1980s, but their domestic element shrank. Chukotka lost over 100,000 animals in a decade.⁷¹⁸

Undomesticated reindeer also brought wolves. The packs followed wild herds outward from deep valleys, and stayed to eat the docile domestic prey. But the nuisance of the exploding *Rangifer* population also changed the human valuation of wolves. By the late 1960s and 1970s, U.S. ecologists began to see *Canis lupis* as critical to regulating ungulate populations. The Alaskan Department of Fish and Game significantly curtailed the wolf-control program in 1960.⁷¹⁹ Bob Stephenson, who

⁷¹² Gray, “Chukotkan Reindeer Husbandry in the Twentieth Century,” 143.

⁷¹³ David R. Klein and Vladimir Kuzyakin, “Distribution and Status of Wild Reindeer in the Soviet Union,” *Journal of Wildlife Management* Vol. 46, No. 3 (July 1982): 728-733; David R Klein, “Conflicts between Domestic Reindeer and their Wild Counterparts: A Review of Eurasian and North American Experience,” *Arctic* Vol. 33 No. 4 (December 1980): 739-756.

⁷¹⁴ Clifford Weyiouanna, University of Alaska Fairbanks Oral History Program, Project Jukebox, Tape H2000-102-22, Section 6. See also Tom Gray, University of Alaska Fairbanks Oral History Program, Project Jukebox Tape H2000-102-17, Section 11.

⁷¹⁵ Klein, “Conflicts between Domestic Reindeer and their Wild Counterparts,” 747.

⁷¹⁶ V.N. Andreev, *Dikiĭ severnyi olen’ v SSSR* (Moscow: Sovetskaiia Rossiia, 1975), 71.

⁷¹⁷ Tom Gray, Tape H2000-102-17, Section 11.

⁷¹⁸ Gray, “Chukotkan Reindeer Husbandry in the Twentieth Century,” 150; Burch *Caribou Herds of Northwestern Alaska*, 120-121.

⁷¹⁹ In Alaska, culling was highly politicized. When Alaska became a state in 1959, the new Alaska Department of Fish and Game reduced culling under the influence of wildlife ecologists. In the late 1960s, hunters petitioned for access to wolves again. Bounty numbers fluctuated into the 1970s, when controversy over wolf hunting included national

worked in the Brooks Range, credited much of his understanding of wolf individuality and intelligence to Inupiat guides.⁷²⁰ Russian biologist K. P. Filonov began to see wolves as vital to managing balanced ungulate herds in nature preserves.⁷²¹ By the 1970s, predator control was a major source of debate among Russian ecologists as well.⁷²² In both countries, Farley Mowat's *Never Cry Wolf*, a tale of human-canine relationships helped humanize packs and dehumanize hunters, while popularizing the image of wild nature as balanced and pure.⁷²³ The role of wolves in creating natural equilibrium – and the very existence of such equilibrium – remained under debate. But wolves began to have value alive. Although hunts and bounties did not disappear, especially in reindeer country, eradication campaigns in Russia and America were no longer anointed with scientific consensus or practical consistency. Nature might provide more balance than the invisible hand of the market or Marxist arc of history.⁷²⁴

Then in the late 1980s and early 1990s, the northern climate entered a warm phase. *Rangifer* herds across the arctic went into decline.⁷²⁵ The dwindling herds did not end state sovereignty or roll back fundamental alterations in the relationships between people, animals, and the northern landscape. In Chukotka, Soviet-style herding brigades outlived the Soviet Union. In Alaska, a few Inupiat remained herders despite herd declines and an ever-changing market. But the broad

environmental groups like Friends of the Earth and Defenders of Wildlife. National debates about Alaska predator control, especially the use of poison and aircraft, went on into the 1980s. See Ken Ross, *Environmental Conflict in Alaska*, (Boulder: University of Colorado Press, 2000), 49-75. The debate about wolves was part of a national movement in the United States toward thinking about the environment. The causes for this turn were diverse and have produced a diverse historiography, with which chapter 5 will engage more fully.

⁷²⁰ Mike Link and Kate Crowley, *Following the Pack: The World of Wolf Research* (Stillwater MN: Voyageur Press, 1994), 62-63.

⁷²¹ K. P. Filonov, *Dinamika chislennosti kopytnykh zhivotnykh i zapovednost.* *Okhotovedenie*. (Moscow: TsNIL Glavokhota RSFSR and Lesnaia promyshlennost', 1977), 1–232, 88-89. Filonov's work was also a rebuttal against Stalin-era, Lysenko-inflected policies of introducing exotic species into Russia's network of game preserves. See Douglas Wiener, *A Little Corner of Freedom: Russian nature protection from Stalin to Gorbachev* (Berkeley: University of California Press, 1999), 381.

⁷²² Wiener, *A Little Corner of Freedom*, 374-397. Debates over wolf culling were a constant presence in the U.S.S.R. during the 1970s; see for example O. Gusev, "Protiv idealizatsii prirody," *Okhota i okhotnich'e khoziaistvo*, Vol. 11 (1978): 25-27; S.S. Shvarts, *Dialog o prirode* (Sverdlovsk: Sredne-ural'skoe knizhnoe izdatel'stvo, 1977); A. Borodin, "Usilit' bor'bu s volkami," *Okhota i okhotnich'e khoziaistvo* Vol. 7 (1979): 4-5; G.S. Priklonskii, "Rezko sokratit' chislennost'" *Okhota i okhotnich'e khoziaistvo* Vol. 8 (1978): 6; A.S. Rykovskii, "Volk – vrag seroznyi," *Okhota i okhotnich'e khoziaistvo* Vol. 7 (1978):8-9; Y. Rysnov, "Ne boites' polnost'iu unichtozhit' volkov," *Okhota i okhotnich'e khoziaistvo* Vol. 9 (1978):10; and V. Khramova, "Bor'ba s volkami v viatskikh lesakh," *Okhota i okhotnich'e khoziaistvo* Vol. 12 (1974): 44.

⁷²³ Work on wolf control in the Soviet period requires further investigation, but it appears that the publication of Farley Mowat's essentially fictional *Never Cry Wolf* in Russian in the 1970s led to a temporary reduction in wolf control programs followed by a boom in the wolf population, contributing to larger debates about the role of humans in nature; see Graves, *Wolves in Russia*, 59. This put Russian responses on par with those in North America, where Mowat's 1963 book was embraced by the public, along with works like Lois Crisler's *Arctic Wild*; see Marvin, *Wolf*, 144-146. The idea of wild nature as existing in pure ecological balance became part of the popular imagination just as ecologists themselves were beginning to see ecological systems as far more contingent, changeable, and off-kilter, both in the U.S. and the Soviet Union, and igniting a debate over that continues into the present.

⁷²⁴ Wolves continued to be killed and bounties were assessed in both countries, although policies varied from year to year. See McKnight, *The History of Predator Control*, 8; Ross, *Environmental Conflict*, 49-77. In Russia debates over control measures did not generally include reindeer-raising parts of the tundra, where control measures remained strict. See D.I. Bibikov, *Volk: Proiskhozhdenie, sistematika, morfologiya, ekologiya* (Moscow: Akademia nauk, 1985), 562-571.

⁷²⁵ Gray, "Chukotkan Reindeer Husbandry in the Twentieth Century," 143; Jim Dau, "Managing Reindeer and Wildlife on Alaska's Seward Peninsula," *Polar Research* Vol. 19 No. 1 (2000): 75-82; C. Healy ed. *Caribou Management Report of Survey-Inventory Activities 1 July 1998-30 June 2000*, (Juneau: Alaska Department of Fish and Game Project 3.0, 2001). The crash in Russia was exacerbated by a lack of state support for reindeer herders following the Soviet collapse.

aspiration of communists and capitalists to make the tundra a space predictable and progressive, make it a space ruled by Marxist or capitalist rationale, met on the tundra a climate agnostic to such designs. Sometimes the numbers of *Rangifer* simply crash, regardless of human will. Over the long twentieth century, neither nation could make the space produce only according to human plans and in human time.

Thus the history of the twentieth century tundra is partly one of human revolutions, and partly one of the things that escape human minds. The land and its living things are always changing, on different time scales and at different levels of adaptation.⁷²⁶ Human endeavors were changed by using reindeer, and changed reindeer by using them. Small wars were fought over the disposition of their flesh. Yet the wolves and the wild returned, as did long, slow trends of climate. In the arctic, there is no complete exit from the state of nature into historical progress through technological adaptation, because there is no hard line between history and ecology.

⁷²⁶ Some ecologists see the local contexts in the arctic as so variable they are nearly impossible to document accurately. See Atle Mysterud, "The Concept of Overgrazing and its Role in the Management of Large Herbivores," *Wildlife Biology* Vol. 12 No. 2 (2006): 129-141.

CHAPTER FOUR: THE UNDERGROUND

1900-1980

THE UNQUIET EARTH

In winter, the rivers and little creeks that loop down from the Beringian hills lie quiet. Some are frozen to their pebbly beds. Larger courses hold sluggish liquid deep under the ice. As the sun returns, brilliant blue overflow seeps downstream. Then in spring the streams roar. Ice sheets crack and give into the churn of meltwater, grinding away the winter's burden. The act of freezing heaves boulders up through the earth. Subzero winters expand water caught in tiny stony fissures, slowly exploding granite, schist, quartz. Thawing water calves glaciers, worries stone, rolls gravel, and scrapes bedrock into sand. By midsummer, rivers in spate erode their banks, opening walls of permafrost to the sun. Soil and pebbles sluice away. The annual pulse of freezing and thawing, raining and running downriver, constantly reshapes the landscape. Lakes form, only to have their water stolen by a stream's current. Creeks eat into the tundra, deepening their bows until they loop nearly into circles. A large river can move through a kilometer of land in a decade.⁷²⁷ Miles downstream, the runoff spills into the sea milky green with sediment.

As water reshapes the land it exposes a layered past. Mammoth tusks and the half-foot long incisors of extinct, giant beavers crumble from muddy riverbanks. Glacial valleys chart on their sides a history in pre-human stone: volcanic rock from the Jurassic, granite forged in the Cretaceous, Precambrian slate. Some of the land is made from long-dead living things and some from fired and compressed stone.⁷²⁸ In places, deep time muddled the strata, mixing fossils with volcanic shards, respiring outcroppings of coal. Water cuts through the jumble, exposing where the working of the earth has run the Beringian hills through with metal: lead, silver, tin, zinc, copper, and gold.

It was this last element that began the search for underground wealth along the Bering Straits. The value of gold is not in its utility: it contains no calories to feed bodies or warm hearths. It is too scarce, heavy, and pliable to use for shelter or tools. Many people have died seeking it but no person will die in its absence. The meaning and power of gold on the human mind comes from its inertia. The arrangement of its electrons precludes corrosion or tarnish. Meat rots, wood decays, and iron rusts, but gold cannot be destroyed any more than it can become something else. It does not change over time. Being imperishable and rare is the physical canvas on which human societies have painted the element's value, as a physical manifestation of light, longevity, beauty, royalty, eternity. These values were not universal; the Inupiat, Yupik, and Chukchi found little use for the metal. But Egyptians mined it, the Shang dynasty sought it, Pliny the Elder wrote about it, Columbus bore Europe to the New World on rumors of its presence. By the turn of the twentieth

⁷²⁷ For further descriptions of freeze-thaw cycles and how they shape the arctic landscape, see E.C. Pielou, *A Naturalist's Guide to the Arctic* (Chicago: University of Chicago Press, 1994), 47-61.

⁷²⁸ General information on metal deposits can be found in R.W. Boyle, *Gold: History and Genesis of Deposits* (New York: Van Nostrand Reinhold, 1987). For the Seward Peninsula in particular, see C.L. Sainsbury, *Geology, Ore Deposits and Mineral Potential of the Seward Peninsula*, (Alaska: U.S. Bureau of Mines Open-File Report 73-75, 1975), and in Chukotka, see A.V. Volkov and A.A. Sidorov, *Unikal'nyi zolotorudnyi raion Chukotki* (Magadan: DVO RAN 2001).

century, gold inspired rushes of people to California, to the Lena River, and to the Klondike. For them the element's worth was clear. Gold was currency. It emerged from the ground already a monetary abstraction, valuable for its alchemic ability to become any other thing. The challenge, in Beringia, was location. Over millions of years, the rolling kiln of time shot quartz and granite through with metal and then pushed stone and ore up through cracks in the earth's crust. A rich tin lode might sit under half a mountain, its edge barely scoured into the open by river water. Nuggets and flakes of gold dispersed in arctic streams. Traces as fine as dust fanned out across the Beringian landscape, and the landscape hid deposits under hard rock.

Gathering dust or mining ore required energy. Placer mines, where ores lie near the surface, needed it to turn over gravels and sift out gold. Lode mines, where metal lies concentrated in deep underground veins, needed power to blast away stone and tunnel far below the surface. From the beginning of the Nome gold rush in 1898 until the completion of a nuclear power plant in Chukotka in 1973, the calories to remake Beringia were rarely local. From human labor to fossil fuels, mining reversed the outflow of whale blubber, walrus fat, and reindeer meat.

THE CHAPTER THAT follows chronicles this influx of energy. It is in part a story of congruence between America and Russia. Capitalists, both Imperial and American, valued gold, and capitalists and communists valued gold and tin. In pursuit of this value, people on both sides of the Bering Straits overcame the inert earth. The physical properties of gold, like tin and other elements housed deep in the Beringian substrate, made its harvest quite different than the harvest of value from a whale, or a seal, or a reindeer. Immobile, insensate, and often subterranean, metals have no drive to eat or breed. Gold never outruns the miner's pan. Metal deposits have little sensitivity to climate. They are fixed and finite in space and over time: elements cannot reproduce. And unlike whale or a seal or a reindeer, which became money only when labor transmuted their bodies into oil or hide or meat for sale, gold held value no matter its form, and was in demand whether women wore corsets or not.⁷²⁹ Tin, because of its diverse and ubiquitous industrial applications, was in demand even before military uses made it critical. With hand tools and muscle power or industrial tools and fossil fuel power they remade hills and rivers, peeling open the land to satisfy human desire. The day-to-day techniques of this labor were often similar, and capitalist and communist industry proved similarly suited to overcoming the static challenge of geology. The results left similar marks on the reformed earth: piles of tailings, dammed rivers, rerouted streams. A landscape changed not in the unquiet of deep time but in the rapid turbulence of dynamite and bulldozers.

From this congruence in capacity came divergence in practice. At its most ideal, American prospectors went north to find a capitalist promised land, a place where money sprang from the earth. At its most extreme, the Soviet Union sent prisoners north to repent their communist sins in forced service to the motherland. Rarely did laborers on either side of the straits reach their ideological exemplar. While it transformed the tundra and its underground into a space defined by commodities and private property, capitalism failed to make most miners rich. Over the twentieth century, that failure changed from a source of political disillusionment and contestation to a thing

⁷²⁹ For a general cultural history of gold, see Peter L. Bernstein, *The Power of Gold: The History of an Obsession* (New York: John Wiley & Sons, 2004).

forgotten in the mythology of the gold rush frontier, an argument for the pliability of the capitalist ideal. In the Soviet case, mining in Chukotka listed from the brutal negation of utopia in a prison camp to adventure as a modern, prosperous geologist. Mostly, what follows is a narrative of historical irony, of how labor in the name of capitalist liberty made inequality so obvious it left people feeling less free, and how labor in the name of communist salvation never quite achieved a society filled with classless, redeemed peers but had the potential to either imprison or liberate.

COMING FROM THE SEA, 1890S-1915

In December 1897, Jafet Lindeberg boarded a ship in Alta, Norway, bound for Alaska. Lindeberg had a U.S. government contract to tend the five hundred reindeer snorting and trampling in the vessel's hold. He knew nothing about reindeer. Nor did he care to: word of the 1896 discovery of gold in the Canadian north had reached Norwegian newspapers. At the confluence of the Yukon and Klondike Rivers, men could become millionaires in an afternoon. Reindeer were Lindeberg's ticket to becoming a prospector. Seven months later, Lindeberg found himself stranded at Saint Michael. The old Russian post, built where the Yukon River meets the Bering Sea, was swarming with miners headed for Dawson City. Sternwheeler boats came and went, belching steam and so crowded that passengers could take no baggage on the nearly two thousand mile voyage upriver. While waiting for passage, Lindeberg heard rumors of gold on the Seward Peninsula, just to the north.⁷³⁰ Abandoning his Klondike plan, Lindeberg joined forces with two Swedes, and set off northwest along the coast of Norton Sound. In September, with snow already spitting from the wintering sky, the three men headed inland on a watercourse Lindeberg described as so "very crooked as it wandered over the tundra to the beach, we named it 'Snake River.'" Even at the mouth there was trace gold. After a day slogging upstream, they found deposits in the Snake's tributaries so easily accessible they made "wages by the most primitive mining methods – panning, rocking and sluicing."⁷³¹ In October, the prospectors packed nearly two thousand dollars' worth of gold out of the Snake River in shotgun shells. It was the first strike of the Nome rush.

⁷³⁰ APRCA, Hazel Lindberg Collection, Box 3, Series 1, Folder 52: Jafet Lindeberg, p. 7. Lindeberg heard these rumors from A.N Kittilsen, a doctor employed by the Reindeer Service at Port Clarence. Kittilsen was not boasting – he was part of a prospecting group that found a small deposit on the Niukluk River a few months before. The Niukluk strike was the first on the Seward Peninsula, formally discovered in April of 1897. Rumor of gold in the region dated back to the Western Union Telegraph Expedition's presence in the region in 1866-1867, when Daniel Libby found evidence of gold. Libby only acted on his knowledge after the Klondike strike. In 1897, Libby joined with several Seward Peninsula missionaries and on the advice of John Dexter, a whaler who operated a small silver mine in the Omilak Mountains, began prospected at Melsing Creek. The Libby party found gold and convened the first miner's council on the Seward Peninsula, an event that included Kittilsen. See Terrence Cole, *Nome: City of the Golden Beaches*, (Anchorage: Alaska Geographic Society, 1984), 11-24.

⁷³¹ APRCA, Hazel Lindberg Collection, Box 3, Series 1, Folder 52: Jafet Lindeberg, p. 7-8. See also APRCA, June Metcalfe Northwest Alaska Collection, Box 1, Series 1, Folder 6: Jafet Lindeberg, transcript of interview with Henry Carlisle. Lindblom had likely been to the Snake River before; he was a deserter from a whaling ship and had taken refuge with an Inupiat family fishing in the region. Later he claimed to have been the first person to find gold at Nome; *Nome Nugget* January 1, 1900.

News of gold broke a wave of human energy over the Seward Peninsula. Despite their attempts at secrecy, rumors of the Scandinavians' discovery trickled out among the Klondike hopefuls at Saint Michaels and shipped south on steamers bound for Seattle and San Francisco. In the spring of 1899, as the sea ice receded, people flooded in. First were destitute miners from the Yukon and a failed expedition to the Kobuk River. In June, hundreds of people in San Francisco sought passage north. A month later, the *Washington Post* reported fabulous wealth flowing from the “newly-discovered gold fields of Cape Nome,” where “colors [gold] were found at most everywhere...Four men shoveling eight days took out \$95,000.”⁷³² The news brought men from Washington, California, Nevada, and Canada, and from as far as Scandinavia, Germany, and Britain. By trade, some were farmers, more were fishermen and laborers, and many were experienced miners. Joseph Grinnell was an aspiring zoologist. Edwin Sherzer was a railroad clerk. Others were merchants, lawyers, professors, and doctors. Ninety percent of the rushers were men.⁷³³

What they had in common was the ocean. Getting to Nome required none of the glacial climbs that faced miners flowing into the Klondike or the jolting overland wagons that drew rushes to the mines in Colorado and California.⁷³⁴ Through the energies of coal and wind, steam barks and tri-mast sailing ships collapsed the labor of movement into a matter of weeks and the price of a ticket. Three thousand migrants arrived in 1899. A year later, encouraged by reports of gold in the sands on Nome's beach, eighteen thousand or more people arrived on the Seward Peninsula. Despite the comparative ease of travel, most loathed the food, tight quarters, grinding ice, and nausea of life on the ocean. Even when the “sea is calm,” prospector William Woleben wrote “the swell is not very pleasant. Guess I will be more or less miserable ‘till land is reached.’”⁷³⁵

Land was not just the cure to seasickness. It was, in the words of one expectant miner, a “great Eldorado of golden promise where auriferous sands lay waiting to pan, pick and shovel, which would make us all rich, if not millionaires.”⁷³⁶ That gold could make millionaires was the product of economic and political forces originating far from Beringia. At the end of the nineteenth century, most of Europe had adopted the gold standard. With gold equivalent to money and all money tied to the quantity of mined gold, demand for the metal increased. In the United States, debates about the social utility of money and the proper form of capitalism were anchored by gold. William Jennings Bryan, the populist Democratic candidate for the presidency in 1896, argued that

⁷³² “Seven Hundred, Sail for Cape Nome Fields,” *San Francisco Chronicle*, San Francisco CA, June 11 1899; “Rush to New Gold Field: Rich Deposits of Black Ore in the Cape Nome District,” *Washington Post*, Washington D.C., July 15 1899.

⁷³³ For a complete breakdown of the demographics of the rushers, see James H. Ducker, “Gold Rushers North: A Census Study of the Yukon and Alaska Gold Rushes, 1896-1900,” in Stephen Haycox, Mary Childers Mangusso eds. *An Alaskan Anthology* (Seattle: University of Washington Press, 1996), 206-221.

⁷³⁴ For environmental histories of other metal rushes see Kathryn Morse, *The Nature of Gold: An Environmental History of the Gold Rush* (Seattle: University of Washington Press, 2003); Elliott West, *The Contested Plains: Indians, Gold-Seekers & the Rush to Colorado* (Lawrence: University of Kansas Press, 1998); Thomas Andrews, *Killing for Coal: America's Deadliest Labor War*, (Cambridge: Harvard University Press, 2008); Andrew C. Isenberg, *Mining California: An Ecological History* (New York: Hill and Wang, 2005); Samuel Truett, *Fugitive Landscapes: The Forgotten History of the U.S.-Mexico Borderlands* (New Haven: Yale University Press, 2006); and Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in America* (Chapel Hill: University of North Carolina Press, 2003). For a historiographical overview of mining, see Katherine G. Morrissey, “Rich Crevices of Inquiry: Mining and Environmental History,” in *Companion to American Environmental History*, ed. Douglas Sackman, (Malden: Wiley-Blackwell, 2010), 394-409.

⁷³⁵ APRCA, William J. Woleben Papers, Transcript of Diary 1900, p. 1.

⁷³⁶ M. Clark, *Roadhouse Tales, or Nome in 1900* (Girard, Kan: Appeal Publishing Co., 1902), 14.

labor made value. Money could be made from anything and should expand in quantity alongside the growing production of America's working masses. Republican William McKinley contended that innate worth, not labor, should underwrite money. Since gold was incorruptible and rare – its supply limited by nature and natural economic laws that drove men to mine only in times of high demand – it was ideal for currency.⁷³⁷ McKinley won the election. By 1900, when most miners landed on the Seward Peninsula, the United States had joined Europe on the gold standard. Element and legal tender were officially identical.

In fin-de-siècle Republican rhetoric, the gold standard was the guarantor of a stable society and flourishing economy. New gold discoveries, made just as the U.S. joined the standard, seemed to prove that God and nature were on the side of gold-bugs. And growth did surge in the United States, fueled by international migration and trade. Yet by limiting the supply of money, the gold standard favored established capital over those in financial straits. This was not lost on the prospectors going north. In Nome, “A man at least has a ‘chance,’” wrote one miner, “and there is no chance for a poor man back in the states.”⁷³⁸ A good claim offered what labor in the tumultuous, monopoly-driven, industrializing American 1890s did not: wealth-producing property and escape from what prospector Edwin Sherzer called “the life of a common slave in a Railroad office...where there is no hopes of anything in the way of salary.”⁷³⁹ Other migrants, like the comparatively well-off Grinnell, found northern conditions liberating, for “the freedom of camp life and that feeling of rest after a day's work” in a “land without visible limit; a land where we are not crowded.”⁷⁴⁰ The frontier had barely closed in the continental United States, but it remained open in Alaska where, as one miner enthused, “a man's chances are *great*, where there is *freedom* and *life* and ‘something doing.’”⁷⁴¹

Gold could liberate because it was unmoored from the usual originators of capitalist value. Its worth per ounce did not reflect the energy expended in collection; it was possible to make a year's wages in a good afternoon. Once in hand, an ounce always equaled \$20.67. It did not require refinement to act in the market. Most critically, Alaskan gold was unowned capital. Nome and the surrounding creeks and rivers were on federal land, uncomplicated by individual ownership or government concern with indigenous title. Under the General Mining Law of 1872, a citizen or

⁷³⁷ I am influenced here by Morse's discussion of gold's value during the 1896 election; see Morse, *The Nature of Gold*, 16-29. For an overview of the gold standard in international economic policy, see Catherine R. Schenk, “The Global Gold Market and the International Monetary System,” in Sandra Bott ed. *The Global Gold Market and the International Monetary System from the Late 19th Century to the Present: Actors, Networks, Power* (New York: Palgrave MacMillan, 2013), 17-38. The motivations for the gold standard are debated; Barry J. Eichengreen and Marc Flandreau in *The Gold Standard in Theory and History*, (New York: Routledge, 1997) argue that it was a classically liberal endorsement of free trade, while Steven Bryan argues in *The Gold Standard at the Turn of the Twentieth Century: Rising Powers, Global Money, and the Age of Empire* (New York: Columbia University Press, 2010) that it was an element of economic nationalism.

⁷³⁸ Clark, *Roadhouse Tales*, 95.

⁷³⁹ Edwin B. Sherzer, *Nome Gold: Two Years of the Last Great Gold Rush in American History, 1900-1902*, ed. Kenneth Kutz (Darien, CT: Gold Fever Pub, 1991), 27. See also Clark, *Roadhouse Tales*, 95.

⁷⁴⁰ Joseph Grinnell, *Gold Hunting in Alaska*, ed. Elizabeth Grinnell, (Elgin Ill: David C. Cook Publishing Co., 1901), 90, 13. Grinnell went on to become a zoologist and the first director of the Museum of Vertebrate Zoology at the University of California, Berkeley. That freedom from civilizational burdens, not just financial constraints, might be a dividend of mining was an aspect of in other gold rushes; see Paula Mitchell Marks, *Precious Dust: The American Gold Rush Era, 1848-1900* (New York: William Morrow, 1994), 372-373 and Morse, *The Nature of Gold*, 117-125. As Morse points out, the pursuit of masculine work was part of a fin-de-siècle reaction to the perception that industrial wage labor was emasculating.

⁷⁴¹ *Nome Daily Gold Digger*, Nome AK, June 28 1907. Emphasis in the original.

person declaring their interest in becoming a citizen could claim plots 1320 feet long by 660 feet wide containing a “valuable deposit” of minerals.⁷⁴² Fortunes required no more than finding twenty gold-laced acres, staking a claim, registering it with the local mining district, and getting to work. For many prospectors disenchanted by industrial “wage slavery,” mining offered to redeem capitalism by making them instant capitalists.⁷⁴³

In the first summer of the rush, it looked as if the land on the Seward Peninsula might comply. Miners landing in the churning Bering Sea surf discovered gold in the sand at the mouth of the Snake River. Making money on the beach required little more than a shovel and a primitive rocker to agitate grit away from nuggets and trap flakes in a cloth lining, or in a liquid mercury amalgam. Prospectors averaged twenty to a hundred dollars in gold each day from these sandy claims, pulling over two million dollars in gold off the beach in 1899. Some ended the season with small fortunes.⁷⁴⁴ The beach claims made the promise of the gold rush real. One prospector wrote home that thanks to rocking the sand, he and his brother were “fast becoming private property owners. Our cabin is the best on the beach.”⁷⁴⁵

A year later, five or six times as many prospectors disembarked at Nome on the promise of the golden beaches, only to discover sand churned clean of gold. In 1900, beach miners produced only \$350,000, and spent millions on equipment, food, and shelter.⁷⁴⁶ Come north for easy money, the horde of prospectors were left to hurl their energies at the creek beds, tundra ponds, and hilly uplands of the interior. Here, on the worn hills of the old Beringian earth, simply moving was difficult. “You put one foot on a hummock,” one miner described, “only to have it slid off into the water and muck over the top of your hip boot. You pull that leg out and hit another hummock with the other foot, which does the same.”⁷⁴⁷ Journeys of only a few miles left men’s feet shredded by blisters and soaked from slipping on sodden ground. In the summer, the sun was hot, causing “a copious perspiration,” Grinnell noted, accompanied by the “low, depressing, measly wine of the mosquito...there are millions!”⁷⁴⁸ Once prospectors found their claim, they had to build shelter, find water, and manage chores from cooking to laundry. Many prospectors found this labor, even its

⁷⁴² For an overview of the mining law, see Carl Mayer, “The 1872 Mining Law: Historical Origins of the Discovery Rule,” *University of Chicago Law Review* Vol. 53, No. 2 (Spring 1986): 624-653.

⁷⁴³ Clark, *Roadhouse Tales*, 95. Politically, many of the gold rushers espoused views along the populist spectrum, believing that individual enterprise deserved, at the least, some government protection from large corporations. Although not all were of the middle-class background generally emphasized in recent historiography, gold rushers shared a sense of idealism. See Charles Postel, *The Populist Vision* (New York: Oxford University Press, 2007); Robert Johnston, *The Radical Middle Class: Populist Democracy and the Question of Capitalism in Progressive Era Portland, Oregon* (Princeton: Princeton University Press, 2003). For a discussion of how frontier, individualist rhetoric came to exist simultaneously with faith in governmental regulation, see Heather Cox Richardson, *West from Appomattox: The Reconstruction of America after the Civil War* (New Haven: Yale University Press, 2007).

⁷⁴⁴ “At least \$400,000,” *Nome News*, October 9, 1899.

⁷⁴⁵ Jeff Kunkle, ed., *Alaska Gold: Life on the New Frontier, 1889-1906. Letters and Photographs of the McDaniel Brothers* (San Francisco: California Historical Society, 1997), 87. The brothers went on to pay off their family’s ranch in San Jose with money from the Nome goldfields.

⁷⁴⁶ Alfred A. Brooks, U.S. Geological Survey, *A Reconnaissance of the Cape Nome and Adjacent Gold Fields of the Seward Peninsula, Alaska in 1900* (Washington, D.C.: U.S. Government Printing Office, 1901), 152.

⁷⁴⁷ Clark, *Roadhouse Tales*, 12.

⁷⁴⁸ Grinnell, *Gold Hunting in Alaska*, 12.

domestic variants, pleasant. Sherzer wrote to his fiancé of his excitement at mastering sourdough, but admitted he was still confounded by gingerbread.⁷⁴⁹

By contrast, Sherzer found search for gold “the hardest kind of work imaginable.”⁷⁵⁰ Most prospectors had only hand tools to use in churning through the creeks, sands, and soil thickened with permafrost. Working streams with a pan required bending over in icy water for hours at a time, shaking silty gravel for a sign of colors. And subterranean deposits required turning the earth inside out. Grinnell recalled digging through dirt “thawed barely through its covering of moss, seldom more than six inches. The rest of the way the frozen ground was as hard as rock and had to be chipped off bit by bit... We broke the points off the pick every day. A strata of pure ice a foot thick was encountered, but most of the way we worked through a sort of frozen muck or packed mass of unrotted vegetation.”⁷⁵¹ To free possible gold from the icy mess, prospectors built fires to thaw the permafrost, “unleashing smells like barnyard filth.”⁷⁵² But the tundra gave little to burn. Men spent their days harvesting willows, scavenging for driftwood and scrap, or packing coal from the coast. Then thawed ground had to be washed to separate gold from soil. The water that tormented men as they walked was often absent from the places it was needed “to sluice,” as Woleben observed, so miners “had to have their water hauled to them by the barrel.”⁷⁵³ Warm water poured into test pits caused the permafrost to melt, caving in excavated mine shafts. “It is needless to say,” Arthur Olsen wrote in his diary, “I have a soreness and lameness after work.”⁷⁵⁴

Extracting the interior of the earth was energy intensive. Men needed to feed their bodies, warm their shelters, and fuel the pits they burned into the permafrost. Like the miners themselves, much of this energy was shipped north to the mouth of the Snake River. It was a terrible place to build. There was little timber and no coal. Grain and hay, like the horses and cattle they fed, were imported. The basic industrial commodities anticipated by even the poorest miner were manufactured thousands of miles distant. All supplies came to Nome by sea during the short ice-free season. But the town had no natural harbor, so every bucket, board, nail, musical instrument, can of peaches, bar of soap, chicken, pig, and human was loaded from ship to barge and from barge to shore and from shore to town or camp. “Imagine,” Sherzer wrote his fiancé, “a long stretch of sandy beach, piled high & in confusion with freight of all descriptions & tents men unloading barges & working for dear life all the time, then a main street...crowded with people & teams pushing, joshing & shoving, then you have a pretty good description of Nome.”⁷⁵⁵ Hotels, restaurants, dry-goods stores, a post office, a newspaper, banks, law offices and medical practices lined a few boardwalk streets. Wyatt Earp opened a saloon, one of dozens. The Golden Gate Store attracted customers with a circulating library. But while the sea allowed Nome to erupt from the muddy beach

⁷⁴⁹ See Sherzer, *Nome Gold*, 52-53; see also APRCA, William J. Woleben Papers, Transcript of Diary 1900, p. 4 and Grinnell, *Gold Hunting in Alaska*, 96. The gender dynamics in Nome were not dissimilar to those in other gold rush towns, where men did women’s work and women occupied an ambiguous social space. See Susan Lee Johnson, *Roaring Camp: The Social World of the California Gold Rush*, (New York: W.W. Norton, 2000), chapters 2 and 3.

⁷⁵⁰ Sherzer, *Nome Gold*, 37.

⁷⁵¹ Grinnell, *Gold Hunting in Alaska*, 80.

⁷⁵² Grinnell, *Gold Hunting in Alaska*, 80.

⁷⁵³ APRCA, William J. Woleben Papers, Transcript of Diary 1900, p. 11.

⁷⁵⁴ APRCA, June Metcalfe Northwest Alaska Collection, Box 1, Series 1, Folder 17: Arthur Olsen Diary, 1906-1907, p. 31.

⁷⁵⁵ Sherzer, *Nome Gold*, 25.

improbably fast, it did not prevent everything from being improbably expensive. Bolstered by the energy and effort of transit, prices in Nome were two to five times those in Seattle.⁷⁵⁶

Some men could pay. Lindeberg's rich claims made \$200,000 in a single summer.⁷⁵⁷ But geology was fickle. For every mine with paying dirt, hundreds of men labored over empty pits. Among miners who spent their last dollar coming north in June 1900, absent gold dashed more than hopes. By October, the earth would be too cold to mine, the sea too icy to sail, and sustaining calories potentially too scarce to contemplate. The Revenue Cutter Service reported that there were thousands "desirous to get away now but have not the funds to procure a passage South."⁷⁵⁸ But the energy to flee or survive winter required currency. Stranded between the scarcity of the metal they sought and the scarcity of the supplies necessary to seek it, desperate men turned Nome into a town where "even in the unceasing daylight there were many petty-larceny thefts."⁷⁵⁹ Woodpiles shrank. Coal vanished. So did hovels, pans, potatoes, and canned peaches. Men lost their gold to gambling halls, to safe deposit boxes blasted by dynamite, or to the stupor of drugged liquor.⁷⁶⁰ Woleben saw a man killed over a "lot dispute," left "lying in the middle of the street in a pool of blood."⁷⁶¹

The most common crime in Nome was not the theft of gold nuggets but of land titles. Private property, that dream of the wage-slave turned prospector, was in reality constantly disputed. Miners deceived, misidentified, tricked, miscalculated, and manipulated their claims to land. A single mining site was often staked three or four times by successive claimants, some of whom never saw the land in person. "People staked by power of attorney; staked by agency; staked for the relatives and for their friends," Edwin Harrison wrote.⁷⁶² Mining companies sold shares based on claims that existed nowhere on earth. The resulting snarl of legal paperwork covered the tundra in competing titles. Put end to end, the land claimed in 1899 alone stretched the length of Illinois.⁷⁶³ Particularly vulnerable were the claims of naturalized citizens like Lindeberg. Under the perhaps willfully mistaken impression that foreign birth precluded obtaining land title, American miners tried to jump "every claim whose location bore a name in ending in 'son,' 'berg' or had three consonants in a row."⁷⁶⁴ Trying to steal titles from a handful of lucky men born abroad was one way to master the vagrancies of geography.

⁷⁵⁶ Edwards S. Harrison, *Nome and the Seward Peninsula: History, Description, Biographies* (Seattle: Metropolitan Press, 1905), 58.

⁷⁵⁷ APRCA, June Metcalfe Northwest Alaska Collection, Box 1, Series 1, Folder 6: Jafet Lindeberg, transcript of interview with Henry Carlisle, p. 112.

⁷⁵⁸ Captain of the Steamer *Perry* to the Secretary of the Treasury, June 28 1900, NARA AK RG 26 M-641, Roll 8. See also Lieutenant Jarvis to the Secretary of the Treasury, September 5 1899, NARA AK RG 26 M-641, Roll 8.

⁷⁵⁹ Harrison, *Nome and Seward Peninsula*, 58.

⁷⁶⁰ "Chloroformed and Robbed of \$1300," *Nome Chronicle*, November 17, 1900; "Knock Out Drop Was Employed," *Nome Chronicle*, September 29 1900; "Stole Muther's Safe," *Nome Gold Digger*, November 1, 1899. Nome's court files are housed in the National Archives and Record Administration branch in Anchorage, but are incomplete due to fire damage.

⁷⁶¹ APRCA, William J. Woleben Papers, Transcript of Diary 1900, p. 7. Nome's rate of violent crime was no greater than in American cities at the time; see Cole, *City of the Golden Beaches*, 74. About seven murders were recorded in the first two years of the gold rush, when well over twenty thousand people were in Nome; see "An Official List of Nome's Dead," *Nome Weekly News*, October 6 1900 and "A Year's Crimes," *Nome Nugget*, September 13, 1901.

⁷⁶² Harrison, *Nome and the Seward Peninsula*, 53.

⁷⁶³ Samuel C. Dunham, *The Yukon and Nome Gold Regions*, U.S. Department of Labor Bulletin Vol. 5 No. 29 (July 1900), 845.

⁷⁶⁴ Rex Beach, "The Looting of Alaska," *Appleton's Booklovers' Magazine*, January-May 1906, 7.

IT WAS THROUGH this raw competition over bits of earth that miners called the state into being. For the federal government, gold appeared to be the first resource that could establish a permanent settler population to northwestern Alaska. Whaling, sealing, and walrus hunting were seasonal and transient. Reindeer farming was for natives. The fur trade required only a few whites to negotiate with indigenous trappers. Gold was different, what Alaskan veteran Daniel Libby, “but a beginning of the great and continuous flow [of wealth] that will follow for generations to come.”⁷⁶⁵ But the uneasy status of private property was not in the interest of making mining a profitable industry. “There is nothing that frightens capital more easily than uncertainty of titles,” Harrison wrote. “Many mine owners would not attempt the development of their properties, fearing that if they found rich pay an adverse claimant would tie up their claims and burden them with law suits.”⁷⁶⁶ Furthering the industry meant resolving ownership. In 1900, Congress seated the Second Judicial Division of Alaska in Nome. Its first judge, Arthur N. Noyes, used the bench to seize claims for his cronies.⁷⁶⁷ Even after his replacement, pulling wealth from the tundra remained as much lawyer’s work as done with pick and pan. Mines were claimed for blackmail. Claims were worked by the wrong people, as in the case of “John Doe, who...entered upon, worked, and mined the certain placer mining claim...on Gold Run,” in 1901.⁷⁶⁸ Or, still snared in court, claims were not worked at all. In 1903, twenty thousand mining sites were on file. Only five hundred saw active labor.⁷⁶⁹

For the prospectors who expected Alaska to furnish property and wealth, paying lawyers to make their labors legal was an affront. Private property was not a matter of finding and improving mining land, but of having the ability to use the courts. The implications were not lost on rushers. “The future development and prospecting in Alaska at the mercy of Lawyers, Doctors, judges, at present,” a group of miners wrote to Theodore Roosevelt in 1901, noting that “for intent” a man “can not today prospect any more.”⁷⁷⁰ As no capital in Nome proved truly free, some prospectors gave up on the value of mining altogether. Driven to find the money to supply themselves for an Alaska winter or leave, they tried to find profit in anything but gold. One man claimed rights to the fish in the Snake River. Others sold bucks of fresh water, scarce between the Nome’s salty sea and frozen tundra, for \$.25 per bucket.⁷⁷¹ Many scoured the beaches for driftwood, valuable as winter set

⁷⁶⁵ APRCA, Memoirs and Reminiscences Collection, Box 3, Folder 53: Manuscript by Daniel Libby, p. 1.

⁷⁶⁶ Harrison, *Nome and the Seward Peninsula*, 69.

⁷⁶⁷ Assisted by Alexander McKenzie, the Republican National Committeeman from North Dakota, Noyes granted injunctions on some of the richest mines in the region, including Lindeberg’s, under the pretense of reviewing the legality of alien claims. While he stalled the owners in court, Noyes gave receivership to McKenzie, who worked six hundred thousand dollars in gold from the disputed land. Noyes never served jail time for his blatantly illegal actions, while McKenzie was sentenced to a year’s imprisonment in Oakland, California. He was pardoned after less than four months by President McKinley. For a complete account of Noyes and McKenzie’s conspiracy, see Cole, *City of the Golden Beaches*, 79-90 and Rex Beach’s classic fiction version of the affair, *The Spoilers* (New York: Harper and Brothers, 1906).

⁷⁶⁸ Case 102, NARA AK RG 21 M-1969 Roll 4: Criminal Case Files of the U.S. District Court for the District and Territory of Alaska, Second Division (Nome), 1900-1955.

⁷⁶⁹ “Conditions in Alaska,” 176.

⁷⁷⁰ Ed Wilson to President Theodore Roosevelt, October 4 1901, NARA MD RG 126, Office of Territories Classified Files 1907-1951, File 9-120. The letter was co-singed by almost fifty miners.

⁷⁷¹ Sherzer, *Nome Gold*, 45; Clark, *Roadhouse Tales*, 36. Some blamed criminal activity in Nome on how easy the beach was to access from Seattle and San Francisco; these upper-class observers saw destitute miners as an intrinsically criminal element rather than poor. See for example Lanier McKee in *The Land of Nome: A Narrative Sketch of the Rush to Our Bering Sea Gold-Fields, the Country, Its Mines and Its People, and the History of a Great Conspiracy 1900-1901* (New York: Grafton Press, 1902), 32.

in. Prospectors with hunting skills sold game meat. One man provided ptarmigan to a Nome store for \$.64 each, selling more than two thousand in the winter of 1900-1901.⁷⁷²

The ptarmigan entrepreneur bought his birds from Inupiat hunters, who he paid a quarter per animal. Supplying miners with energy pulled the indigenous population of the Seward Peninsula into the edges of the wage economy. Only a few indigenous people participated directly in mining, either by staking claims or hiring on as labor.⁷⁷³ Instead, the Inupiat and Yupik relationship with the horde of whites turned on making the energies of the landscape accessible to miners unskilled in arctic subsistence. The region's Inupiat were still recovering from the productive crises of the 1880s, when caribou herds declined precipitously and the energy exported by commercial whale and walrus hunters amplified the virulence of the diseases they imported.⁷⁷⁴ The survivors of widespread famine and epidemics made a living off fish, small game, sea mammals, reindeer, and trade. The wave of outsiders looking for gold amplified the latter. For Inupiat reindeer herders, miners provided a market for meat and draft animals, although whites sometimes shot native stock without paying. For indigenous trappers and sewers, prospectors needed fur-lined boots and parkas, although they sometimes cheated on prices. Many of the thousands of whites passing through Nome bought ivory carved by native artists. Theodore Kingeekuk remembered people on St. Lawrence Island spending their winters making goods to trade.⁷⁷⁵ Carved figures and sealskin boots became illegal alcohol and ammunition, or necessary flour and sugar.⁷⁷⁶

In these exchanges, white and native values were often incommensurate. In the indigenous reckoning, a sled dog, \$100, and a bottle of whiskey were all of comparable worth. And they spent hours among the detritus left by miners on the beach, finding value among the trash. Such behaviors

⁷⁷² Clark, *Roadhouse Tales*, 89.

⁷⁷³ Charlie Antisarlook owned a substantial reindeer herd and “a number of mining claims, some of which are said to be promising,” at the time of his death in 1900; see *Nome Daily News*, Nome AK, August 2, 1900. Antisarlook had developed long-term relationships with the Cutter Service and local missionaries. There are other scattered mentions of native people owning claims; see “Conditions in Alaska”, 107, 203, although the status of indigenous people as dependents of the state rather than citizens made claiming land difficult. Ejnar Mikkelsen mentions native people working for wages at a mine in Candle in 1909; *Conquering the Arctic Ice* (London: William Heinemann, 1909), 377. See also Harry De Windt, *Through the Gold Fields of Alaska to Bering Straits* (New York: Harper and Brothers, 1898), 32-33. It is possible, although impossible to corroborate, that Mary Antisarlook (Charlie's wife) first showed Lindeberg gold on the Snake River tributary Anvil Creek. See Charles Forselles, *Count of Alaska: A Stirring Saga of the Great Alaskan Gold Rush: A Biography* (Anchorage, AK: Alaskakrafts, 1993), 13.

⁷⁷⁴ The caribou population on the Seward Peninsula was still almost nonexistent in 1899-1900, as multiple miners reported a lack of large game even in the earliest days of the rush. See for example McKee, *The Land of Nome*, 98; Clark, *Roadhouse Tales* 155.

⁷⁷⁵ Anders Apassingok, Willis Walunga, Raymond Oozevasuk and Edward Tennant eds. *Sivunqam Nangaghnegha Siivanlemta Ungipaqellghat, Lore of St. Lawrence Island, Echoes of our Eskimo Elders, Volume 2: Savoonga* (Unalakleet: Bering Strait School District, 1987), 15.

⁷⁷⁶ Hunting success during this period varied greatly by the year and location. At Cape Prince of Wales, on the tip of the Seward Peninsula, the local missionaries reported a good harvest in 1901, in contrast to the previous year, when the local Inupiat traded boots and curios for flour “which helped them over the times when food was scarcest,” in Kathleen Lopp Smith and Verbeck Smith ed., *Ice Window: Letters from a Bering Strait Village, 1892-1902* (Fairbanks: University of Alaska Press, 2001), 311. The literature on how trade, along with epidemic disease and other factors, played a role in increasing indigenous dependency spans Richard White's classic *The Roots of Dependency: Subsistence, Environment and Social Change among the Choctaws, Pawnees, and Navajos* (Lincoln: University of Nebraska Press, 1988) to Marsha Weisiger's insightful *Dreaming of Sheep in Navajo Country* (Seattle: University of Washington Press, 2011) and Steven Hackel's *Children of Coyote, Missionaries of St. Francis: Indian-Spanish Relations in Colonial California, 1769-1850* (Chapel Hill: University of North Carolina Press, 2005).

baffled miners, and contributed to their judging indigenous cultures and individuals with a mix of curiosity, repulsion, and admiration.⁷⁷⁷ But the actions of the miners were equally curious to the Inupiat and Yupik, who organized their lives without substantial private property or the abstraction of currency.⁷⁷⁸ Why would men risk dying of exposure and hunger, their firewood gone to burning holes in the ground, their bodily energies given to digging? And why build anything at the Snake River, a place beaten by storms and bad for walrus hunting? Then there was life in the town. The prospectors modeled in their brawls both legal and physical a vision of commerce with little social grace to cover over raw transaction. Everything from alcohol and sex to food and shelter was a commodity. Currency was necessary for the most basic needs. The essence of boom-town capitalism was the exchange of money for existence. And those without money, the “men in desperate straits,” stole, not just from each other but from native camps.⁷⁷⁹ Prospectors across the Seward Peninsula imposed their starving needs on Inupiat stores of fish and fuel, often without asking.⁷⁸⁰ And jumping claims or stealing from indigenous caches was not the only form of larceny on the Seward Peninsula. In later years, Inupiat elders recalled knowing that at its core, the miners’ struggle over bits of the earth constituted the laborious theft of native land.⁷⁸¹

THE SHARED BONES of the Beringian earth are easily visible along the Seward and Chukchi Peninsulas. The rivers have a similar curve, the mountains a similar roll. The tundra’s spongy soil stretches across the Asia-North America divide. That common features on the surface signaled a common underground was not lost on either Russians or Americans. Years before formal geological surveys, Imperial functionaries noted how “geological structure of the Chukchi and Seward Peninsulas are exactly the same” and thus promised gold deposits.⁷⁸² Yet, as mining engineer Dmitrii V. Ivanov warned, Chukotka’s possible riches might never fill Russian coffers.⁷⁸³ The Empire had

⁷⁷⁷ L.H. French, *Nome Nuggets: Some of the Experiences of a Party of Gold Seekers in Northwestern Alaska in 1900* (New York: Montross, Clarke and Emmons, 1901), 63. See also Harrison, *Nome and the Seward Peninsula*, 29. Different ideas of value did not preclude Inupiat and Yupik traders from driving a hard bargain, however; in situations when white and native ideas of value were commensurate, European traders complained about the sophistication of the haggling. See Mikkelsen, *Conquering the Arctic Ice*, 38, 374.

⁷⁷⁸ For a discussion of traditional property ideas in this region, see Linda Ellanna and George Sherrod. *From Hunters to Herders: the Transformation of Earth, Society, and Heaven Among the Inupiat of Beringia* (Anchorage: U.S. Department of the Interior, National Park Service, 2004), 123-125.

⁷⁷⁹ Sherzer, *Nome Gold*, 38.

⁷⁸⁰ Many miners comment on the generosity of the indigenous population, or mistook caches of food left at specific wintering sites as free for the taking. See “Conditions in Alaska” *58th Cong., 2d sess.*, 1904 Senate Report. 282 pt. 2, p. 159, Harrison, *Nome and the Seward Peninsula*, 31.

⁷⁸¹ A particularly powerful example is Jacob Ahwinona, an Inupiaq elder from the Nome region, discussion of his grandfather’s horror at white greed over a metal his people had known existed for years. See Project Jukebox, University of Alaska Fairbanks Oral History Program, Nome Communities of Memory Project, Interview 2007-03-03.

⁷⁸² RGIA DV F. 702, Op. 2, D.324, L. 23. The 1914 report notes American scientists’ discussion of Chukotka’s likely gold-bearing geology. See also K. I. Bogdanovich, *Ocherki Chukotskogo poluostrova* (St. Petersburg: A.S. Suvorin, 1901), vii-viii.

⁷⁸³ Anonymous pamphlet, *Zabytaia okraina* (St. Petersburg: A.S. Suvorin, 1902): 60-61. Thomas Owen identifies, correctly I think, Ivanov as the author of the pamphlet. See Owen, “Chukchi Gold: American Enterprise and Russian Xenophobia in the Northeastern Siberia Company,” *Pacific Historical Review*, Vol. 77, No. 1 (February 2008):49-85, 58. I am less in agreement with Owen’s diagnosis of xenophobia on the part of Ivanov and Russians in general. While Ivanov’s language was strident, he described real and ongoing transgressions of national borders by foreigners generally intent on economic extraction, prone to trade illegal alcohol with Chukotka’s indigenous peoples, and otherwise of

spent the better part of fifty years watching Americans hunt, barter, and steal away the region's animal wealth. Chukchi and Yupik traders along the coast spoke English better than Russian. As another engineer noted, Imperial "influence in the territory has been perfectly eradicated by the Americans."⁷⁸⁴ If the government did not act, any gold on the Peninsula might meet a similar fate.

To assert the Russianness of Chukotka and its elements, the Imperial government gave Vladimir M. Vonliarliarskii, a retired colonel with some mining experience in the Urals, a five-year concession to prospect Chukchi deposits.⁷⁸⁵ Granting limited exploration rights was the norm for gold production in the Russian Empire, where minerals were not valued as unowned capital waiting for individual discovery. Gold, like any mined metal, was legally regulated as wealth for the Empire. Beginning in the 1820s, Imperial statutes regulated prospecting, extracting, transporting, and measuring gold, and their minutia were enforced by a network of state officials. In the early 1840s, when rich Siberian discoveries made Russia the dominant gold producer in the world, only nobles or merchants were allowed to prospect or mine.⁷⁸⁶ Thereafter, the licensing of mining concessions favored large, monopolistic enterprises, their actions overseen by government mining engineers. Mining helped the entrepreneurial nobility fund factories, railroads, and investments abroad. Their interests on the ground were guarded, by the 1870s, by a special police force tasked with preserving "social order and safety" at mining sites. Gold still escaped around the edges of regulation, and the industry was often low on both order and safety.⁷⁸⁷ But in ideal form, the value of mineral wealth was in its ability to enrich the elite and through them the empire. When Russia adopted the gold standard in 1897, every gram of gold was bound for the federal treasury. The element would not save capitalism by making poor men rich, but save tsars by making rich capitalists in service to the state.

For Chukotka to make the state rich, Vonliarliarskii had to find the promised gold. His endeavors faced the same challenges that confronted prospectors in northwestern Alaska: blizzards in May, icy seas in June, clouds of mosquitoes in July, and a landscape that defied movement. Moreover, the problems of energy were far more acute. Chukotka had no golden beach to lure thousands of laborers. Without human bodies to supply, there was no demand for vessels filled with food and coal. Vonliarliarskii had to sponsor his own gold rush. But no one knew where to begin. Expertise, like energy, was expensive. As a result, Vonliarliarskii wrote that "finding gold on the Chukchi Peninsula requires large amounts of capital. Therefore it is necessary to turn to foreign

dubious influence. It is clear in the Russian archives that problems with Americans go back to the arrival of whaling ships, putting Ivanov's pamphlet in a long tradition of advocating what, if the tables were turned, would be seen as basic national interest. At the very least, xenophobia is a change that could be leveled at parties from both countries.

⁷⁸⁴ RGIA DV F. 702, Op. 2, D.285, L. 10.

⁷⁸⁵ For the text of the concession, see V. Vonliarliarskii, *Chukotskii poluostrov: ekspeditsiia V. M. Vonliarliarskogo i otkrytie novogo zolotonosnogo raiona bliz ust'ia r. Anadyria, 1900–1912 gg.* (St. Petersburg: K. I. Lingard, 1913), 21-26. For a brief biography of Vonliarliarskii and his connections with promoters of Russian power in the Far East – against the wishes of Minister of Finance Sergei Iu. Witte, see Owen, "Chukchi Gold," 54-55.

⁷⁸⁶ This did not stop *kbishchmiki* (a word that can variously mean predators, invaders, or crafty, dishonest people) from prospecting outside of the law; indeed some of the richest finds in the notorious Lena gold fields came from illegal discoveries. See Michael Melancon, *The Lena Goldfields: Massacre and the Crisis of the Late Tsarist State* (College Station, TX: Texas A&M University Press, 2006), 19.

⁷⁸⁷ For an overview of Tsarist mining law, see Melancon, *The Lena Goldfields*, 28-32, 40-46.

investors with connections to...foreign engineers.”⁷⁸⁸ To spread the financial burden, Vonliarlairskii formed the Northwest Siberian Company and sold shares of its single asset, the Chukotka concession. The majority of shares and local management of the Company went to John Rosene, a Norwegian immigrant experienced in shipping goods from Seattle to the Seward Peninsula.⁷⁸⁹ By 1902, the task of securing national gold in Chukotka was overseen by the only Russian company both majority owned and managed by an American living in the United States.

The Imperial dependence on American labor, experience, investments, and supplies was a problem from the beginning. The first prospectors, a mix of Russians, Americans, and Chinese miners, reached Chukotka in the summer of 1900. Two Chukchi guides led the party up the Olen’ River, where Russian geologist Karol Bogdanovich reported “discovering signs of gold in almost every pan.”⁷⁹⁰ The Americans dismissed the find as mere traces. It was a sign of larger disagreements. The Americans believed the Russians planned to abandon them, and demanded they be taken to Nome.⁷⁹¹ Bogdanovich thought the Americans were after quick personal fortunes, wanting to go “where gold can be scooped with shovels.”⁷⁹² Relations were no better in 1901 and 1902, when Company geologist Dmitrii Ivanov earned a reputation for incompetence and drunkenness in Nome.⁷⁹³ By 1905, geologist Ivan Korzukhin lamented the dependence on labor from Alaska, as the “two nations, Russian and American, get along terribly with each other.”⁷⁹⁴

Underlying the quarrels was more than the discomforts of prospecting. American miners recruited in Nome and Russian geologists had very different ideas about ownership, capital, and the state. Prospecting in the United States was a path to personal fortune; individual miners owned what gold they discovered and the land that held it. Prospecting in Russia was a way to enrich both investors and the Empire, yielding, as Korzukhin argued, “Strategic results that will have great moral and economic value.”⁷⁹⁵ Part of Russia’s moral power was in tempering the free-market ethos that inspired “international predators” to plunder the North Pacific’s gold, fish, and sea mammal wealth.⁷⁹⁶ Korzukhin’s argument drew on a long and varied Russian tradition of critiquing the

⁷⁸⁸ Vonliarlairskii, *Chukotskii poluostrov*, 14.

⁷⁸⁹ Owen’s “Chukchi Gold” had a description of Rosene and Vonliarlairskii’s legal partnership, 60-65. The Company was financed by investors from London and Chicago, in addition to Rosene’s buy-in.

⁷⁹⁰ Bogdanovich, *Ocherki Chukotskogo poluostrova*, 19.

⁷⁹¹ This is from a second-hand and highly colorful account of the “cloven footed” Russians, published by Jane Woodworth Bruner, “The Czar’s Concessionaires: The East Siberian Syndicate of London; A History of Russian Treachery and Brutality,” *Overland Monthly*, Vol. 44 (1904): 411–422, 414-415.

⁷⁹² Bogdanovich, *Ocherki Chukotskogo poluostrova*, 34. He was also appalled that some of the American passengers appeared to be Jewish or Masons. The Americans got their way in this case, and were taken to Nome.

⁷⁹³ For treatment of workers, see the account by Northwestern Siberian Company employee W.B. Jones, *Argonauts of Siberia: A Diary of a Prospector* (Philadelphia: Dorrance and Co., 1927), 70-71; for Ivanov’s lack of ability, see Russian geologist Ivan A. Korzukhin, *Chukotskii poluostrov*, (St. Petersburg: Yakor’, 1907), 3-4. John Rosene observed both; see Lucile McDonald, “John Rosene’s Alaska Activities, Part I,” *The Sea Chest: Journal of the Puget Sound Maritime Historical Society*, Vol. 10 (March 1977): 107–121, 114. McDonald’s articles contain large verbatim quotes from Rosene’s now-lost memoir.

⁷⁹⁴ Korzukhin, *Chukotskii poluostrov*, 3.

⁷⁹⁵ Ivan Korzukhin, *Chto nam delat’ s Chukotskim poluostrovom?* (St. Petersburg: A.S. Suvorin, 1909), 27-28. Korzukhin places mining Chukchi gold at the center of regaining Russian influence, and argued that it would help project Russian power against “plunders” across the world, including the British sealing vessels that plagued both the U.S. and Imperial Russia.

⁷⁹⁶ Korzukhin, *Chto nam delat’*, 28.

excesses and immoralities of unfettered capitalism.⁷⁹⁷ In Chukotka, these debates were not theoretical. The terms of Vonliarlairskii's concession meant that the Northeast Siberian Company did not have alienable rights. Subdividing Imperial land or gold claims was prohibited. As a result, Rosene could not offer his employees mining titles, or even a contractual split of gold finds. With no chance of earning property or fortune, prospectors in Nome were disinclined to hire on with the Company. And experienced Russian labor was scarce in the Far East. Out of desperation, Rosene began recruiting American miners with the illegal promise of a stake in Chukotkan gold.⁷⁹⁸

In 1906, on the Volch'ia River near Anadyr, Northeastern Siberian Company miners finally found creeks where "gold showed up all over and could be picked up by the handful."⁷⁹⁹ Rosene used dust from the strike, named the "Discovery," to attract more Alaskan miners. But word of the find reached St. Petersburg before Rosene's notification, making the government suspicious. Reports in Imperial newspapers of Company mistreatment of the Chukchi and illegal liquor sales compounded official's doubts.⁸⁰⁰ Worse, an article in the Russian Geological Society proceedings made public the Company's tactic of staking American prospectors on Imperial land.⁸⁰¹ Even the Company's local engineer worried about "the danger of an influx of predators from the U.S. to the [Anadyr] mines, who will make off with gold."⁸⁰² In the aftermath of defeat in the Russo-Japanese war, wanting to lose no more land or treasure, the Imperial government made foreign investment in Chukotka illegal and declined to renew the Company's concession in 1909.⁸⁰³

The end of the Northeast Siberian Company's tenure did not see an end to Chukotkan gold-hunting. The Ministry of Trade and Industry "expressed the wish for the earliest possible involvement of private enterprise on in the Chukchi Peninsula," and issued several concessions including to Vonliarlairskii's son, Alexander.⁸⁰⁴ Ideally, the gold discovered by Rosene's prospectors would now be worked by a few consolidated companies, perhaps even powered by local coal deposits. But "rumors about the unusual richness of the...Volch'ia River area are widespread in

⁷⁹⁷ Anti-capitalist thinking had a long pre-revolutionary tradition in Russia on both the left and the right. Thomas Owen associates this with Russian xenophobia and resentment, along with geographical and institutional factors; see *Russian Corporate Capitalism from Peter the Great to Perestroika*, (Oxford: Oxford University Press, 1995). Other scholars take the intellectual content of anti-capitalism, both on the left and the right, more seriously. The comprehensive guide is Andrzej Walicki, *A History of Russian Thought from the Enlightenment to Marxism*, trans. Hilda Andrews-Rusiecka (Stanford: Stanford University Press, 1979).

⁷⁹⁸ Olaf Swenson, *Northwest of the World: Forty Years Trading and Hunting in Northern Siberia* (New York: Dodd, Mead, 1944), 8, 13.

⁷⁹⁹ Lucile McDonald, "John Rosene's Alaska Activities, Part II," *The Sea Chest: Journal of the Puget Sound Maritime Historical Society*, Vol. 10 (June 1977): 131–141, 138. See also RGIA DV F. 1370 Op. 1 D.4, L. 119.

⁸⁰⁰ McDonald, "John Rosene's Alaska Activities, Part II," 138; Swenson, *Northwest of the World*, 17–18. N.S. Kovalenko, a Russian employed at the Discovery site, later reported that the Americans were happy with their lack of oversight and smuggled gold to Nome; ChF TFGI. "Opisaniya Chukotsko-Anadyrskogo Kraia," manuscript of N.S. Kovalenko, no page numbers.

⁸⁰¹ Konstantin N. Tul'chinskii, "Iz puteshestviia k Beringovomu prolivu," *Izvestiia Imperatorskogo Russkogo geografi cheskogo obshchestva* 42, vypusk 2–3 (1906): 521–579; his report is analyzed at length in RGIA DV F. 1370, Op. 1, D.4, L. 131–144. Korzukhin argued that the Company was far better than the alternative of many American prospectors flooding the territory; see *Chukotskii poluostrov*, 14–15.

⁸⁰² RGIA DV F. 1370 Op. 1 D.4, L. 121.

⁸⁰³ Leaving the Northeastern Siberian Company was a major financial setback from Rosene, but he recovered. See Owen, "Chukchi Gold," 81.

⁸⁰⁴ RGIA DV F. 702, Op. 2, D.324, L. 8.

Russia and in North America as well,” the regional mining inspector reported in 1913.⁸⁰⁵ Ships from Vladivostok brought a few dozen hopefuls north each year. Some were peasants, hired to work at the small salmon cannery in Anadyr, only to sneak to the Discovery site. Others came explicitly to prospect. A few were Americans. By 1914, there was a ragged camp of a hundred-odd miners in the Volch’ia hills. Their desires were probably close to those of Beringian miners across the Straits: gold was currency for people with little other access to capital.⁸⁰⁶ “As I learned from talking personally with the gold diggers,” the inspector wrote, “in most cases they have neither the material resources nor sufficient knowledge of mining. They compensate with their love for the cause, their great energy and a remarkable ability to endure the most severe deprivation.”⁸⁰⁷

The deprivations of life outside Anadyr included a distinct lack of legality. Only registered Russian employees of concessionaries could mine, and most of the men disembarking at Anadyr and tramping up the river wanted for both currency and contracts. Their illegal labor required the Russian Empire to police its far northeastern underground. Patrols of “at least eight men” were dispatched periodically to roust miners from the Discovery site.⁸⁰⁸ In 1910, three peasants were arrested for working illegally.⁸⁰⁹ A larger group was captured, escaped, and arrested again in 1911.⁸¹⁰ The misbehavior was not all on the part of illegal miners. Half a dozen peasants and two Americans were tried in Anadyr for “predatory” mining, but the magistrate concluded that the fault lay with Alexander Vonliarliarskii, who exaggerated the geographical scope of his claims. Vonliarliarskii was also reported to federal authorities for hiring foreigners, but apparently continued to mine.⁸¹¹ Jafet Lindeberg’s Pioneer Mining Company, apparently unaware of the prohibition against foreign mining, had ten thousand dollars in gold seized by Russian authorities.⁸¹² But most of the infractions came from individuals, like “Simbirsk peasant Ivan Khrisanfov Marin,” who “was found with gold,” and carrying “a notebook market with the daily production.”⁸¹³ Once in Chukotka, with no money and no work other than the labor they were legally prohibited from undertaking, the peasant miners rapidly became a desperate burden. Some brewed alcohol to trade with the Chukchi for food. By

⁸⁰⁵ RGIA DV F. 1005, Op. 1, D.220, L. 7.

⁸⁰⁶ Most of the workers coming to Chukotka in the early 20th century are recorded as members of the peasant estate, or *soslovie*. A few were from the *raznochintsy* (literally, people of various ranks). There is little other information about their origins, other than the occasional note as to town of birth; the majority came from the Far East. Previous experience in mining seems low, although many were fishermen. Some were literate. Most were destitute, having no more money than afforded passage to Chukotka. They all appear to be men. None left a first-hand account that I could find, so any imputing of motive is speculative. For the larger context of the Imperial estate system, see Elise Wirtschafter, *The Structure of Society: Imperial Russia’s “People of Various Ranks,”* (DeKalb: Northern Illinois University Press, 1994), and Gregory Freeze, “The *Soslovie* (Estate) Paradigm and Russian Social History, *The American Historical Review*, Vol. 91, No. 1 (February 1986): 11-36.

⁸⁰⁷ RGIA DV F. 1008, Op. 1, D.16, L. 31.

⁸⁰⁸ RGIA DV F. 1008, Op. 1, D.16, L. 117.

⁸⁰⁹ RGIA DV F. 1008, Op. 1, D.16, L. 41.

⁸¹⁰ RGIA DV F. 1008, Op. 1, D.16, L. 27-28. Precise numbers of arrests and trails are hard to find, as some of the Chukotka records have burned.

⁸¹¹ RGIA DV F. 702, Op. 2, D.324, L. 34-36. See also RGIA DV F. 702, Op. 2, D.285, L. 9-15.

⁸¹² For the American perspective, which saw the gold seizure as illegal confiscation by corrupt officials, see Preston Jones, *Empire’s Edge: American Society in Nome, Alaska 1898-1934* (Fairbanks: University of Alaska Press, 2007), 87. Ruthmary McDowell remembered her father’s friends organizing a party to prospect in Chukotka sometime between 1906 and 1913 only to be exiled; APRCA, Ruthmary McDowell Papers, Box 1, Folder 42, page 1.

⁸¹³ RGIA DV F. 1008, Op. 1, D.16, L. 117.

1915, the head of the Anadyr post reported to the regional governor that “preventing the complete plunder of the mines will require a permanent armed guard of five persons.”⁸¹⁴

Russian officials and subjects alike spent the waning years of the Empire pouring their energies into protecting or subverting the property designation of gold in Chukotka. But little came of their efforts. Geography and geology agitated against both. Every summer, new gold seekers came by sea. Local police and officials found “traversing the difficult terrain and harsh climatic conditions,” extremely taxing. Hills and snow made their approach to the mines tedious, allowing illegal workers to hide in the hills.⁸¹⁵ As a result, gold leaked out Anadyr’s port. One group of *Khishchniki* [predators] showed ten pounds of gold around a steamship as they sailed south.⁸¹⁶ Another man tried to rustle nuggets out in sacks of coal.⁸¹⁷ The state did not reach far enough over or under the tundra to regulate ownership. But these miners, despite their craft in evading the law and persistence in digging, worked limited deposits. The Peninsula held its real wealth deep in the interior. The few gold discoveries of the early twentieth century, mined ostensibly for the wealth of tsar and country, instead ate through the energies of government officials and money in government coffers: it was expensive to police the mines, and even more expensive to send destitute miners south, away from the killing cold of winter.⁸¹⁸ Gold was valuable, yet its worth was dispersed through the hills and valleys, courts and jails, peasants and nobility on the Imperial Peninsula.

SHAPING THE LAND, 1900-1930S

The workers in Chukotka’s mines, despite their tenuous legal position and lack of expertise, still dramatically reshaped the landscape. “The seekers have dug many test pits,” reported the head of the Anadyr post, “complete with sluicing gates. The pits are properly lined in stone, and the total length of the works is three *versts*, at the depth of two fathoms.”⁸¹⁹ Chukotka was a smaller-scale version of the terrestrial alterations roughing the Seward Peninsula. Washing gold away from the embrace of sediment required water, and making water liquid often required fire. Fire consumed the hard-won energies locked in trees and brush. Hillsides trampled and stripped of their protective timber eroded in muddy rivulets. Rerouted streams dug at the roots of old mountains. Gaping holes dotted valley floors, interspersed with mounds of displaced earth. But hand-dug pits and sluicing canals could not fully exploit Beringia’s wealth. Gold deposits were often richest far underground, where the metal’s weight caught against stony berms, or was widely diffused in gravel. Harvesting such deposits took more than human labor. Breaking down geology required water, water in the north required heat,

⁸¹⁴ RGIA DV F. 1005, Op. 1, D.220, L. 84. Some local officials were clearly sympathetic with the efforts and goals of the miners, and recommended that the Peninsula be made more open to exploration by individuals. See RIGA DV F. 1008, Op. 1, D.16, L. 31.

⁸¹⁵ RGIA DV F. 1005, Op. 1, D.220, L. 114.

⁸¹⁶ RGIA DV F. 1005, Op. 1, D.220, L. 8, 7. It is worth noting, again in contradiction to Thomas Owen’s diagnosis of Russian xenophobia, that the word *khishchniki* is used to describe illegal Russian and American mining efforts alike, in Chukotka and other mining regions.

⁸¹⁷ RGIA DV F. 1008, Op. 1, D.16, L. 117.

⁸¹⁸ RGIA DV F. 1005, Op. 1, D.220, 117-118.

⁸¹⁹ RGIA DV F. 1005, Op. 1, D.220, L. 84. A verst is about two-thirds of a mile.

heat required energy, and energy fueled the equipment that forced liquid water back into the ground: hydraulic dredges, motorized diggers, steam pumps, pressure hoses.

Bits of such technology began populating the creeks and streams around Nome only a few years after the strike. L.H. French brought a dredge to the Nome beach in 1900. In 1903, a massive dredge called the Wisconsin was built on Dry Creek, where it multiplied the scale and mechanized the labor of panning. A chain-line of toothed buckets scooped gold-bearing soil and gravel at the front, dumped it into sluice boxes in the shed-like middle, where hoses blasted metal clear and deposited tailings out the back.⁸²⁰ The Wisconsin broke itself on the frozen ground, but more dredges followed. So did other equipment. On Anvil Creek, miners blasted gold from quartz with pressurized hoses, a process that allowed them to work even frozen gravels. Miners thawed ground by driving pipes carrying steaming water into the soil, using so much fuel that people in Nome worried about a coal famine. Steam shovels dug away at Lindeberg's claims. Water pipes and small railroads snaked between mines.⁸²¹

Powered by imported coal or local water, mechanical dredging, digging, and washing transformed the Seward landscape far more than raw human exertion. Miners dug deep underground. Dredges sat in ponds of their own making, the water supplied by massive ditches, powered by hydroelectric plants on dammed streams. Dams released their pools under pressure, powering hoses that plowed away hillsides in rivers of gold-studded muck. Roads and short local rails lines impeded creeks, severing upstream currents from the ocean. Whole streambeds disappeared amid the detritus, the heaps of rubble, broken flumes, and weeping canals. Open-cut placer operations chewed through three quarters of a million cubic yards of gravel in a year.⁸²² Disturbed and channeled earth slid toward the sea with every thaw and rainstorm, clogging rivers. Fish pummeled by sediments failed to spawn. Silt clouded the sun, starving algae. Biological productivity plummeted.⁸²³ In places where mining was intense, waters that once teemed bore no life at all.

Miners in the early twentieth century did not worry much over these transformations. Most people saw in the placers and pumps increased productivity, not dead water. Even John Muir, who

⁸²⁰ Leonard Smith, "History of Dredges in Nome Placer Fields," manuscript in APRCA, Reed Family Collection, Subseries 3, Box 14, no page numbers.

⁸²¹ Arthur Collier et al. "The Gold Placers of Seward Peninsula" *United States Geological Survey Bulletin* No. 328 (Washington D.C.: Government Printing Office, 1908), 140-281; Alfred Brooks, "Mineral Resources of Alaska," *United States Geological Survey Bulletin* No. 642 (Washington, D.C.: Government Printing Office, 1916), 24 ; Leonard Smith, "History of Dredges in Nome Placer Fields," manuscript in APRCA, Reed Family Collection, Subseries 3, Box 14, no page numbers; Harrison, *Nome and the Seward Peninsula*, 171-175.

⁸²² J.B. Mertie, Jr. "Placer Mining on Seward Peninsula," *United States Geological Survey Bulletin* No. 662, (Washington D.C.: Government Printing Office, 1917): 451-458, 455.

⁸²³ For discussions of the impact of placer mining on river and stream ecosystems, see Erwin E. Van Nieuwenhuyse and Jacqueline D. LaPerriere, "Effects of Placer Gold Mining on Primary Production in Subarctic Streams of Alaska," *Journal of the American Water Resources Council*, Vol.22 No. 1 (February 1986):91-99; A.M Miller and R.J. Piorkowski, "Macroinvertebrate Assemblages in Streams of Interior Alaska Following Alluvial Gold Mining," *River Research and Applications*, Vol. 20 No. 6 (November 2004):719-731; James B. Reynolds, Rodney C. Simmons, and Alan R. Burkholder, "Effects of Placer Mining Discharge on Health and Food of Arctic Grayling," *Journal of the American Water Resources Association*, Vol. 25 No. 3 (June 1989): 625-635; and David M. Bjerklie and Jacqueline D. LaPerriere, "Gold-Mining Effects on Stream Hydrology and Water Quality,, Circle Quadrangle, Alaska," *Journal of the American Water Resources Association*, Vol. 21 No. 2 (April 1985): 235-242.

visited the northwest coast early in the rush and described prospectors as “a nest of ants...stirred up with a stick,” was relatively untroubled by mining. Alaska was so huge and cold, Muir believed, the “the miner’s pick will not be followed by the plough” with its ruinous settlers.⁸²⁴ But prospectors did notice how the advent of industrial mining brought the expiration of a certain vision of capitalism. Steam shovels and ditches rendered more currency from the earth: nearly five million dollars were mined in 1905, and over seven million the next year.⁸²⁵ But industrial mining did not just make money. One of the first dredges in Nome cost \$90,000.⁸²⁶ A network of canals and a pumping plant that forced “water to the summit of Anvil Mountain, [cost] not less than a third of a million dollars, probably more.”⁸²⁷ Such investments were not the work of lucky, laboring individuals, or even lawyers. Successful prospecting, French wrote, “requires some capital and unlimited nerve and determination.”⁸²⁸ And mining deep veins or gravel mounds necessitated economies of scale. “It is generally expected that the success of Nome as a dredging field,” one observer noted, came from “working the field as a consolidated enterprise, permitting lower costs of operation in all departments.”⁸²⁹ Mining in the United States was beginning to resemble the ideal in Imperial Russia: large, consolidated enterprises using coal power to re-arrange the world for coin.

Alaskan geology first started the rush, by baring gold in a few choice creeks and seeding flakes in sand. And geology ended the rush by hiding most of the wealth in hard, frozen, diffuse places. As a result, few men could get rich on less than the complete reformation of the earth. By 1916, only twelve hundred miners worked the Seward Peninsula, less than a tenth of the peak population. They labored on land already claimed, the claims consolidated into the holdings of a few dozen mining companies, and the companies’ deeds no longer snarled in litigation, “the faults of the government having been rectified.”⁸³⁰ And the state did more than the capitalist duty of administering private property rights. The Geological Survey made annual research trips to the Seward Peninsula, assessing the potential of unmined creeks and tundra “to meet the wants of the

⁸²⁴ S. Hall Young, *Alaska Days with John Muir*, (New York: Fleming H. Revell Company, 1915), 210-211; John Muir, *Our National Parks* (Madison: University of Wisconsin Press, [1902] 1981), 12. Although Muir disliked the day-to-day workings of miners, he believed that the roads they built would increase tourism to Alaska, thereby making people more appreciative of the region’s beauty and more likely to protect the most important locations.

⁸²⁵ Mertie, Jr. “Placer Mining on Seward Peninsula,” 456.

⁸²⁶ Leonard Smith, “History of Dredges in Nome Placer Fields,” manuscript in APRCA Reed Family Collection, Subseries 3, Box 14, no page numbers.

⁸²⁷ Harrison, *Nome and the Seward Peninsula*, 173.

⁸²⁸ French, *Nome Nuggets*, 96.

⁸²⁹ Leonard Smith, “History of Dredges in Nome Placer Fields,” manuscript in APRCA, Reed Family Collection, Subseries 3, Box 14, no page numbers. The trend toward corporate mergers was a national one that has received extensive treatment, both condemning and advocating it, outside of the Alaskan context. See Richard White, *Railroaded: The Transcontinentals and the Making of Modern America*, (W.W. Norton & Company, 2011); Charles Perrow, *Organizing America: Wealth, Power, and the Origins of Corporate Capitalism*, (Princeton: Princeton University Press, 2002); William G. Roy, *Socializing Capital: The Rise of the Large Industrial Corporation in America* (Princeton: Princeton University Press); and Olivier Zunz, *Making America Corporate, 1870-1920*, (Chicago: University of Chicago Press, 1990). In critiquing without preventing this trend, many in Nome were in line with Progressive ideas of the early twentieth century; for a synthetic overview of a complicated moment, see Steven Diner, *A Very Different Age: Americans of the Progressive Era* (New York: Hill and Wang, 1998).

⁸³⁰ Alfred H. Brooks, “The Development of the Mining Industry,” *United States Geological Survey Bulletin* No. 328 (1909): 10-39, 39.

miner and prospector.”⁸³¹ In their reports, U.S.G.S. scientists generally endorsed the consolidated capitalism forming around Alaskan mineral extraction, noting that established firms had the technology to work difficult ground, and produced a steady quantity of gold at low cost. Industrial mining was, at least for government surveyors, an answer to boom and bust cycles and unruly hordes. Rather, it promoted “prosperity by assuring employment to a certain number of men throughout the year.”⁸³²

Wage work was exactly the sort of prosperity most prospectors had rushed north to avoid. Mining corporations offered little more than a cold, remote variant of early twentieth century industrial employment. Arthur Olsen, employed by the Wild Goose Mining Company, described a typical day of hauling lumber in the morning, before “I was told to take a mattock and grub sod off the tundra for a dam. A mile walk to meals gives one no rest at all.” The following day, Olsen “shoveled gravel till the dam broke, and all rushed out of danger,” then worked a night shift where he “Struck a piece of hard shoveling and got fired at midnight.”⁸³³ The tenuous and tedious work paid – \$7.50 for fifteen hours – but breakfast at a hotel in Nome cost a dollar, a ride inland to the diggings \$1.50. And the mining was dangerous. Men died: from drowning, crushing, or falling. A man setting charges in advance of a dredge on Ophir Creek died in a premature explosion. Most injuries were not fatal, but men regularly froze fingers, broke bones, and tore their flesh.⁸³⁴ The labor and risk made a few investors and claim owners very wealthy. The Pioneer Mining Company alone paid out more than two million dollars in cash dividends between 1902 and 1912.

That neither the means of production nor profits rested with laborers was not lost on those doing the bleeding and sweating. Workers in Nome joined mining towns in the west and industrial centers in the east in articulating a different vision of production and profit in the early 1900s. The Nome branch of the World Federation of Miners led strikes and elected five “Nome Labor Party” candidates to the city council in 1906.⁸³⁵ Their goals were not initially radical. “I believe in the democracy of Andrew Jackson,” one Local member stated, as “this country should be governed by the producing classes” not corporate greed that stole from town coffers.⁸³⁶ But by 1912, with Eugene Debs vying for the presidency, some miners wanted more than reform. The platform of the Socialist Party of America spoke to the rage of dashed prospects: for property untainted by corporate control, for worker’s security in wages and conditions, for frontier freedoms and a

⁸³¹ Alfred Brooks, “Preface,” *United States Geological Survey Bulletin* No. 328 (1909): 7-8, 7.

⁸³² Brooks, “The Development of the Mining Industry,” 31 (quote), 39; Theodore Chapin “Placer Mining on Seward Peninsula,” *United States Geological Survey Bulletin* No. 592 (Washington D.C.: Government Printing Office, 1914): 385-396, 385.

⁸³³ APRCA, June Metcalfe Northwest Alaska Collection, Box 1, Series 1, Folder 17: Arthur Olsen Diary, 1906-1907, p. 10-13.

⁸³⁴ *Report of the Mine Inspector for the Territory of Alaska to the Secretary of the Interior for the Fiscal Year Ended June 30, 1914* (Washington: Government Printing Office, 1914), 10-12. The inspector put the rate of death in the mines at 3.125 per 1000, a rate lower than in many other mining industries, especially hard rock coal.

⁸³⁵ The World Federation of Miners was an official syndicate of the International Workers of the World, the most radical of the unions active in the United States in this period. For strikes, see Jones, *Empire’s Edge*, 58, 72-74, 82.

⁸³⁶ “Labor Ticket Will Be in the Field,” *The Nome Tri-Weekly Nugget*, March 8, 1906; “Radical Change is Wanted By People,” *The Nome Tri-Weekly Nugget*, March 20 1906; *Nome Tri-Weekly Nugget*, April 4, 1906; and *Nome Nugget* November 5, 1908. As Joseph Sullivan points out, the early union politics in Nome focused mostly on rooting out municipal corruption; “Sourdough Radicalism: Labor and Socialism in Alaska, 1905-1920,” in Stephen Haycox and Mary Childers Mangusso eds. *An Alaska Anthology* (Seattle: University of Washington Press, 1996), 222-237.

functioning democracy.⁸³⁷ Kazis Krauczunas, who ran as a socialist candidate in Alaska's 1912 territorial election, advocated not just the general Party aims of unions and collectivism.⁸³⁸ He wanted to salvage prospecting, by restricting consolidated claims owned by distant corporations, and improve upon it by making some mineral resources a public good. Geology, no matter how stubborn, needed to work for the people.

The Socialist Party's electoral victories stayed local in Alaska. But alongside the corporate capitalism that owned Alaskan earth and paid laboring wages, the Seward Peninsula underground was briefly the site of an alternative vision for valuing human energies and the minerals they unearthed. In the minds of dedicated socialists, what made the United States distinctively free was the common man's ownership of frontier means of production. Alaska needed to be saved from deviant, corporate capitalism to keep it American. Otherwise, as the Party's 1914 preamble stated, "Alaska, the last of the great American frontiers, the home of the pioneer, is rapidly becoming a thing of the past. The dreams of the lonely prospector are giving way to the ugly realities of wage slavery and job hunting. The nightmare of Capitalism already haunts the workers of Alaska."⁸³⁹

CAPITALISM ALSO HAUNTED Chukotka. It took six years for the Red Army to wrest control of the Peninsula from "White gangs and foreign predators and plundering armies."⁸⁴⁰ Even then, the border leaked. In 1923, S. Sukhovii reported that of the one hundred *poods* of gold mined in Chukotka, seventy percent was taken to Alaska.⁸⁴¹ Established traders were suspect, as were new communists. A local Party member complained that the poorly paid district policemen "suffered from 'gold fever,'" and with such covetous individuals acting as representatives "of Sovietization in our periphery," he warned, "we will not go far."⁸⁴²

⁸³⁷ The historiography on socialism in the United States is long and large, although not particularly vibrant in recent years. Generally it is focused on why American socialists were an exception – i.e., why the party failed to achieve sustained political presence. Iris Kipnis blamed factionalism within the party and a lack of militancy; *The American Socialist Movement, 1897-1912*, (New York: Columbia University Press, 1952). David Shannon argued that the Socialist Party aimed its organizing efforts at a proletariat that did not exist in the United States; *The Socialist Party of America*, (New York: The Macmillan Company, 1955). Much about Alaskan socialists tracks with James Weinstein's work, in that socialist organizers remained active into WWI, although anti-sedition arrests and harassment seem to have a larger role in the Territory than Weinstein credits; *The Decline of Socialism in America, 1912-1925*, (New Brunswick: Rutgers University Press, 1967). Brian Lloyd argued that U.S. socialists were not sufficiently ideological in *Left Out: Pragmatism, Exceptionalism, and the Poverty of American Marxism, 1890-1922*, (Baltimore: Johns Hopkins University Press, 1997). The most recent works on socialism in the U.S. are generally synthetic, situating it as part of general left movements; see Michael Kazin, *American Dreamers: How the Left Changed a Nation* (New York: Alfred A. Knopf, 2011).

⁸³⁸ For a thorough discussion of the elections of socialist officials in Alaska, see Sullivan, "Sourdough Radicalism," 225-228. As Sullivan notes, miner's support of socialist causes put them in the company of other mine laborers in the U.S. West, who contributed considerable enthusiasm to the socialist cause between 1910-1920. See also Andrews, *Killing for Coal* and Mark T. Wyman, *Hard Rock Epic: Western Miners and the Industrial Revolution, 1860-1910*, (Berkeley: University of California Press, 1979).

⁸³⁹ "Preamble and Platform, Socialist Party of Alaska, 1914," quoted in Sullivan, "Sourdough Radicalism," 224.

⁸⁴⁰ RGIA DV F. R-2336, Op. 1, D.17, L. 11.

⁸⁴¹ S. Sukhovii, "Kamchatskie bogatstva i ovladenie imi gosudarstvom," *Ekonomicheskaia zhizn' Dal'nego Vostoka* No. 1 (1923), 15-17. This number is impossible to verify, and is more an indication of Soviet worries about gold trafficking than an indication of actual quantities. A *pood* is just over 36 pounds.

⁸⁴² RGIA DV F. R-2350, Op. 1, D.26, L. 23. Such private mining activity appears to have been common in the Far East and in other locations was a cause for open hostility toward the state; see A.I. Shirokov, *Gosudarstvennaia politika na Severo-Vostoche Rossii v 1920-1950-ke gg.: Opyt i uroki istorii* (Tomsk: Izd-vo Tom., 2009), 97. In this period, the state gave

Mining for personal profit was a crime against communist ideals, and against a state with a pressing need for gold. Russian manufacturing had never been robust. Following years of civil war, it was in shambles. Agricultural production, a foundational Imperial export, could not even reliably feed Soviet citizens.⁸⁴³ Bolsheviks fought for a post-currency future, one that could transcend the alienating fetish of money. The present, however, was hungry: for grain, for coal, and for technology to transform the penury of peasant labor into industrial abundance. Europe had energy for sale, and European capitalists were eager for gold, having recommitted to the gold standard in hopes that it would bring fin-de-siècle prosperity to a post-war world. By 1922, the Soviets had spent most of the Imperial bullion reserves on military supplies, medicine, food, and machinery.⁸⁴⁴ But the country still lagged in industrialization. Without a modern economy, there could be no communism, and no military able to resist capitalist hostilities.⁸⁴⁵ Creating “the economic dictatorship of the proletariat as well as its political dictatorship,” Stalin told the Politburo in 1927, required the “temporary concessions” of foreign economic exchange.⁸⁴⁶ Chukotka, with its reindeer and walrus, had little to contribute to the international market. But it did have gold, the “center of gravity for [the region’s] economic life.”⁸⁴⁷

It was a center of gravity still well hidden. Despite the communist certainty of “colossal mineral wealth,” Imperial Russia left incomplete maps and even more incomplete geological surveys of the Peninsula.⁸⁴⁸ When S. Sukhovii noted in 1923 that 81.02% of Chukotka’s mining resources had yet to be explored, his precision was a fiction.⁸⁴⁹ The problem for the Soviets, as for the Tsars, was people. “A precondition for the development of mining in this border region,” M. Krivitsyn wrote from Anadyr, “is undoubtedly colonization by the laboring element.”⁸⁵⁰ Chukotka had fewer than twenty thousand residents until the end of the 1930s. Most were Yupik and Chukchi, generally

concessions to local prospectors, but all gold had to be turned over to the state; see RGIA DV F. R-2333, Op. 1, D.256, L.1-2.

⁸⁴³ Industrial production was about 13% of pre-revolution levels, and agricultural output about a third. L.V. Sapogovskaia, “Zoloto v politke Rossii (1917-1921),” *Voprosy istorii* Vol. 6 (June 2004): 31-47. Grain accounted for 50% of Russia’s pre-Revolutionary exports; see Oscar Sanchez-Sivony, *Red Globalization: The Political Economy of the Soviet Cold War from Stalin to Khrushchev* (New York: Cambridge University Press, 2014), 30-31.

⁸⁴⁴ RGAE, F. 2324, Op. 16, D.43, L. 74. The Soviet Union also pegged its currency to gold in this period. I am glossing over the considerable complexity in Soviet debates about foreign trade and currency uses, which prior to the Great Depression generally sought economic integration with the world market; for a full discussion see Sanchez-Sivony, *Red Globalization*, 33-37; Alec Nove, *An Economic History of the U.S.S.R.* (London: Penguin Books, 1989), 147-153; R.A. Belousov, *Ekonomicheskaia istoriia Rossii XX veka*, vol. 2 (Moscow: Izdat, 2000), 371 – 377.

⁸⁴⁵ The literature on the “war scare” in the early Soviet Union is large, and generally divides between the cynical view that Stalin used an overblown threat of war to attack Trotsky; see David R. Stone, *Hammer & Rifle: The Militarization of the Soviet Union, 1926-1933*. The other view argues the panic was real and widespread; see for example, David Brandenberger, *Propaganda State in Crisis: Soviet Ideology, Indoctrination, and Terror under Stalin, 1927-1941* (New Haven: Yale University Press, 2012).

⁸⁴⁶ Stalin’s statement is translated in full in Michal Reiman’s *The Birth of Stalinism: The U.S.S.R. on the Eve of the “Second Revolution,”* (Bloomington: Indiana University Press, 1987), 128-133.

⁸⁴⁷ I. L. Iamzin and V. P. Voshchinin, *Uchenie o kolonizatsii i pereseleniakh* (Moscow: Gosizdat, 1926), 222.

⁸⁴⁸ RGIA DV F. R-2333, Op. 1, D.128, L. 375.

⁸⁴⁹ S. Sukhovii, “Kamchatskie bogatstva i ovladenie imi gosudarstvom,” *Ekonomicheskaia zhizn’ Dal’nego Vostoka* No. 1 (1923), 15-17.

⁸⁵⁰ RGIA DV F. R-2333, Op. 1, D.128, L. 376.

even less interested in mining than in joining *kollehozy*.⁸⁵¹ Bringing human labor north required non-human fuel, for transport and for their landed survival. And for most the 1920s, the Soviets could move little energy north. Basic sovereignty was a challenge. Where it had the competence, the state extracted the energy in fish, sea mammals, and reindeer. In 1924, the president of Anadyr's Revolutionary Committee recommended inviting foreigners to prospect for gold since "their capitalist appetite will make them throw their money here," and the government could use the resulting knowledge for itself.⁸⁵² Two small geological expeditions, mounted in 1926 and 1928, failed to locate significant deposits, or improve Soviet knowledge of their far northeast.⁸⁵³ In 1930, the ethnographer A.I. Kaltan reported that "the whole interior of Chukotka remains *terra incognita*."⁸⁵⁴

The advent of Stalin's Five Year Plans ended toleration for such arctic backwardness. Latitude was no barrier to the grand project of forging imminent utopia from raw elements. Marxism was the future, the future required industry, and industry meant subduing nature.⁸⁵⁵ And nowhere had more nature than the far north: buried in ice, forgotten by the sun. It was a place, as polar explorer Otto Schmidt wrote, where "Nature subordinates herself to man when he knows how to arm himself for a fight and when he does not come out alone, but in a large group supported by the warm love of millions of citizens."⁸⁵⁶ Industrial infrastructure, from power plants to ice breaking ships to oil rigs, was the armor of modernity in the north. Laboring in them, Soviet men and women redeemed themselves through the heroics of production.⁸⁵⁷ But Chukotka, as one official lamented, had "no industry - the main engine of culture."⁸⁵⁸ And there were few opportunities to industrialize:

⁸⁵¹ For population statistics, see Niobe Thompson, *Settlers on the Edge: Identity and Modernization on Russia's Arctic Frontier* (Vancouver: University of British Columbia Press, 2008), 4-5.

⁸⁵² RGIA DV F.R-2333, Op. 1, D.76, L. 69.

⁸⁵³ V.T. Pereladov, "Otkrytie pervoi promyshlennoi rossypi zolota na Chukotke," in *Tropoiu Bogoraza: Nauchnye i literaturnye materialy*, L.S. Bogoslovskaiia, V.S. Krivoshechekov, and I. Krupnik eds. (Moscow: Institut Naslediiia GEOS, 2008), 279-283, 283. The 1928 expedition was headed by the Kamchatka Joint-Stock Company, one of the proliferating small agencies that managed arctic development prior to the 1930s.

⁸⁵⁴ A.I. Kaltan, "Otchet po obsledovaniuu Chukotskogo poluostrova 1930/1931 g.," in *Tropoiu Bogoraza: Nauchnye i literaturnye materialy*, L.S. Bogoslovskaiia, V.S. Krivoshechekov, and I. Krupnik eds. (Moscow: Institut Naslediiia GEOS, 2008), 284-330, 295, 330.

⁸⁵⁵ The first Five Year Plan left more of a mark on the European arctic; the major push for industry hit Chukotka with the Second Five Year Plan, beginning in 1932. That Stalin's Cultural Revolution included an explicit theme of war against nature has been discussed by several historians; see Paul R. Josephson, *The Conquest of the Russian Arctic* (Cambridge, MA: Harvard University Press, 2014); Sari Autio-Saraso, ed., *Understanding Russian Nature: Representations, Values and Concepts* (Helsinki: Aleksanteri Papers 4/2005); John McCannon, *Red Arctic: Polar Exploration and the Myth of the North in the Soviet Union 1932-1939* (New York: Oxford University Press, 1998); Bernd Stevens Richter, "Nature Mastered by Man: Ideology and Water in the Soviet Union," *Environment and History* Vol. 3 No. 1 (1997): 69-96. As McCannon and others emphasize, the antagonism toward nature was not omnipresent or unchanging during the Stalinist period; see William Husband, "'Correcting Nature's Mistakes': Transforming the Environment and Soviet Children's Literature, 1928-1941," *Environmental History* Vol. 11 No. 2 (April 2006): 300-318; and Mark Bassin, "The Greening of Utopia: Nature, Social Vision, and Landscape Art in Stalinist Russia," in James Cracraft and Daniel Rowland, eds., *Architectures of Russian Identity: 1500 to Present* (Ithaca: Cornell University Press, 2003), 150-171.

⁸⁵⁶ Lazar' Brontman, *On the Top of the World: The Soviet Expedition to the North Pole, 1937, edited and with a forward by O.J. Schmidt* (London: Victor Gollancz, 1938), xi-xiii.

⁸⁵⁷ The historiography on the role of labor in socialist construction – and self-construction – in this period is substantial. For a sampling of works that deal with the Promethean and transformative aspects of labor, see Stephen Kotkin, *Magnetic Mountain: Stalinism as a Civilization* (Berkeley: University of California Press, 1995); Jochen Hellbeck, *Revolution on My Mind: Writing a Diary under Stalin* (Cambridge, MA: Harvard University Press, 2006); and Lewis Siegelbaum, *Stakhanovism and the Politics of Productivity in the USSR 1935-1941* (Cambridge: Cambridge University Press, 1988).

⁸⁵⁸ RGAE F. 9570, Op. 2, D.3483, L. 6.

sea mammal collectives and reindeer camps could be collectivized and use a few motors, but they were not spaces of Promethean transformation.

Mining was a rare exception. It provided both the site and the means of industrialization. Instead “of the old form of extraction by muscle power, where the pick and shovel played the main role,” mining was “mechanized with the latest equipment” that yielded “ever greater increases in production.”⁸⁵⁹ Once wrested from the earth, gold could buy equipment from abroad. And if Chukotka was a region “born of the five-year plan,” as *Pravda* wrote, its first midwife was the Main Administration of the Northern Sea Route (GUSMP or *Glavsevmorput*).⁸⁶⁰ From 1932 until 1938, the agency managed a network of ports, mines, refineries and industrial towns across the Soviet Arctic.⁸⁶¹ In Chukotka, it hauled over a thousand people to the Bering Straits, mechanized the blubber refinery at Plover Bay, ran electrical lines, managed the Anadyr fish cannery, and planned roads, schools, and hospitals. When the GUSMP ship *Cheliuskin* froze in the Chukchi Sea, the feverish publicity surrounding the crew’s survival efforts elevated the Peninsula into a place of grand socialist hero-making.⁸⁶²

For the new imports, much of life on the GUSMP frontier did not seem particularly heroic. The demands on the agency to simultaneously explore and develop the arctic lead to hasty and badly-supplied missions. *Glavsevmorput* workers lived in damp, dim huts, “so cold the water freezes in the winter.” Northern veterans complained about inexperienced newcomers.⁸⁶³ “We must strain and spend a great deal of energy to work in these difficult material conditions,” one GUSMP official stated, “and our equipment is miserable.”⁸⁶⁴ But *Glavsevmorput* had the financing and power to bring geological teams to the Peninsula. Their surveys during the mid-1930s located new gold on the Bol’shoi, Malyi Aniui, and Amguema Rivers.⁸⁶⁵ But for the next several decades, these lodes proved far less important than another element discovered by Northern Sea Route geologists. From the Arctic Sea coast down through the tundra, Chukchi land was laced with a metal important not just for region, “but for the whole Soviet Union in terms of increasing the country’s defenses, ensuring the successes of world labor, and raising the economic and cultural level of northern peoples.”⁸⁶⁶ The element was tin.

⁸⁵⁹ RGAE F. 8152, Op. 1, D.300, L. 10. This report covers the general state of gold mining in the Soviet Union in 1932, not Chukotka in particular.

⁸⁶⁰ *Pravda*, January 13, 1934. GUSMP leadership was involved in shaping the Second Five Year Plan, signaling the importance of arctic development in this period.

⁸⁶¹ For a full history of GUSMP and its relationship with Stalinist ideas of the arctic, see McCannon, *The Red Arctic*.

⁸⁶² For a detailed account of the *Cheliuskin* and the mythologizing that followed, see McCannon, *The Red Arctic*, 61-70, 119-127.

⁸⁶³ RGAE F. 9570, Op. 2, D.3483, L. 4, 15.

⁸⁶⁴ RGAE F. 9570, Op. 2, D.3483, L. 59.

⁸⁶⁵ Volkov and Sidorov, *Unikal’nye zolotorudnye raion Chukotki*, 7.

⁸⁶⁶ Speech from the Chaun region, quoted in N.N. Dikov, *Istoriia Chukotki s drevneishikh vremen do nashikh dnei* (Moscow: Mysl’, 1989), 199.

THE ELEMENT OF CRISIS, 1917-1950S

The processes that fortified Beringian ground with gold took inhuman spans of time and seismic pools of energy. Quaking, molten eons also threaded the stones of the Seward and Chukchi Peninsulas with tin. Like gold, it appeared where water dug away the earth or was locked in granite masses. Unlike gold, desirable for its unmixed worth, tin was desired as an alloy. The element is malleable and resistant to corrosion, and in the forge lends its liquidity and luster to baser metals. Combined with copper it makes bronze, and made the technologies of the Bronze Age five thousand years ago. The surface of tin has little friction and retains oil. With this property, it bore the industrial revolution forward; tin-laced metals made the ball bearings vital to machinery powered by steam or internal combustion engines. Tin cans fed armies and armies of urbanized laborers.⁸⁶⁷ In Alaska, the metal laced the equipment that pulled gold from the earth and preserved the peaches miners ate in their cabins. Tin was a conduit for the energy consumed by people and produced by machines. By the early twentieth century the metal was pedestrian, found in a thousand small parts of a manufactured day. It was not a stand-in for currency, but a constituent part of what currency bought. Its industrial ubiquity made it critical, and industrial necessity made it valuable.

When the first tin mining operations began near Nome in the early twentieth century, the social value both of the metal and the labor expended in its extraction was, as in the case of gold, still open to interpretation. Miners at the Lost River tin deposit would have met with socialist ideas when they visited Nome, where in 1917 local party members discussed forming their own Soviet.⁸⁶⁸ But the socialist vision for Alaska was waning. Suspicions about Party loyalties initiated during the First World War hardened in Nome as Soviets expelled American traders from Chukotka.⁸⁶⁹ Socialism seemed suspiciously close to communism and communists were seizing property and forestalling commerce not so far from the Seward Peninsula, leaving some afraid of the “Bolsheviks coming over to clean house.”⁸⁷⁰ By the 1920s, capitalism was the recognized basis of proper civic

⁸⁶⁷ For an overview of the uses and capacities of tin, see Mats Ingulstad, Espen Storli and Andrew Perchard, “The Path of Civilization is Paved with Tin Cans,” in Mats Ingulstad, Espen Storli and Andrew Perchard, *Tin and Global Capitalism, 1850-1900: A History of the “Devil’s Metal”* (New York: Routledge, 2014), 1-21 and Ernest Hedges, *Tin and its Alloys* (London: Royal Society of Chemistry, 1985).

⁸⁶⁸ Harvey O’Connor, *Revolution in Seattle* (New York: Monthly Review Press, 1964), 103. O’Connor reports rumors that a few Nome residents tried to cross the Straits to join the revolution. Lieutenant John Creighton, who was sent to investigate happenings in the Russian Far East for the State Department in 1922, reported that Walter Ahrns, man from Germany traveling on an American passport, had joined the Soviets in Anadyr. Creighton’s reports are reproduced at length in James Thomas Gay, “Some Observations of Eastern Siberia, 1922,” *The Slavonic and East European Review* Vol. 54, No. 2 (April 1976): 248-261, 251.

⁸⁶⁹ The socialists in Alaska were also on the wrong side of WWI in popular opinion; coverage in the *Daily Nome Industrial Worker*, for example, makes capitalism out as worse than conflict, as position hardly supported by the general public; December 13, 1915. By 1918, all the socialist activists in Alaska had either left the state or been jailed for sedition. This puts the experience of the Socialist Party in Alaska on par with socialists around the United States. The authoritative, if now rather dated, overview of historian’s thinking on the failure of U.S. socialism is Eric Foner, “Why is there no Socialism in the United States?” *History Workshop* No. 17 (Spring 1984): 59-80. Also see John Laslett and Seymour Lipset, eds., *Failure of a Dream: Essays in the History of American Socialism* (Garden City, NY: Anchor Press, 1974); Erik Olssen, “The Case of the Socialist Party that Failed, or Further Reflections on an American Dream,” *Labor History* No. 29 (Fall 1988): 416-449.

⁸⁷⁰ UAA, Wilson W. Brine Papers, Box 1, File: letters 1923, Letter of June 29, 1923. See also *Nome Nugget*, June 19, 1920. Coverage of the Bolsheviks in the Nome newspaper in 1918-1921 is generally negative.

order in Alaska. And capitalism was booming. Gold again backed the world's currencies, and it flooded into Wall Street banks as Berlin, Paris, and London serviced substantial war debts.⁸⁷¹ Nome added to the deluge: between 1923 and 1929, Seward gold mines produced at least a million dollars a year.⁸⁷² And with the Wall Street Journal concerned about a postwar "tin famine," the Seward Peninsula was poised to supply global demands if it could evidence "a large increase in production."⁸⁷³

Increasing the production of tin and gold depended on geological presence and technological capacity. By 1920, geologists and miners knew there was tin on the Seward Peninsula, and estimated that well over five hundred million dollars in gold remained in Alaska.⁸⁷⁴ But the easy ores were gone. Losing gold from the ground with steam ate through too much wood and coal; the cost of energy outpaced the element's worth. But in 1923, the town of Nome turned out to witness the launch of new "scientifically devised ways and wholehearted means" of dredging placer deposits.⁸⁷⁵ The means was a cold water thawing method. Instead of warming ground with steam, narrow steel pipes pumped unheated river water into gold-bearing earth, raising the temperature just enough to melt permafrost. Men drove hundreds of pipe "points" in gridded rows, making industrial fields of metal rods linked by water hoses, each slowly rendering the earth pliable. Dredges could then claw tons of soil through their bellies, processing six thousand cubic yards of gravel in a day. Such irrigation let miners dig out entire river valleys and work waste piles left twenty years before by men with hand tools. For the next thirty-plus years, cold-water mining reaped a harvest of diffused gold.⁸⁷⁶

Seward Peninsula tin deposits often suffered the opposite problem: lodes were concentrated in bedrock.⁸⁷⁷ Mining deep veins required drilling and blasting shafts into solid stone, supporting tunnels with timber, then hauling ore and scrap to the surface. The technology for hard-rock operations had existed at least since the Comstock strike in California, from blasting and digging, to

⁸⁷¹ Some of the bullion came from Russia, in exchange for British grain or German locomotives. For an excellent discussion of the post-WWI flow of capital to New York, and its role in destabilizing the global economy, see Liaquat Ahmed, *Lords of Finance: The Bankers Who Broke the World* (New York: Penguin Books, 2009).

⁸⁷² Jones, *Empire's Edge*, 95.

⁸⁷³ "Threatened Tin Famine," *Wall Street Journal*, June 2, 1917; Alfred Brooks, "Future of Alaska Mining," *United States Geological Survey Bulletin* No. 714 (1921), 5-58, 38. For an overview of U.S. tin mining policy, see Mats Ingulstad, "Banging the Tin Drum: The United States and the Quest for Strategic Self-Sufficiency in Tin, 1840-1945," in Mats Ingulstad, Espen Storli and Andrew Perchard, *Tin and Global Capitalism, 1850-1900: A History of the "Devil's Metal"* (New York: Routledge, 2014), 89-122.

⁸⁷⁴ Alfred Brooks, et al. "Mineral Resources of Alaska, Report on Progress of Investigations in 1914," *United States Geological Survey Bulletin* No. 622, (Washington, D.C.: Government Printing Office, 1915), 86, 373; Alfred Brooks, et al. "Mineral Resources of Alaska, Report on Progress of Investigations in 1919," (Washington, D.C.: Government Printing Office, 1921), 10.

⁸⁷⁵ "All Nome Attends Yuba Launching," *Nome Nugget*, June 2, 1923.

⁸⁷⁶ Descriptions of cold water mining taken from the photo series in APRCA, Janet Virginia Lee Papers, Box 4: Photographs. Lee was hired to photograph mining operations in the 1940s, and has extensive records of the cold water process. See also Leonard Smith, "History of Dredges in Nome Placer Fields," manuscript in APRCA, Reed Family Collection, Subseries 3, Box 14, no page numbers. For a general history of placer mining in Alaska during this period, see Clark Spence, *The Northern Gold Fleet: Twentieth-Century Gold Dredging in Alaska* (Urbana IL: University of Illinois Press, 1996).

⁸⁷⁷ Some tin was also mined by placer methods; see Brooks, et al. "Mineral Resources of Alaska, Report on Progress of Investigations in 1914," 67-68 and Alfred Brooks, et al., "Mineral Resources of Alaska, Report on Progress of Investigations in 1920," *United States Geological Survey Bulletin* No. 722 (1922), 180.

tunneling and supporting mine-shafts with square-set timbers.⁸⁷⁸ Miners began importing these techniques to the low, bare mountains along the Lost River, eighty miles from Nome, in 1913. A vein of tin ran far back into a hillside covered in “Sharp, frost-cracked rubble...which look as if some giant crusher had been at work.” It was a dangerous place to work, as frost and wind rolled tons of debris down the mountains, so “except when frozen, many portions of the hillsides are continually on the move.”⁸⁷⁹ But despite the barrenness – they valley was so empty of life one miner noted that not even mosquitoes frequented it – men bored and blasted passageways hundreds of feet into the rock, hauled ore to the surface, and reduced metal a small processing plant. The lode produced almost one hundred and fifty tons of tin in 1913.⁸⁸⁰ The problem with tin mining, as with gold, was the expense of energy. “The region is barren of timber,” one U.S.G.S. geologist wrote, “so that all fuel, lumber, and mine timbers must be shipped.”⁸⁸¹ The cost of importing equipment and petrol meant that in 1920, the two thousand feet of tunnels at Lost River were mostly blasted by nitroglycerine and then dug out by hand. With investment and deeper mineshafts, the geologist Fredrick Fearing anticipated finding “oreshoots of considerable size” thus providing domestic supply of a metal “sorely needed during the critical days of war.”⁸⁸²

Cold-water mining and tunneling were not immune to the pressures and vagaries of the landscapes they retooled. Tunnels collapsed. Mine shafts filled with water and froze. Placer mining suffered in droughts, for “without rain... there can be no work.”⁸⁸³ Too much rain or snowmelt burst dams. The technology itself turned on its users. One miner accidentally ignited sticks of blasting gelatin at Lost River, blowing out his eye and tearing “the flesh from thigh to ankle.”⁸⁸⁴ Men lost limbs to giant dredge gears and buckets. All methods required importing energy, be it coal, diesel, or human labor. Winter froze ground, men, and machines alike.

Yet, despite the mud, the ice, the hard work, the danger of cave-ins, and the possibility of no profit after great expenditure, mining innovations made the subterranean world increasingly subject to human purposes. Gold and tin, as nearly static things, were acquiescing to human ingenuity and inhuman energy across the Seward Peninsula. Geology was inverted or softened, tunneled or exploded into gravel. Technology radically reduced the time needed to extract metal from the ground and, in bearing it to the surface, radically increased the time necessary to alter the earth.

⁸⁷⁸ Robert Chester III, “Consequences of the Comstock: The Remaking of Working Environments on America’s Largest Silver Strike, 1859-1880,” unpublished manuscript in author’s possession, 2014. See also, Ronald M. James, *The Roar and the Silence: A History of Virginia City and the Comstock Lode*, (Reno: University of Nevada Press, 1998).

⁸⁷⁹ Frederick C. Fearing, “Alaska Tin Deposits,” *Engineering and Mining Journal* Vol. 110 (1920):154-158, 154.

⁸⁸⁰ Alfred Brooks, et al. “Mineral resources of Alaska, Report on Progress of Investigations in 1914,” 373.

⁸⁸¹ Alfred Brooks, et al. “Mineral resources of Alaska, Report on Progress of Investigations in 1914,” 88.

⁸⁸² Fearing, “Alaska Tin Deposits,” 158, 154.

⁸⁸³ Charlotte Cameron, *A Cheechako in Alaska and Yukon* (London: T Fisher Unwin, 1920), 264. Rainfall is often discussed as a problem by U.S.G.S. geologists; see for example Alfred Brooks et al. “Mineral Resources of Alaska, Report on Progress of Investigations in 1913,” *United States Geological Survey Bulletin* No. 592 (Washington D.C.: Government Printing Office, 1914), 385; Alfred Brooks et al., “Mineral Resources of Alaska, Report on Progress of Investigations in 1916,” *United States Geological Survey Bulletin* No. 662, (Washington D.C.: Government Printing Office, 1918), 451. The problem of water is discussed at length in the papers of mining engineer Irving Mckenny; see APRCA, Reed Family Papers, Series: Irving Mckenny, Subseries: Land and Mineral Survey Records, Box 11, File: Correspondence – B.D. Stewart, 1929-1938 and Box 13, File: Seward Peninsula – General.

⁸⁸⁴ Fearing, “Alaska Tin Deposits,” 155. More dangers of lode mining, this time for gold, are described in Oscar Brown’s account, APRCA, Oscar Brown Papers, Box 1, p. 40-41.

Landforms that took an epoch to arise could through the power of diesel engines and dynamite fall into constituent parts in a mere summer.

In the hope that applying blasting caps and gasoline generators to stone would yield tin profits, A. MacIntosh bought rights to the Lost River lode in 1928. But mastery over earth did not mean mastery over the market. MacIntosh's company was bankrupt within a year. So was the country. The influx of gold to U.S. banks, which helped buoy the U.S. stock market to double in 1927 and again in 1928, collapsed.⁸⁸⁵ A year later, banks were scrambling for currency. The meaning of money came unmoored: it no longer assessed a day's work, since by 1933 a quarter of the country had no employment. It no longer adequately measured the labor invested in a bushel of corn or a ton of ore. With no wages to spend there was no demand for goods to buy, and therefore no reason to sell. Capitalism was in full crisis. On the Seward Peninsula, gold production was "markedly falling" by 1930, and the "disuses and obliteration of trails and roads, the closing down of stores and roadhouses and the lack of conveyances of every kind," made only "very good ground" pay.⁸⁸⁶ Tin production at Lost River was shuttered completely. Then in 1933, President Franklin Roosevelt nearly doubled the price of gold. Newspapers across the United States carried news of a "business boom in gold mining" in Alaska.⁸⁸⁷ In 1935, a year with good rain, the Seward Peninsula dredges produced well over two million dollars in gold. Some of the profits went to men like Oscar Brown, who worked near Nome "so I and my wife Ella...could pay our expenses." Brown worked a lode mine eighty-five feet underground, where "we had to use a compass in order to be sure that we were going in the right direction with our tunnels."⁸⁸⁸

Brown earned enough in a summer to buy groceries for a year. Yet most of the profits made during the Depression's miniature gold boom went to established companies. Hammon Consolidated Gold Fields, Nome's largest mining conglomerate, made enough in 1935 for "a partial repayment of the many millions of dollars which 14,900 stockholders provided to make consolidated operations possible."⁸⁸⁹ That mining was seasonal and dangerous wage-work did not appear in reports about Alaskan mining, which instead described independent men with pans "earning above \$5 a day shoveling and washing."⁸⁹⁰ The office of the Secretary of the Interior filled with letters of men and women wanting "to go prospecting in Alaska" as "there are no jobs to be gotten."⁸⁹¹ Alaska becomes a promised land, a space of still-possible opportunity. As the Assistant to Secretary of the Interior wrote, there were more than ten square miles per person in Alaska, where minerals and other resources left the territory "a rather sizeable balance in trade. Naturally such a condition

⁸⁸⁵ For the gold standard during the Depression, see Schenk, "The Global Gold Market and the International Monetary System," 22-23. The authoritative history of the Great Depression drawn upon here is David Kennedy's *Freedom from Fear: The American People in Depression and War 1929-1945* (New York: Oxford University Press, 2001).

⁸⁸⁶ APRCA, Reed Family Papers, Series: Irving Mckenny, Subseries: Land and Mineral Survey Records, Box 13, File: Seward Peninsula – General, "Report on Conditions on the Seward Peninsula in 1929," no page numbers.

⁸⁸⁷ "Alaska Missed by Depression" *Los Angeles Times*, Los Angeles CA, December 14, 1933. See also "Boom Sighted for Alaska," *Los Angeles Times*, Los Angeles, CA, October 8, 1936.

⁸⁸⁸ APRCA, Oscar Brown Papers, Box 1, p. 39-40.

⁸⁸⁹ *Nome Daily Nugget*, December 1, 1936.

⁸⁹⁰ "Alaska Reviving Placer Mining," *The Washington Post*, Washington, D.C., December 14, 1930.

⁸⁹¹ J.A. Nadeau to Roosevelt, May 29, 1935, NARA MD RG 126 Central Classified File 1907-1951, File: 9-1-16. Many of the letters in the 1930s reference an article by Rex Beach in *Cosmopolitan* magazine and subsequent newspaper coverage that endorsed mining in Alaska as an antidote to Depression unemployment.

indicates a rather enviable state of well-being and possibilities for commercial and industrial expansion.”⁸⁹² Alaska was massive and rich, a place to absorb excess labor and make absent dollars. Individual prospectors, once in charge of “liberating and controlling the great natural resources of Alaska,” one enthusiast wrote, would make “a brilliant future.”⁸⁹³ It was a view supported by President Roosevelt, who advocated that Americans turn away from the industrial work that had so failed them and return to the land. “individual independence shall be achieved,” wrote one back-to-the land advocate, “by millions of men and women, walking in the sunshine without fear of want.”⁸⁹⁴ Capitalism in crisis reverted to a nineteenth century vision of freedom through labor and property. Such visions did not match reality under the Seward Peninsula ground, where men worked for dangerous and uncertain wages. It was massive, corporately-owned equipment that mastered geology. But in the depths of the Depression, that same earth became in the imaginations of the desperate a space of frontier salvation from the market.

AS THE 1930s drew to a close in Chukotka, rhetoric about underground labor also listed toward salvation: not by individual self-sufficiency, but by collective deliverance from capitalist oppression through the reeducation of human elements criminal in their practice or politics. Such redemption, for many Soviet citizens, was not a choice. It was an ideological mandate staged and managed by the vast system of prisons, mental hospitals, and camps known as the Gulag.⁸⁹⁵ Within the Gulag, reeducation meant learning to labor like a Soviet, laboring like a Soviet meant feats of industrial production for the national economy, and production meant reforming fallen individuals into viable parts of the communist whole.⁸⁹⁶

⁸⁹² Harry Slattery to Mr. Bachelder, August 5 1936, NARA MD RG 48 Central Classified File 1907-1936, File: 9-1-4 General.

⁸⁹³ Letter to Harold Ickes, January 25 1934, NARA MD RG 48 Central Classified File 1907-1936, File 1-270, Alaska General 1933.

⁸⁹⁴ Henry Anderson, “The Little Landers’ Land Colonies: A Unique Agricultural Experiment in California,” *Agricultural History* Vol. 5 (1931): 142. For more on the back-to-the land aspect of the Depression, see David Shi, *The Simple Life: Plain Living and High Thinking in American Culture* (New York: Oxford University press, 1985), 215-247, and Roxanne Willis, *Alaska’s Place in the West: From the Last Frontier to the Last Great Wilderness* (Lawrence: University Press of Kansas, 2010), 48-70.

⁸⁹⁵ The term Gulag comes from the acronym for the Main Administration of Camps (GULAG), the administrative body under the People’s Commissariat for Internal Affairs (the NKVD, the 1934 secret police successor to the Cheka and the OGPU, better known in the west by their postwar acronym, the KGB) that managed most Soviet penal institutions between 1930 until 1960. Following the publication of Aleksandr Solzhenitsyn’s *Gulag Archipelago*, the acronym came to stand for Soviet camps and the penal system in general, and I am using it in that sense here. The camp system included multiple administrative and territorial bodies.

⁸⁹⁶ Steven Barnes makes the explicit the rhetoric of socialist redemption in the camps, and is generally sensitive to the need to marry political, moral, and ideological explanations for the Gulag system; see *Death and Redemption: The Gulag and the Shaping of Soviet Society*, (Princeton: Princeton University Press, 2011), 57-68. He shares this orientation with Oleg Khlevniuk, *The History of the Gulag: From Collectivization to the Great Terror*, trans. Vadim A Staklo, ed. David Nordlander (New Haven: Yale University Press, 2004) and Lynne Viola, *The Unknown Gulag: The Lost World of Stalin’s Special Settlements* (New York: Oxford University Press, 2007). Jeffery Hardy argues that the theme of re-education and through it social redemption present in Soviet criminology was part of larger global trends in criminal science at the time; see “Khrushchev’s Gulag: The Evolution of Punishment in the Post-Stalin Soviet Union, 1953-1964,” PhD Diss. (Princeton, 2011), 9; it is an idea that goes back to Michel Foucault; *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Pantheon Books, 1977). The use of convict labor or exile to Siberia, with or without redemptive promise, was certainly a Russian tradition inherited from the Imperial period; see Bruce F. Adams, *The Politics of*

In the far northeast of the Soviet Union, the process was overseen by Dal'stroi, the shorthand title of Main Administration for Construction in the Far North.⁸⁹⁷ Beginning in the gold-rich tributaries of the Kolyma River near Magadan, Dal'stroi grew to manage the largest territory in the Gulag system, an expanse the size of Western Europe set between the Arctic and Pacific Oceans. Along the Kolyma, redemptive labor required freeing non-human elements from the earth. The justification for the camps was ideological reformation, but the product was economic.⁸⁹⁸ “Mobilizing our gold resources,” one Soviet mining engineer wrote in 1931, “is absolutely necessary and timely,” as the state needed money and the “present crisis in capitalism” was reducing the world’s supply.⁸⁹⁹ Gold was currency for the Kremlin, and currency was potential proof of communist ascendancy over a troubled capitalist world. Tin made high-Stalinist factories run. Together, the metals were the industrial center of the northeastern Gulag, the space where theoretical ideological reformation met practical economic imperative.

Soviet gold needed a Soviet gold rush. The forced journey underground in the Soviet Union, like the voluntary one in Alaska, began at sea. In 1931, the Central Committee of the Communist Party ordered the transfer of several icebreaking ships to Dal'stroi. The ships would deliver a human wave, not of prospectors but of prisoners. In the same years that the Northern Sea Route began searching for metals in Chukotka, the Dal'stroi fleet began hauling convicts north from Vladivostok to Magadan. Many had already come thousands of miles by train across Russia, only to be crammed

Punishment: Prison Reform in Russia, 1863-1917 (DeKalb: Northern Illinois Press, 1996) and Abby M. Schrader, *Languages of the Lash: Corporal Punishment and Identity in Imperial Russia* (DeKalb: Northern Illinois University Press, 2002). I follow Barnes’s approach more than works that downplay the complicating role of Soviet ideology and emphasize pure political repression. For examples of these, see Robert Conquest, *The Great Terror: A Reassessment* (New York: Oxford University Press, 1990); Galina M. Ivanova, *Labor Camp Socialism: The Gulag in the Soviet Totalitarian System*, trans. Carol Flath (Armonk, NY: M. E. Sharpe, 2000); Ivanova, *Istoriia GULAGa, 1918-1958: sotsial'no-ekonomicheskii i politiko-pravovoi aspekty* (Moscow: Nauka, 2006); and Anne Applebaum, *Gulag: A History* (New York: Doubleday, 2003). For examples of voluntary, non-Gulag self-reformation, see Hellbeck, *Revolution on my Mind* and Igal Halfin, *From Darkness to Light: Class, Consciousness, and Salvation in Revolutionary Russia* (Pittsburgh: University of Pittsburgh Press, 2000).

⁸⁹⁷ Dal'stroi was the largest entity in the Gulag system. The name is associated with various titles, including the “Far Eastern Construction Administration or the “Far Eastern Construction Trust;” see David Nordlander, “Capital of the Gulag: Magadan in the Early Stalin Era, 1929-1941,” PhD Diss. (University of North Carolina, Chapel Hill, 1997), 86. Dal'stroi was conceived as administratively separate from the regional Gulag, the Northeastern Corrective Labor Camp system, or Sevvostlag. However, forced labor provided by Sevvostlag provided most of Dal'stroi’s manpower from the beginning. In 1937, as part of administrative reorganization associated with the purges, Dal'stroi officially became part of the Gulag, reporting directly to the NKVD. For sake of simplicity, I call the complex of camps Dal'stroi throughout.

⁸⁹⁸ Cold War-era exposes of forced labor often used the argument that forced labor was essential to rapid industrialization as a critique of the Soviet system; see for example, David J. Dallin and Boris I. Nikolaevsky, *Forced Labor in Soviet Russia* (New Haven, CT: Yale University Press, 1947); Stanislaw Swianiewicz, *Forced Labour and Economic Development: An Inquiry into the Experience of Soviet Industrialization* (London: Oxford University Press, 1965). Applebaum e in *Gulag*, xxxviii. Edwin Bacon ties the Gulag to rapid industrialization with more nuance, putting it in the context of war pressures; see *The Gulag at War: Stalin's Forced Labor System in the Light of the Archives* (London: Macmillan, 1994). Recent historians have taken seriously the possibility of an economic, not just political or ideological, motive to the camps in term of actual material output; see Paul Gregory and Valery Lazarev, eds. *The Economics of Forced Labor: The Soviet Gulag*. (Stanford, CA: Hoover Institution Press, 2003). The authors in this edition conclude that economic motives were sometimes at play in some of the sprawling network of camps, but that the forced labor system was highly inefficient overall. Pertinent for this case is David Nordlander’s assertion in *The Economics of Forced Labor* that gold from the Dal'stroi camps near Magadan, including some in Chukotka, provided useful infusions of gold into the Soviet economy; see “Magadan and the Economic History of Dal'stroi in the 1930s,” 105-125.

⁸⁹⁹ GAMO F. R-23, Op. 1, D.1, L. 168. For context on the Russian economy during the depression years, see Sanchez-Sibony, *Red Globalization*, 43-56.

into the “immense, cavernous, murky hold” of a transport ship, where “from the floor to the ceiling, as in a gigantic poultry farm [people] were cooped up in open cages, five of them in each nine-foot-square space.”⁹⁰⁰ Food and water were scarce, sea-sickness and theft common, “a hell where people fought with one another for a drink.”⁹⁰¹ If the *Cheliuskin* conjured images of the socialist hero emerging victorious from arctic trials, transit to the Kolyma birthed its Gulag double. By the 1940s, tales of twelve thousand prisoners freezing or starving or cannibalizing each other on the transport *Dzburma*, ice-bound in the waters just north of Chukotka, slid into Soviet rumors.⁹⁰²

From such ships, Dal'stroi hurled tens of thousands of bodies at ice-locked creeks and frost-covered hills along the Sea of Okhotsk.⁹⁰³ Peasants charged as kulaks, factory workers charged as wreckers, and every sort of person charged for thinking, seeming to think, or acting against the state during the Purges became miners in places too wind-swept and barren to support more than lichen.⁹⁰⁴ There was no timber for shelter or fuel for warmth. In some high stony places where men and women dug for gold there not even water. And “hunger,” as one camp survivor wrote, “haunted me. And not just me. People were dying.”⁹⁰⁵ The camps were often fatal, rife with accident, disease, starvation, exposure, or execution.⁹⁰⁶ But for Dal'stroi, an accident of the earth made prison labor appear successful. Placer gold was rich on the Kolyma ground. Its harvest required some skill but mostly effort: a rush, even if manned by captives. Production grew and grew again, from just over five hundred kilos of pure element in 1932 to ten times that much in 1937.⁹⁰⁷

⁹⁰⁰ Michael Solomon, *Magadan* (New York: Vertex, 1971), 85.

⁹⁰¹ Elinor Lipper, *Eleven Years in Soviet Prison Camps* (Chicago: Henry Regnery, 1951), 287.

⁹⁰² Tales of the *Dzburma* were common enough by the late 1940s to enter into historian's accounts, although the authors note the stories could not be substantiated; see Dallin and Nicolaevsky, *Forced Labor in Soviet Russia*, 127-129. McCannon also notes the case, citing Dallin and Nicolaevsky, in *Red Arctic*, 65. By tracing vessel ownership records, Martin Bollinger claims that the *Dzburma* could not have been in the Arctic Ocean in 1934 because Dal'stroi did not yet own the vessel; see *Stalin's Slave Ships: Kolyma, the Gulag Fleet, and the Role of the West* (Westport CT: Praeger, 2003), 65-74. In some ways the veracity of the case is less interesting than its durability; in 2014, friends in Chukotka told me of the ship, which they said led to Gulag overseers going mad from the psychological strain of witnessing cannibalism. Other prison vessels did sink; see Bollinger, *Stalin's Slave Ships*, 55-64.

⁹⁰³ Nearly a million people passed through the Kolyma mines and construction sites between 1932 and the wave of camp closures following Stalin's death in 1953. Numbers of prisoners in the Dal'stroi camps, like accounting for the Gulag as a whole, vary between historians and have been radically downsized from the millions estimated during the Soviet period; for these, see Robert Conquest, *Kolyma: The Arctic Death Camps* (New York: Viking, 1978). While Gulag administrators counted many things in many ways, information regarding prisoner intake is inconsistent even with the archives open. Numbers for the Dal'stroi camps are estimates from Shirokov, *Gosudarstvennaia politika*, 203-204, 326; I.D. Batsaev and A.G. Kozlov, *Dal'stroi i Sevostlag OGPU-NKVD CCCP v tsifrakh I dokumentakh* Vol. 1 (Magadan: RAN DVO, 2002), 6, 15; V.G. Zeliak, *Piat' metallov Dal'stroia: Istorii gornodobyvaishchei promyshlennosti Severo-Vostoka v 30-40 – 50-60 gg. XX v.* (Magadan: Ministerstvo obrazovaniia i nauki RF, 2004), 293; and Nordlander, “Capitol of the Gulag,” 312-313.

⁹⁰⁴ Having visited Gulag sites near Magadan in 2014, I find it hard to overstate the ruggedness of the terrain – sites high in the hills, without access to water, fuel, shelter, or food. They are places a survivalist would shun for good reason.

⁹⁰⁵ V.D. Plotnikov, *Kolyma-Kolymushka*, (Magadan: MAOBTI, 2001), 52.

⁹⁰⁶ Accounting for death in the Kolyma camps is more difficult even than numbers of prisoners; for a discussion of the archival difficulty see Khlevniuk, *The History of the Gulag*, 320-323. Mortality rates fluctuated a great deal, as pre-1937 conditions were not unbearable and often included enough food, while later years, especially during the Purges and WWII, were particularly brutal. Batsaev and Kozlov estimate around 130,000 people died in the Kolyma camps before 1951; *Dal'stroi i Sevostlag* Vol. 1, 6. This total does not include those killed during mass executions of political prisoners. Ten thousand or more of this latter category were likely shot in 1937-1939; see Khlevniuk, 170-171.

⁹⁰⁷ I.D. Batsaev, *Ocherki istorii magadanskoi oblasti nachalo 20kh - seredina 60kh gg XX*, (Magadan: RAN DVO, 2007), 59. Shirokov, *Gosudarstvennaia politika*, 450-453.

“Never, in the most feverish years of the capitalist gold rush...of Alaska,” wrote one Dal’stroi manager, “did a territory give as much gold as was produced this year in the Kolyma.”⁹⁰⁸

As rumors of *Dzhurma* horrors and reports of Kolyma triumphs filtered west, the Gulag spread north. The Northern Sea Route, which managed Chukotka’s industry in the early 1930s, struggled to meet the ambitious plans it helped create. Labor was a problem.⁹⁰⁹ The Purges of the late 1930s were unkind to GUSMP geologists. But Dal’stroi, with its vast if untrained labor force continued to make its territory yield metal.⁹¹⁰ In 1939, Moscow gave the Gulag control of Chukotka’s newly discovered tin mines and potential gold. There was also new urgency to tin extraction. As the Molotov-Ribbentrop pact soured, the element became a “necessary metal” for victory in the coming existential conflict.⁹¹¹ What stood between the state and material for its war planes and army kits was the human element Dal’stroi seemed so adept at mobilizing: the labor to peel away stubborn arctic earth. In 1941, Gulag transports began sailing north up the Pacific coast, past Magadan, through the Bering Straits, “the bare rocky coast of Chukotka on the left,” as inmate Valerii Iankovskii later recalled, and “to the right, in the haze, the distant shore of Alaska.”⁹¹²

Iankovskii was bound for Pevek. The port on Chukotka’s Arctic coast, a place of “black rocks pressed by the wind, with valleys of snow up to five meters deep,” launched convicts toward the interior.⁹¹³ A few thousand others were assigned to build a harbor and road to tungsten mines near Egvekinot.⁹¹⁴ Camps in both regions were modeled after those in the Kolyma. In them, gouging through the tundra for tin put Dal’stroi plans up against the common Beringian problems of geology and climate. “Wood and construction material in general are absent,” one Dal’stroi report noted in 1941. “Building materials are sand, clay, gravel, and stone.”⁹¹⁵ Shipments of mining equipment could land only in the short summer. Dredges, excavators, trucks, and anything else with a motor froze during the winters. There was often no water to wash ore, or the water was frozen until July. Warming it required electricity, but electricity needed either hydropower, which functioned only with warmth and water, or coal, which came by expensive transport.⁹¹⁶ Qualified mining engineers were difficult to find, especially after many were executed in the Purges. When technology failed, as it often did, plans for mechanized labor reverted to hand tools. “On the hills

⁹⁰⁸ Quoted in Alexandr Kozlov, “Pervyi direktor,” *Politicheskaiia agitatsiia* Nos. 17-18 (September 1988): 27-32.

⁹⁰⁹ McCannon argues that GUSMP was overtaxed by the government in the late 1930s, and unable to make its goals, lost ground to Dal’stroi; *Red Arctic* 6-7. Sergei Lar’kov and Fedor Romanenko argue that it was Dal’stroi’s unlimited labor force that gave them in the upper hand; “*Vragi naroda*” *za poliarnym krugom* (Moscow: Paulson, 2010), 110.

⁹¹⁰ Accounts of Chukotka-based geologists sentenced to death or imprisonment are in Lar’kov and Romanenko, “*Vragi naroda*,” 21-162. Many of the trained men and women already in the Kolyma camps met similar fates, but Dal’stroi compensated by increasing their pool of convicts and managed to maintain gold production, although the rate of increase went down; see Batsaev, *Ocherki istorii magadanskoi oblasti*, 64. For a discussion of the Kolyma camps during the Purges, when conditions deteriorated markedly, see Shirokov, *Gosudarstvennaia politika*, 190-200.

⁹¹¹ Chaunskii Raisovet, 11 January 1942, in A.I. Krushanov, ed. *Sovefy severo-vostoka S.SSR (1941-1961 gg.): sbornik dokumentov i materialov*, chast’ 2, (Magadan: Magadanskoe knizhnoe izdatel'stvo, 1982), 55-56. For more on the beginning of mining in Chukotka, see Shirokov, *Gosudarstvennaia politika*, 243; Zeliak, *Piat' metallov*, 81.

⁹¹² V. Iu. Iankovskii, *Dolgoe vozvrashchenie: Antobiograficheskaiia povest'* (Iaroslavl' : Verkhne-Volzh. kn. izd-vo, 1991), 55. Iankovskii served as a Japanese and Korean translator during WWII, and was arrested for “helping the international bourgeoisie” in 1946.

⁹¹³ MSA, F. 1, Op. 2, D.2701: Petr Lisov Papers, L. 47.

⁹¹⁴ GARF F. 9414, Op. 1d, D.197, L. 2 and GARF F. 9414, Op. 1d, D.161, L. 4.

⁹¹⁵ GAMO F. R-23, Op. 1, D.1145, L. 45.

⁹¹⁶ GAMO F. R-23, Op. 1, D.1145, L. 45, 48; GARF F. 9401, Op. 2, D.235, L. 243.

are open-pit mines,” Iankovskii wrote, where “all work by pick, shovel, wheelbarrow...loading [stone] and rolling by it hand on narrow rickety tracks.” He also dug pits. “The first hole I dug three and a half meters deep in ten days. The deeper it is the warmer it seems, but is more difficult to throw out the blasted mix of rock: half falls back on your head and in yours eyes.”⁹¹⁷

The problems with fuel, with transport, with water, and the labor with shovels in pits would have been familiar to many an Alaskan miner hazarding the common risks of inverting the earth. But the conditions surrounding the Gulag workers were not commensurate. Men like Iankovskii came to Chukotka as literal wage slaves, paid a pittance or nothing at all for work they could neither decline nor flee.⁹¹⁸ Some inmates, especially those with technical skills, were insulated from demanding physical labor. Ivan Tvardovskii, a trained sculptor, was assigned to make metal casts in the Gulag foundry, where the work was interesting, safe, and his fellow laborers generally kind.⁹¹⁹ Alexandr Eremin, wrote that “the work was hard, exhausting, but very interesting and exciting” and gave him a chance to “observe life.”⁹²⁰ But what kept most prisoners working was not the hope of property or the promise of a wage. It was not even the promise of fulfilling necessary work for the motherland. It was barbed wire and men with guns. Contests over bodily rights, not property rights, framed the experience of the Dal’stroi mines.

A prisoner could in this bodily contest submit, rebel, or escape. None guaranteed survival. To submit meant, for the rank-and-file prisoner, living a hovel or canvas tent or barracks through winters that hit sixty degrees below zero, where posters on the wall “reminded us,” one inmate recalled, “of Stalin’s famous words: ‘Work is a matter of honor, a matter of glory, a matter of valor and heroism.’”⁹²¹ Prisoners made boots from old tires and insulated their clothes with anything they could find. Work days lasted ten or twelve hours, and through the night. As they shoveled, prisoners thought constantly about calories. Rations were often tied to performance; the fuller the wheelbarrow, the fuller the porridge bowl. “Food in the camps – what, 600, 700, 800 grams of bread?” wrote Iankovskii, “It is a constant burning question: will I ever eat my fill of black bread before I die?”⁹²² Wild geese, caught flightless and molting, became currency.⁹²³ “Seal, white and brown bear, hare, reindeer,” Petr Lisov wrote, “were delicacies.”⁹²⁴ Malnutrition compounded rampant disease: scurvy ate at prisoner’s gums, typhus burned through their sleep, and dysentery wrecked empty stomachs. Men became “frighteningly strange: thin necks, protruding ribs and shoulder blades, and especially elbows and knees, like billiard balls.”⁹²⁵ Even the disrupted earth killed. During WWII, Chukotka’s mines expanded to include deep bauxite excavations, gold

⁹¹⁷ Iankovskii, *Dolgoe vozvrashchenie*, 57, 59.

⁹¹⁸ Wage payments came late in the Gulag system; see Hardy, “Khrushchev’s Gulag,” 202.

⁹¹⁹ I. T. Tvardovskii, *Rodina i chuzhбина : Kniga zhizni* (Smolensk : Posokh : Rusich, 1996), 265-266.

⁹²⁰ MSA, F. 2, Op. 1, D.263: Alexandr Eremin Papers, l. 56. Eremin was arrested in 1942 while in Artillery Cadet School for requesting a literate and battle-trained commanding officer; he served in Chukotka from 1946-1950.

⁹²¹ I.I. Pavlov, *Poteriannye pokoleniia* (Moscow: SPb., 2005), 86.

⁹²² Iankovskii, *Dolgoe vozvrashchenie*, 56.

⁹²³ MSA, F. 2, Op. 1, D.263: Alexandr Eremin Papers, L.61.

⁹²⁴ MSA, F. 1, Op. 2, D.2701: Petr Lisov Papers, L. 33. Malnutrition in the camps varied by location and time; after 1953, food rations were increased along with general sanitary measures and living conditions. See Hardy, “Khrushchev’s Gulag,” 103-104.

⁹²⁵ Iankovskii, *Dolgoe vozvrashchenie*, 64.

dredging, and, by 1950, a uranium mine not far from Pevek.⁹²⁶ Prisoners feared lung damage from the silica they blasted loose in veins of tin deep underground or radiation in the uranium mines.⁹²⁷ Deaths from accident and silicosis were frequent enough Dal'stroi declared war on them in 1953.⁹²⁸ In the same years, camp officials were routinely chastised for their "negligent attitude toward the use of prisoners," which resulted in unmet plans.⁹²⁹ Such remonstrations did not immediately improve convict lives. "Many have found eternal rest," wrote Ivan Tvardovskii, in a mass grave where "deceased prisoners were dumped as a bulldozer dug a trench in advance, like dead animals. It is impossible to say how many died from the inhumane living conditions. But in that first year in Chukotka, of twelve hundred prisoners a little more than seven hundred survived."⁹³⁰

Some of the dead were likely killed in the revolts that ran through Gulag camps. Lisov saw five men killed an eighteen men wounded shortly after arriving in camp.⁹³¹ An uprising in Pevek ended with dozens dead and halted tin production for months.⁹³² Guards warned off revolt through brutality. A slip from work formation might earn a beating. More drastic insurrections ended with execution. Iankovskii witnessed guards "drench still-living men with water from a hose for as long as they moved...squirring under the jets until they became stumps sitting in the snow."⁹³³ Some of the brutality was internal. Political prisoners and violent criminals often bunked together, and gangs of the latter often sized rations and wages from less hardened newcomers. In the Egvekinot camp, a Moscow inquest found "the prisoners are in two hostile groups, the so-called C and B. Each of these groups tries to subdue and influence the prisoners by extorting those who work in good faith for their earnings...in this struggle they torment, torture and even murder each other."⁹³⁴ Such living conditions made escape a common fantasy. Alaska was tantalizingly close. Camps and transit ships filled with rumors of prisoners sizing planes or crossing the ice floe.⁹³⁵ But, as Iankovskii wrote, "here in the Arctic Circle, it's hopeless. Huge expanses of bare tundra in every direction...the

⁹²⁶ Zeliak, *Piat' metallov*, 213-214.

⁹²⁷ V.F. Grebenkin, "Raduga vo mgle," *Petlia : Vospominaniia, ocherki, dokumenty* ed. Iu. M. Beledin (Volgograd, 1992), 242; John Lerner, *Proshchai, Rossiia! : Memuary "amerikanskogo shpiona"* trans. I. Dashinskogo (Kfar Habad: Yad HaChamisha Press, 2006), 334-335.

⁹²⁸ GAMO F. R-23, Op. 1, D.5501, Ll. 19-22.

⁹²⁹ GAMO F. R-23, Op. 1, D.5507, L. 1.

⁹³⁰ Tvardovskii, *Rodina i chuzhbina*, 265. Accounting for death in the Kolyma camps is more difficult even than numbers of prisoners; for a discussion of the archival difficulty see Khlevniuk, *The History of the Gulag*, 320-323. Mortality rates fluctuated a great deal, as pre-1937 conditions were not unbearable and often included enough food, while later years, especially during the Purges and WWII, were particularly brutal. Batsaev and Kozlov estimate around 130,000 people died in the Kolyma camps before 1951; *Dal'stroi i Semostlag* Vol. 1, 6. This total does not include those killed during mass executions of political prisoners. Ten thousand or more of this latter category were likely shot in 1937-1939; see Khlevniuk, 170-171. I have found no precise numbers for deaths in the Chukotka camps, which were established after the worst years in the Kolyma.

⁹³¹ MSA, F. 1, Op. 2, D.2701: Petr Lisov Papers, l. 35.

⁹³² GAMO F. R-23, Op. 1, D.5210, Ll. 12-13.

⁹³³ Iankovskii, *Dolgoe vozvrashchenie*, 66.

⁹³⁴ GARF F. 8131, Op. 37, D.4477, L. 9.

⁹³⁵ MSA, F. 2, Op. 1, D.263: Alexandr Eremin Papers, l. 50; Dalan (V.S. Iakovlev) *Zhizn' i sud'ba moia : Roman-esse* (Iakutsk : Bichik , 2003), 158; A.A. Zorokhovich, "Imet' silu pomnit': Rasskazy tekhn, kto proshel ad repressii," *Moskva rabochii* (1991):199 – 219, 210. I have found no accounts of escapees reaching Alaska.

inevitable footprints in the snow. And Chukchi hunters. They receive an award for wounded fugitives.”⁹³⁶

How the Chukchi thought about the camps remained a mystery to those inside, as did any Chukchi opinions on the furious digging, the groaning equipment ripping over the landscape, the piled bodies. The Chukchi fed prisoners, indirectly, from their reindeer collectives. Once, outside Egvekinot, two Chukchi families sheltered a trio of escaped prisoners, only to be murdered by guests fearful of disclosure to the police.⁹³⁷ The mines were yet another revolution on the tundra, arriving amid the last gasps of Chukchi resistance against collectivization. For the Chukchi, socialism had become the only option commensurate with physical survival. Inside the camps, physical survival was what communism threatened to eliminate. The revolutionary promise of erasing capitalist alienation between worker and the means of production was foreclosed by prisoner’s essential alienation from the means to do much at all. The communist promise of equality crumpled amid extreme and enforced penury, where the inequity between guard and prisoner was a daily reality. Socialism in the camps meant, as Lisov wrote, “cold, hunger, abuse, humiliation and beatings, working in mines...10-12 hours at a time,” a list that did not include any sense of redemption.⁹³⁸ Even Eremin noted that after two years of “tearing slopes from the mountains and pouring soil into the sea” the Egvekinot harbor did not expand.⁹³⁹ Across the Dal’stroi camps, the fragile energies of tens of thousands burned down to nothing in cold valleys. Deliverance, for those who survived, was in exit.

WHAT THE SURVIVORS did reform was the earth. Against the immobile, insensate problem of ripping metal from the ground, the exhausted bodies of Soviet citizens produced tin: just over three thousand tons in 1941, growing to nearly four thousand tons in 1943 and close to six by 1952. In some years, the Pevek tin mines were the most productive in the country, yielding half Russia’s domestic supply.⁹⁴⁰ And Dal’stroi gave the Cold War nearly 170 tons of uranium. The worth of gold, tin, and uranium led the Soviet Union to import energy other than human bodies as well; labor was multiplied over time by fossil fuels. Producing a ton of tin ore in 1945 took seventy-one tons of coal, and over three hundred tons by 1953.⁹⁴¹ The bulldozers and hydraulic washers, the dredges and blasting caps, the wheelbarrows and picks, left behind a landscape transformed. The hills and planes near Pevek erupted in boils of mine tailings, piles of broken equipment, and radioactive slag. Streams choked with refuse guttered the passage of fish spawn. In the cold, nothing rotted: stockade fences, tin cans, strands of barbed wire, engine parts, concrete blocks, sunk slowly into the tundra, but did not vanish. Mines flared from the bare, rocky uplands or the flat tundra plains. The earth left behind looked as if it had been locked in a war with its deep interior, covered in open trench-gashes

⁹³⁶ Iankovskii, *Dolgoe vozvrashchenie*, 65.

⁹³⁷ MSA, F. 2, Op. 1, D.263: Alexandr Eremin Papers, l. 50.

⁹³⁸ MSA, F. 1, Op. 2, D.2701: Petr Lisov Papers, l. 35.

⁹³⁹ MSA, F. 2, Op. 1, D.263: Alexandr Eremin Papers, l. 51.

⁹⁴⁰ John Thoburn, “Increasing Developing Countries’ Gains from Tin Mining,” in *Tin and Global Capitalism, 1850-1900: A History of the “Devil’s Metal”* (New York: Routledge, 2014), 221-239, 225.

⁹⁴¹ Production and coal consumption numbers are from Zeliak, *Piat’ metallov*, 291, 295. Dal’stroi’s tin output was at its max in 1952. Most years produced about four thousand tons, a very small portion of global output but significant within the U.S.S.R.

and festering pit-wounds. The labor that scarred part of a Soviet generation left Soviet lands scarred for generations to come.

THE MEANING OF THE UNDERGROUND, 1940S-1970S

During the Second World War, most of the “food, clothing, machinery, equipment, and tools in the Kolyma” were, as one prisoner remembered, “American. The most comfortable shovels were American.”⁹⁴² The supplies were flown from Nome to the Russian Far East as part of the Lend-Lease program. And while American shovels helped transform the Russian underground, the war also transformed American mining. Labor was scarce, as defense employment pulled workers from gold mines. Coal and petrol was difficult to procure and transport. In 1942, the War Production Board declared gold mining a nonessential industry.⁹⁴³ Other metals had better wartime luck. Federal geologists searched the Seward Peninsula for uranium.⁹⁴⁴ Tin “is a highly strategic mineral” and the “successful development of the Alaskan tin deposits should be of importance to the national economy and security.”⁹⁴⁵ But tin faced the same problematic market, short on fuel and people.⁹⁴⁶ The Lost River mine closed in 1941. When it reopened in 1948, its new owner, the United States Tin Corporation, was funded by the Defense Minerals Exploration Administration. Mining in Alaska was no longer the business of lone prospectors or even corporations. Against the challenges of distance, climate, lack of water, and no power, some minerals could only be freed from the earth with federal dollars.

Even with government investment, mining rested on labor. At Lost River, tin mining operations recruited Inupiat from nearby settlements for the mines, a source of income most treated like any other subsistence employment: one to take or leave.⁹⁴⁷ But the government, and Alaska’s growing number of statehood advocates, wanted more settlement in the territory. The reasons were partly strategic. “Undeveloped Alaska presents a very serious military liability,” one brief stated. “Under present conditions it is very easy for an Asiatic power to land expeditionary forces.”⁹⁴⁸ And strategy was decidedly economic, as “a general and comprehensive development of Alaska’s mineral potential is an essential ingredient to a sound, stable, and expanding economy.”⁹⁴⁹ Moreover,

⁹⁴² Pavlov, *Poteriannye pokoleniia*, 91.

⁹⁴³ Philip Smith, “Mineral Industry of Alaska in 1941 and 1942,” *United States Geological Survey Bulletin* No 943-A (1944),7.

⁹⁴⁴ P.L. Killeen and R.J. Ordway, “Radioactivity Investigations at Ear Mountain, Seward Peninsula Alaska, 1945,” *United States Geological Survey Bulletin* No. 1024-C (Washington, D.C.: Government Printing Office, 1955).

⁹⁴⁵ “Supporting Materials for Alaska Development Administration Legislation,” page 9, NARA MD RG 126 Office of Territories Classified Files 1907-1951, File: 9-1-60.

⁹⁴⁶ John Reed, “Mineral Investigations of the Geological Survey in Alaska 1943 and 1944,” *United States Geological Survey Bulletin* No. 947-A (Washington, D.C.: Government Printing Office, 1946), 2. An effort to start tin production at Lost River was also complicated by the Japanese attack in the Aleutian Islands, which diverted military attention from the mines, where there were wartime plans for development.

⁹⁴⁷ Barbara Jean Hawn, “The Historical Geography of Tin Mining, Seward Peninsula, Alaska,” M.S. Thesis (Oregon State College, 1956), 30-32.

⁹⁴⁸ “Alaska and National Defense,” 1942, page 24, NARA MD RG 126 Office of Territories Classified Files, 1907-1951, File: 9-1-60.

⁹⁴⁹ “Supporting Materials for Alaska Development Administration Legislation,” page 8, NARA MD RG 126 Office of Territories Classified Files 1907-1951, File: 9-1-60.

Alaska's emptiness offered veterans a place to remake themselves, "on the land where they can renew their spirit and forget about the turmoil of conflict."⁹⁵⁰ Settling in the north was actively promoted among returning servicemen. And one of the major attractions of Alaska life was mining. An Armed Services circular promoted "Alaska's earth," filled with "unmeasured deposits of tin, coal, mercury, antimony, copper, lead, iron, nickel, magnesium, manganese, and platinum...postwar prospecting will be made easier by new military maps."⁹⁵¹ But whether working a mine, a fish weir, or a timber lot, the government promoted Alaska as a place where the "pioneer spirit that so characterized the early settlement of this country still persists."⁹⁵²

In practice, the Seward Peninsula was not a promised land for frontier employment. Gold mining emerged from wartime sanction with little demand, and "working capitals for the small operator" had vanished, while the high costs of "repairs, equipment, and labor" remained.⁹⁵³ The utility of pegging currency to gold was also increasingly doubted in a postwar, dollar-rich world. The only profitable gold operations were large, technologically sophisticated, and owned particularly good earth. At Lost River, dropping tin prices and the end of federal assistance shuttered the mine in 1955. Alaskan industrial development was moving away from the Seward Peninsula: toward other mines, but mostly northward to the fossil fuel discoveries at Prudhoe Bay. The new boomtowns of the forty-ninth state grew around oil rigs and along the ports that shipped crude out of the state.⁹⁵⁴ It was not prospector's labor. Oil development required huge investments, both private and federal, not individual guile. Petroleum projects made Alaska, by the 1970s, again an exporter of energy: no longer from the flesh of whales and walrus but from the pooled, fossilized remains of creatures last alive in a vanished world.

Without oil or safe harbor for tankers, Nome dwindled to a few thousand residents. The business of the northwestern coast was no longer in so much in gold itself as in the history of finding it. Nome was the county seat of gold rush mythology, an American simulacrum for the better-known Klondike. Nome dog mushers were memorialized in books with titles like *Scotty Allan: King of the Dog Team Drivers* or *Wolf Dogs of the North*. Rex Beach's fictional account of corruption and intrigue among the gold fields, *The Spoilers*, became a movie in 1930, 1942 – when it starred Marlene Dietrich and John Wayne – and in 1955. Such books and films joined a growing literature on the romance of the north, a frontier genre established by Jack London, given an environmentalist gloss by John Muir and Robert Marshall, turned into a western by Louis L'Amour, and used to advance American exceptionalism by James Oliver Curwood.⁹⁵⁵ Prospecting, Curwood wrote, "had its lure,

⁹⁵⁰ "Our Last Frontiers: How Veterans and Others Can Share Them," Department of the Interior Pamphlet, NARA MD RG 126 Office of Territories Classified Files, 1907-1951, File: 9-1-22.

⁹⁵¹ "Alaska: Our Northern Outpost," *Armed Forces Talk* Vol. 218, page 7, NARA MD RG 126 Office of Territories Classified Files, 1907-1951, File: 9-1-22.

⁹⁵² "Our Last Frontiers: How Veterans and Others Can Share Them," Department of the Interior Pamphlet, NARA MD RG 126 Office of Territories Classified Files, 1907-1951, File: 9-1-22.

⁹⁵³ "Northwestern Alaska: A Report on the Economic Opportunities of the Second Judicial Division, 1949," page 2, NARA MD RG 126, Office of Territories Classified Files, 1907-1951, File 9-1-60.

⁹⁵⁴ For a history of oil development in Alaska, see Peter Coates, *The Trans-Alaska Pipeline Controversy: Technology, Conservation, and the Frontier* (Fairbanks: University of Alaska Press, 1993).

⁹⁵⁵ For an excellent discussion of these literary figures, one I drawn on heavily here, see Susan Kollin, *Nature's State: Imagining Alaska as the Last Frontier* (Chapel Hill: University of North Carolina Press, 2001). For the 19th century roots of

its romance, its thrill,” a product of work in “immeasurable spaces into which civilization had not yet come with its clangs and its clamor.”⁹⁵⁶ On the page and on the screen, Alaska was the final place where individual Americans could still labor for themselves. As Alaskan statehood advocate Robert Atwood testified, “The expansion of American development is in the existence of an area of free land,” like the frontier “men have proven they can conquer...in the far north.”⁹⁵⁷ It was an image that redeemed capitalism by sublimating the profit motive to surviving in the wilderness. That such wilderness was worth visiting became the cornerstone of Alaska’s booming postwar tourist trade. That it was worth protecting anchored environmental movements in the state.⁹⁵⁸ That Alaska had never been wilderness to its indigenous inhabitants was generally ignored. So was a history in which capitalism featured as many lawyers and corporations as homesteaders and prospectors. Alaska as America’s last frontier was a romance that sold well. The past had a currency of its own.

THE CURRENCY THE Soviet Union desired of Chukotka was still monetary. The means of access changed, however, with the death of Stalin. As part of Khrushchev’s broad reforms, Dal’stroi camps on the Peninsula were disbanded in 1957.⁹⁵⁹ Rending tin and gold from the earth was no longer the labor of convicts. Instead, Khrushchev spoke of a north reformed by Socialist technology, where a new generation of workers lived in insulated domes.⁹⁶⁰ As Chukotka had more sinking Gulag stockades than futuristic houses, the state lured people north the promise of socialism made material. By 1960, workers in the Soviet far north received substantial benefits in pay and vacation time. One geologist recalled how the high pay and frequent bonuses given in Chukotka meant “I was making about five hundred a month. To put that into perspective, I could eat a big lunch with three courses at the central cafeteria in Egvekinot for under a ruble.”⁹⁶¹ More than the salary, however, was the issue of supply. In the latter half of the twentieth century, northern Soviet regions were often better stocked than agricultural or urban areas. There were no queues for coats or shoes, and little difficulty purchasing perfumes or expensive alcohol. With Chukotkan workers “identifying new deposits of gold, tin, coal, and building materials...for the development of the country’s productive forces,” Moscow worked to increase supplies of eggs, milk, potatoes, and fresh

Alaska’s frontier image, see Robert Campbell, *In Darkest Alaska: Travel and Empire along the Inside Passage* (Philadelphia: University of Pennsylvania Press, 2007).

⁹⁵⁶ Robert Curwood, *The Alaskan: A Novel of the North* (New York: Grosset and Dunlap, 1922) 42, 12.

⁹⁵⁷ “Alaska Statehood Hearings,” House of Representatives, *83rd Cong. 1st sess.* (April 1953), 80-86. Atwood’s invocations of Frederick Jackson Turner’s frontier thesis are striking and sometimes almost verbatim.

⁹⁵⁸ As the geographical setting for most of the postwar debates happened far from northwestern coast and interior I focus on, so I am glossing over the considerable debates among Alaskans and others about how their territory should be used and understood. For histories that treat this in depth, see Coates, *The Trans-Atlantic Pipeline* and Willis, *Alaska’s Place in the West*. Stephen Haycox argues explicitly that non-indigenous people have only ever really come to Alaska for jobs, not for subsistence or homesteading, and these jobs were generally funded and managed outside of the state; see *Alaska: An American Colony* (Seattle: University of Washington Press, 2006). During this same period, indigenous Alaskans were involved in settling land claims. Alaska achieved statehood without addressing native title, which was finally settled in 1971 in the Alaska Native Claims Settlement Act, which gave Alaska native populations title to 44 million acres of historically used land and \$962.5 million paid to twelve distinct native corporations to invest in their communities. More on this will be discussed in chapter five.

⁹⁵⁹ Dikov, *Istoriia Chukotki*, 291

⁹⁶⁰ *Soviet News*, February 12, 1962.

⁹⁶¹ Quoted in Thompson, *Settlers on the Edge*, 47.

vegetables.⁹⁶² People could even buy single-family apartments.⁹⁶³ With vacations, diminished state supervision, and the personal space afforded by the tundra, was “a kind of spiritual oasis, an untainted paradise.”⁹⁶⁴ From produce to privacy, people in Chukotka were rich in things impossible to find elsewhere in their classless country. Labor in the name of Arctic communism meant a life of plenty.

The value of metals and mining, for a new generation of Soviets, emerged from the extremity of location. For the state, spending rubles on northern settlement had raw Cold War strategic value: Chukotka, like Alaska, hosted military installations and personnel. But rapid northern development was also a way of proving socialist competence. Voluntary labor flooded the arctic, at last, with real existing modernity. “In every village there is a club, a library, a cinema,” one report noted, and the Peninsula had over three hundred new apartments.⁹⁶⁵ Electrical plants began lighting homes and mines.⁹⁶⁶ “The development of industry and transport in the far north,” one researcher noted, “has produced rapid population growth in previously empty territories.”⁹⁶⁷ Chukotka’s population surged from less than forty thousand people to more than eighty between the 1950s and the 1970s, mostly with newcomers.⁹⁶⁸ The flurry of construction came with its own problems. Three hundred houses were not enough. Schools lacked plumbing. Roads buckled as the permafrost heaved in spring. Appropriations for 1963 geological surveys were deemed “highly insufficient for identifying new sites.”⁹⁶⁹ But there were houses, schools, roads, and geologists.

Geologists and the investments that settled them in Chukotka yielded metal. Bulldozers by the hundreds, electrical washers, drills, and a host of other mining equipment were installed around the Peninsula between the late 1950s and early 1970s. As a result, as party official A Riabov reported, gold production in the region in 1961 was up over the past seven years, and “we have overcome the standstill in the tin mining industry.”⁹⁷⁰ The “Komsomolskii” mine, the first major industrial gold operation in Chukotka, bloomed to a town of three thousand people, including a “hero of socialist work” operating the region’s second dredge. By the early 1970s, Chukotka produced 900 tons of gold, and had over-fulfilled the eighth Five Year Plan for tin, tungsten and

⁹⁶² GARF F. A-259, Op. 42, D.8339, L. 50, 10.

⁹⁶³ Thompson, *Settlers on the Edge*, 46-50. Thompson argues that the postwar state essentially managed access to goods as a way of incentivizing settlement in areas otherwise undesirable, like the far north, while creating consumer scarcity in major urban areas. Other discussions of incentives for living in the north include A.I Ivanov, *L'goty dlya rabotnikov severa* (Moscow: Yuridicheskaya Literature, 1991) and L.N. Popov-Cherkasov, *L'goty i preimushchestva roabochim i sluzhshashim* (Moscow: Yuridicheskaya Literature, 1981).

⁹⁶⁴ Ukrainian mining engineer, quoted in Thompson, *Settlers on the Edge*, 64. Thompson emphasizes how much personal time Chukotkans had to pursue their own hobbies and social activities outside state observation, something that matches my discussions with immigrants to the region.

⁹⁶⁵ GARF F. A-259, Op. 42, D.8340, L. 7, 14.

⁹⁶⁶ Dikov, *Istoriia Chukotki*, 295. Dikov notes that even small *kolkhozy* used diesel generators by the early 1960s.

⁹⁶⁷ RGAE F. 8390, Op. 1, D.2790, L. 13.

⁹⁶⁸ Thompson, *Settlers on the Edge*, 4-5.

⁹⁶⁹ GARF F. 1-259, Op. 42, D.8340, L. 38.

⁹⁷⁰ *Sovetskaia Chukotka*, January 27, 1961.

mercury.⁹⁷¹ Mine operators were congratulated not just for tons of ore, but for “safety measures” that “decrease the number of accidents.”⁹⁷²

No longer forced to work twelve-hour shifts without food and at constant risk of bodily harm, Soviet settlers in Chukotka began to see some romance in the territory. They were helped, by the late 1960s and 1970s, by literary and cinematic precedents. As in Alaska, the Klondike was one: Jack London had enjoyed a wide readership in translation since before the Revolution. He was joined by newer, explicitly Soviet post-war arctic heroes. Works by Tikhon Semushkin, Vladimir Arsen'ev and Chukchi author Yuri Rytkeu transformed the far north into a purifying space. Not only did it offer the potential to enrich the motherland through discovery and exploration, the north was, as Rytkeu argued, inhabited by peoples for whom “ideas of social equality” and “work as the genuine measure of all things real and human,” was also the “foundational philosophy of the Eskimo-Chukchi...never formulated but practiced for centuries.”⁹⁷³ Communism was the authentic cultural form of the tundra, and the tundra made better communists by stripping them of effete distractions through romantic labor.⁹⁷⁴ In Oleg Kuvaev's *Territoriia*, a fictionalized account of gold exploration in Chukotka, the hero goes about finding gold with old, London-esque panning tools, but with an eye to a properly mechanized future. He scorns people whose lives, distant from the labor and landscape of the tundra were “empty of anything but carpets, television, and their account books.”⁹⁷⁵ But the tundra was also empty of the past, and its political experiments with redemption and purity. The discovery of significant gold deposits near Bilibino, made in reality by Dal'stroi geologists in 1949 and mined by prisoners, is transplanted in fiction to a Gulag-free late 1950s. And rather than a place of potential collective redemption, the tundra was one of individual fulfillment, where “everything else is just an accompanying phenomenon.”⁹⁷⁶

Geological heroism was the official version of the north, appearing not just in fiction but in biographies and memoirs.⁹⁷⁷ It was also a redemptive vision of late socialism, one where mechanized, modern adventure in the timeless wilderness proved individual competence and state

⁹⁷¹ Dikov, *Istoriia Chukotki*, 336-339; A.A. Siderov, “Zoloto Chukotkii,” (1999), unpublished manuscript in this author's possession.

⁹⁷² GChAO, F. R-130, Op. 1, D.54, L. 18. This file contains multiple detailed accident reports and measures to decrease mining injuries and fatalities.

⁹⁷³ Yuri Rytkeu, *Sovremennye legendy* (Leningrad: Sovetskii pisatel', 1980), 213. See also Semushkin, *Chukotka* (Moscow: Gosudarstvennoe Izdat, 1950); Rytkeu, *A Dream in Polar Fog* trans. I. Yazhbin (New York: Archipelago Books, 2005). For a discussion of Rytkeu and other indigenous authors, see Yuri Slezkine, *Arctic Mirrors: Russia and the Small Peoples of the North* (Ithaca: Cornell University Press, 1994) 352-370.

⁹⁷⁴ For a discussion of the use of non-urban spaces, see Katerina Clark, *The Soviet Novel: History as Ritual* (Bloomington: University of Indiana Press, 1981), 228-231.

⁹⁷⁵ Oleg Kuvaev, *Territoriia* (Moscow: Izdatel'stvo AST [1974] 2016), 57. The novel went through multiple printings and also became a film.

⁹⁷⁶ Oleg Kuvaev, *The Territory: a Novel* (Moscow: Progress, 1982), 8. This quote is from the official English translation of *Territoriia*, which was published in Russian both in magazine and book form in the 1970s. For a discussion of the versions of Kuvaev's novel, see V.V. Ivanov, *Kuvaevskaia romanistika: Romany O. Kuvaeva "Territoriia" i "Pravila begstva": Istoriia sozdaniia, dukhovnoe i khudozhestvennoe svoeobrazie*. (Magadan: Kordis, 2001). Thompson discusses the importance of Kuvaev for his informants; see *Settlers on the Edge*, 68-70.

⁹⁷⁷ See for example G.G. Volkov, *Bilibina: Dokum. Povest' o pervoi Kolymskoi ekspeditsii 1928—1929 gg.* (Magadan: Kn. izd-vo, 1978) and Volkov, *Zolotaia Kolyma: Povest' khudozhenik M. Cherkason* (Magadan. Knizhnoe izd., 1984); E.K. Ustiev, *U istokov zolotoi reki*. (Moscow: Mysl', 1977). Memoirs of geologists working in the far northeast also proliferated; see, for example, G. B. Zhilinskii, *Sledy na zemle*, (Magadan, Magadanskoe kn. izdatel'stvo, 1975) and N.I. Chemodanov, *V dvukh shagakh ot Severnogo poliusa. Zapiski geologa*. (Magadan: Magadanskoe kn. izdatel'stvo 1968).

prowess simultaneously. For the geologist-hero, the needs of the Soviet state and the individual are so inseparable as to pass without comment. There was no Brezhnev-era stagnation in *Territoria*, or for many actual geologists in Chukotka. Politics was erased by hardiness in service to a state that did seem to provide as promised. All the while, real people and fictional stories lived on top of the physical remnants of *samizdat* narratives, the draft pieces of the *Gulag Archipelago* that passed hand to hand through the literary and political underground.

On the physical underground, geologists and other Soviet labor transformed the earth. Tin and gold mining on a modern, industrial scale increased damages waged in earlier, hand-dug eras. As in Alaska, washing tons of Beringian earth away from gold often required using cyanide or mercury, which pooled and trickled into streams and rivers. Rending the deep ground and exposing it to air and water released sulfuric acid. The surface of the disturbed earth went toxic, and the toxins went mobile: leaching into water, drunk up by animals or absorbed through porous skin. Heavy metals dragged birds lifeless from the sky. On the ground, they cleaved to the fat of fish and reindeer, then to the stomachs of people.⁹⁷⁸ The underground so many bent their bodies to expose had become flesh. And in Chukotka, flesh was supplanted by other forms of energy, beyond coal and petrol. In 1973, a nuclear power plant went online in Bilibino, a mining town not far from the old Pevek camps. The flow of energy out of Beringia, begun with whales and continuing through walrus blubber and reindeer meat reversed, finally and potently. State power created electrical power, a great store of manmade energy that processes earth into the present day. In Bilibino, the reactor makes radioactive waste that will take a geological epoch to decay. After a century of unmaking geology, humans are making their own.

THE VALUED EARTH

In the pursuit of metal, valued for currency or for practicality, both the United States and Russia's peoples and governments reformed their subterranean north. It was a challenge different from other Beringian projects, those of the sea, the shore, and the tundra surface. Metals were inert. Geology changes in time scales too long to interfere much with human plans. A mine is not ruled by short tempo of biological change – the time necessary for a whale to adapt to her hunter, or a reindeer to feel the agonies of a warm winter. The arctic landscape that hid valued elements was difficult but

⁹⁷⁸ Soviet records of environmental impacts in Chukotka are not forthcoming, but gold and tin mining have predictable impact on the land and water nearby. In addition to the hydrological impacts discussed previously, see the following for discussion of pollutants from mining: Lorne E. Doig, Stephanie T. Schiffer, and Tarsten Liber, "Reconstructing the Ecological Impacts of Eight Decades of Mining, Metallurgical, and Municipal Activities on a Small Boreal Lake in Northern Canada," *Integrated Environmental Assessment and Management* Vol. 11 No. 3 (July 2015):490-501; D.R. Neuman, P.J. Brown, S.R. Jennings, *Metals Associated with Acid Rock Drainage and Their Effect on Fish Health and Ecosystems, in Acid Mine Drainage, Rock Drainage, and Acid Sulfate Soils: Causes, Assessment, Prediction, Prevention, and Remediation* (Hoboken NJ: John Wiley & Sons, 2014) and K. Kidd, M. Clayden, and T. Jardine, *Bioaccumulation and Biomagnification of Mercury through Food Webs, in Environmental Chemistry and Toxicology of Mercury* (Hoboken NJ: John Wiley & Sons, 2011); R. Eisler "Arsenic Hazards to Humans, Plants, and Animals from Gold Mining," *Review of Environmental Contamination and Toxicology* Vol. 180 (2004): 133-165; D.B. Donato, O. Nichols, H. Possingham, M. Moore, P.F. Ricci, and B.N. Noller, "A Critical Review of the Effects of Gold Cyanide-Bearing Tailing Solutions on Wildlife," *Environment International* Vol. 33 No. 7 (October 2007):974-984; and R. Eisler, "Mercury Hazards from Gold Mining to Humans, Plants, and Animals," *Review of Environmental Contamination and Toxicology* Vol. 181 (2004): 139-198.

singular: there are only so many ways to take apart a hillside or scrape up a riverbed. As a result, miners had much to learn when they came north. But generally they only had to learn it once, in principle, and then learn how to apply more energy, more mechanized force, to the separation of element from surrounding strata. Capitalists and capitalists had far more power to do with the earth as they pleased. The results left similar marks on mountains, hills, rivers, and streams.

The geography of energy also made mining distinct from other sources of Beringian value: gold and tin contained no calories, but required power in massive quantity. The process of shuttling energy to the north first employed human bodies, then various derivatives of steam or fossils, and finally, in Chukotka, the force of fused atoms. Energy was not the source of value but its cost. It was a rare space where industrial tools made human plans real in the Beringian arctic. And perhaps because there was so little impediment to human plans, the management of that energy saw the plans of the United States and the Soviet Union at their most radical divergence. The American gold rush brought desperate people north on the hope of capitalist redemption through property. The Soviet gold rush made people desperate by bringing them north to make property for the state. Capitalist mining was supposed to make individuals rich, freeing them from the wage slavery of corporate employment. It mostly made employees. For a brief moment in twentieth century, it made those employees consider their collective future as labor over the worth of individual property. Communist mining was often the inverse, and not just because it made actual wage slaves of people on the road to theoretical socialist salvation. While undertaken in the name of collective equality, it was in practice and image often a far more personal endeavor. The Gulag was meant to save the individual; the geologist-hero enacted or lived individual triumphs over nature. Both did so for a motherland far distant from the realities of the tundra. If Alaska's goldfields failed to redeem capitalism by denying individual property to the majority of laborers, then Chukotka's tin fields had an ambiguous relationship with the commune by equating labor in the name of the collective with personal, captive salvation or personal, liberated adventure.

The divergence left a trace in how mining's past – that rare place of possible technological prowess – is remembered and valued. Mentioning a visit to Magadan or the Kolyma does not solicit simple images of the romantic north with contemporary Russians. The story of arctic gold is ambiguous, half one of national industrial feats and triumphant geologists, half of brutal unfree labor done in the name of the very state that denied its prisoners food and shelter. It remains a mostly buried but uncomfortable testament to the ends to which powerful ideas drive nations. The ambiguities are not just a thing of the past. In 1991, the Soviet Union crumbled around its golden underground. The mines lived on. Chukotka is now Russia's second-largest gold producing region. Most of the deposits are partly owned and managed by international companies. Chukotka's mining, as one geologist titled his autobiography, is a trajectory “from Soviet Dal'stroi to criminal capitalism.”⁹⁷⁹ It is a sober look at a twentieth century that saw unspeakably rapid transformation, in both human and geological terms, done in the name of a future that never came.

In Alaska, a mention of Nome, or the Klondike with which it is often conflated, and people recall a past that never existed. What enables this difference is partly geological, as the Nome fields payed out less by the end of the twentieth century. A few large mines remain on the Seward

⁹⁷⁹ A.A. Siderov, *Ot Dal'stroia SSSR do kriminal'nogo kapitalizma* (Magadan: DVO RAN, 2006).

Peninsula, but gold has been supplanted by oil as a source of national wealth and debates about its value to people and costs to the land. Left behind, the U.S. gold rush is entwined in a self-image of successful capitalism, its excesses forgotten. Alaska's gold is not so much a tangible resource as a container for ideas of wilderness resourcefulness. Prospecting is a thing done on a muscular, nation-defining, useful last frontier, where men are men and money comes out of the ground. That Jafet Lindeberg initiated the industrial development that still scars the creeks and hillsides of the Seward Peninsula is lost beneath narratives of prospecting as freedom from all that industry produced. It is a myth readily available on television. The Discovery Channel reality programs "Bering Sea Gold" and "Gold Rush" offer highly edited glimpses of modern Lindebergs at work: toiling over their equipment, fighting over property, sometimes emerging with nuggets the size of a finger. Amid all physical signs to the contrary, Alaskan mining has become in symbol a capitalist dreamscape, an image of riches torn from a land too vast and too cold to ever be truly changed.

CHAPTER FIVE: THE OCEAN

1920-1990

COMPOSING A WORLD

Along the eastern coast of the Pacific, the sea floor is marked in places with shallow oval depressions, arrayed in half circles like the absent petals of a massive flower. The creatures that lived here – the worms and mollusks stuck in the mud, the miniscule crustaceans with their fronds of antennae, the open-palmed anemones, the schools of fish and pulpy squids that floated above – were scooped up into the balloon mouth of a passing gray whale, *Eschrichtius robustus*.⁹⁸⁰ These indentations track up the coast in the wake the animal's migration, from winters in Baja to summers north of the Bering Strait. The body of a gray whale is composed during an annual passage that runs over seven thousand miles.

The bodies made on this voyage are slow-moving, stocky, at most fifty feet in length and forty tons in weight, each triangular head mottled with barnacles; each pleated throat stopped with yellowed baleen; each tail humped with a ridge of knuckles instead of a dorsal fin. Their transit loops over and under that of other cetacean species. In the arctic summers, grays swim in the same waters as bowheads and right whales. Along the Pacific coast, they keep close to the shore, sharing coves and bays with minke whales. Rarely, as they move south, grays might see a fin or sei whale, animals that prefer the yawning depths to inland shallows. As they travel, gray calves are in danger from flashing black and white pods of orcas. In the wider North Pacific, the quiet grays swim through the reverberating song of humpbacks. When they enter lower latitudes, blue whales flap a lazy flipper off in the deep. They swim through the territories of sperm whales, the females caring for each other's young and teaching them the syntax of their clan. Whales have their habitual routes, their discrete populations; they do not socialize across species. But the overlapping arcs of whale migration link the ecosystems of the Beaufort and Chukchi Seas with the Bering Sea, the Bering Sea with the North Pacific basin, and on outward into the ocean as a whole.

Among these whales, the grays have the longest migration and the greatest attachment to the coastline. But they are not alone in their bond with the North Pacific. The waters between the Aleutian Islands and the Arctic Ocean are filled with cetaceans. They come to eat. Fin whales fast through winters, then gorge on krill and squid in northern summers. Humpbacks teach their babies to blow nets of bubbles and gulp the small fish trapped in the rising silver curtain. Minkes school in groups of up to four hundred to feast on anchovies and crustaceans, attended by million-strong flocks of feeding sea birds. Male sperm whales spend their lives in the north, growing huge and leaving only to breed. Blue whales bulk enough blubber from sub-arctic waters to become the largest

⁹⁸⁰ For gray whale feeding behaviors see Mary Nerini, "A Review of Gray Whale Feeding Ecology," in Mary Lou Jones, Steven L. Swartz, and Stephen Leatherwood eds. *The Gray Whale: Eschrichtius robustus* (Orlando, FL: Academic Press, 1984), 423-450. For a general overview of the species and their migratory patterns, see Mary Lou Jones and Steven L. Swartz, "Gray Whale: *Eschrichtius robustus*" in William F. Perrin, Bernd Wursig and J.G.M. Theewissen eds., *Encyclopedia of Marine Mammals* (London: Academic, 2009), 503-511.

animals in the earth's history.⁹⁸¹ Whales are a culmination: of sunlight and ancient nutrients, transformed by photosynthesis into algae, algae into teeming banks of wispy swimming things and rooted muddy things, their bodies borne upward in degrees of biological complexity through acts of consumption.⁹⁸²

The world whales consume is not stable. Biological productivity is the admixture of solar energy, fertile sediments, and the organisms capable of joining the two through the act of living. Life makes physics into biology, fixing carbon into a stock of energy. Nothing in this reaction is stable from day to day, or year to year, or across decades, centuries, and millennia. In warm years, there is more algae and more small things ready to eat them; the floating biome expands with fish and birds and their caloric decedents. The growing and shrinking ice pack determines the churn of ocean water, which influences the movement of sediments, sediments that are also blown and buffeted by wind, wind that is directed by global shifts in atmospheric pressure. Even the moon has its role, by calling the tides.⁹⁸³ These grand shifts ebb and pulse, as do waves or El Nino events. Or they shock and fade, like the shadowing plume of a volcanic eruption. Because they are large, omnivorous, and migratory, cetaceans adapt to these changes, their behavior smoothing the discordant edges.⁹⁸⁴ And they are their own force. Gray whales alone re-suspend more nutrient-dense silt with their eating than does the Yukon River with its thousand miles. Without whales, energy moves differently and less plentifully through marine species and space.⁹⁸⁵ The work of composing cetacean bodies changes the composition of the sea. It makes the ocean more alive.

⁹⁸¹ For fin whale behavior and feeding, see T.A. Jefferson, M.A. Webber, and R.L. Pitman eds., *Marine Mammals of the World, A Comprehensive Guide to their Identification* (Amsterdam: Elsevier, 2008), 47-50, and pages 59-65 for minke whales. For blue whale behaviors and feeding, see P.K. Yochem and S. Leatherwood. "Blue Whale *Balaenoptera musculus* (Linnaeus, 1758)" in S.H. Ridgway and R. Harrison eds., *Handbook of Marine Mammals, Vol. 3: The Sirenians and Baleen Whales* (Academic Press, London, 1985), 193-240. For humpbacks, including a discussion of the cultural nature of feeding adaptations, see Hal Whitehead and Luke Rendell, *The Cultural Lives of Whales and Dolphins*, (Chicago: University of Chicago Press, 2015), 92-95. Unlike the gray whale, which is now extinct in the Atlantic and has no Antarctic population, many of these whale species are found throughout the world's oceans.

⁹⁸² For an overview of the Bering Sea ecosystem, see Committee on the Bering Sea Ecosystem, National Research Council, *The Bering Sea Ecosystem* (Washington D.C.: National Academy Press, 1996), 28-60. The Bering Sea as a whole is rated as having moderately high productivity, but contains "hot spots" which are especially rich in biological life.

⁹⁸³ To say that this is a simplification of extremely complex dynamics, dynamics that are only partly understood, would be an understatement. The basics are drawn from *Bering Sea Ecosystem* 28-60; and Phyllis J. Stabeno, George L. Hunt, Jr., Jeffrey M. Napp, and James D. Schumacher, "Physical Forcing of Ecosystem Dynamics on the Bering Sea Shelf," in Allan R. Robinson and Kenneth Brink eds., *The Sea: Volume 14B: The Global Coastal Ocean* (Cambridge: Harvard University Press, 2006), 1177-1212. Discussions of benthic versus pelagic productivity and what this means for biological composition are from Bodil A. Bluhm and Rolf Gradinger, "Regional Variability in Food Availability for Arctic Marine Mammals," *Ecological Applications* Vol. 18. Issue sp2 (March 2008):S77-S96; J.J. Walsh and C.P. McRoy, "Ecosystem Analysis in the Southeastern Bering Sea," *Continental Shelf Research* Vol. 5 (1986): 259-288; N.C. Stenseth, A. Mysterud, G. Ottersen, J.W. Hurrell, K.-S. Chan, and M. Lima, "Ecological Effects of Climate Fluctuations," *Science* Vol. 297 (2002): 1292-1296.

⁹⁸⁴ For a discussion of how whales increase the stability of ecosystem function, see Spencer Apollonio, *Hierarchical Perspectives on Marine Complexes: Searching for Systems in the Gulf of Maine* (New York, Columbia University Press, 2002), especially 160-185.

⁹⁸⁵ For Yukon River / gray whale comparison see K.R. Johnson and C.H. Nelson, "Side-scan Sonar Assessment of Gray Whale Feeding in the Bering Sea," *Science* Vol. 225 (1984):1150-1152. For the work of whales in marine environments and increased biological productivity, see Joe Roman, James A Estes, Lyne Morissette, Craig Smith, Daniel Costa, James McCarthy, JB Nation, Stephen Nicol, Andrew Pershing, and Victor Smetacek "Whales as Marine Ecosystem Engineers," *Frontiers in Ecology and the Environment* Vol 12 No. 7 (September 2014): 377-385; P. Kareiva, C. Yuan-Farrell, and C. O'Connor, "Whales are Big and it Matters," in J.A. Estes, D.P. DeMaster and D.F. Doak et al. eds. *Whales*,

PEOPLE CAN ALSO alter the composition of the ocean, in fishing it or running farm sediments into it or leaving it alone. Another way is by hunting whales. Aboriginal whalers altered the density of gray whale herds for centuries. In the nineteenth century, capitalist whalers reshaped the Bering Sea by killing cetaceans, mostly bowheads but also right whales and grays whales, to satiate market demands. In the twentieth century, communist whalers reshaped the Bering Sea by killing whales, of most every species, to satiate a vision of the future without markets at all.

The chapter that follows is about this twentieth century hunt. It begins, as the Soviets did, with gray whales off Chukotka. Hunting bowhead with old Yankee harpoons was an answer to the problem of regional starvation on the far *krain* [edge] of the new socialist state. But the regional solution became a national preoccupation, so the narrative expands as the Soviets did, into the wider North Pacific where industrial factory fleets killed off humpback whales, killer whales, right whales, sperm whales, fin whales, sei whales, blue whales, bowhead whales, and any other species that swam within range. The question is why whale: after the 1940s, there was little food need and even less demand from any Soviet industry. The answer is found in the comradeship and productive splendor of factory ships, where whales temporarily made the ideal Soviet harvest. On factory ships feats of labor and engineering could seemingly outmaneuver biology. It was the communist variant of the capitalist hunt. In the nineteenth century, Yankees used whales to make short-term salaries and with the hope of long-term alternatives to cetacean energy. In the twentieth century, socialists used up whales to prove the viability of long-term socialist promise in short term results.

While the Soviet Union made living socialists with dead whales, the United States began seeing only live whales as valuable. Along the Pacific coast and in international conference rooms, cetaceans transformed over the course of the twentieth century from utilitarian commodity to a symbol of pure nature, and pure nature became the potential moral measure of humanity. Whales were a moral reflecting pool, their living bodies a way of proving national enlightenment. Environmental groups requested a full ban on whaling. Indigenous whalers asserted their hunting rights over those of animals. Thus by the end of the 1970s, the North Pacific was nearly emptied of whales. But it was filled with conflicting ideas about how the remaining whales should be valued: as a contributor to the socialist endeavor, or as a guide to a romantic environmentalist reformation, or as the basis of native villages and tradition. The latter form of value begins long before capitalist whalers, environmental protesters, or communist harpooners tried their visions of cetacean worth and outlasted at least some of them; so the chapter begins with indigenous whaling practice and ends with indigenous whaling politics. In-between, it shows how the logic of twentieth-century communism proved no better able to discipline its obsession with marine energy than nineteenth century capitalism. As with all the chapters before, the pages that follow show how universal enlightenment – through markets or Marx or ideas of natural harmony – are always challenged in a world never quite of human making.

Whaling and Ocean Ecosystems (Berkeley, CA: University of California Press, 2006), 379-387; and D.A. Croll, R. Kudela, and B.R. Tershy, "Ecosystem impacts of the decline of large whales in the North Pacific" in *Whales, Whaling* 202-214.

THIEVES AT SEA, 1900-1920S

Whales, at least some kinds, appear in their behavior to value each other: as comrades in the hunt, as protectors in the open seas, as singers.⁹⁸⁶ Different species bring different value to the oceans they cultivate with their habitation. And they are valued by humans. In the Bering Strait, people's esteem of cetaceans leaves an ancient trace in homes made from the bones of whales that died in a previous millennium. In Alaska and in Chukotka, most subterranean dwellings were beamed by bowhead jaws and ribs. Cetacean value in the arctic was, and is, not even across species. Yupik, Inupiat, and Chukchi hunters rarely came close to humpback, fin, and sei whales. Sperm and blue whales prefer deep waters. Gray whales were an occasional prize, killed in summertime moments of opportunity. For most communities, it was bowheads that anchored economic and cultural life. The preference likely had migratory and caloric origins. Grays visit Alaska less predictably than bowheads. In Chukotka, where they come with more consistency, their smaller bodies are gone in a matter of weeks, unlike bowheads that last as one Yupik hunter described, "for the whole winter until summer."⁹⁸⁷ Gray whales are also fierce.⁹⁸⁸ So the docile, fat, predictable bowheads died. Over time, the flavor of their blubber was valued, in most communities, over the flesh of the gray whale, and bowhead hunts took on greater transcendent significance.⁹⁸⁹

There were exceptions. On Chukotka's Mechigmen Bay, the skulls, ribs, mandibles, and vertebra of gray whales bore up ancient ceilings and filled long-dead human bellies.⁹⁹⁰ The same was true south along the coast, on Arakamchechen Island, and north in the village of Uelen. In these places, along the inlets and under the cliffs where grays came to feed, hunters separated nursing calves from their mothers. Ran'awa, a Chukchi hunter from Mechigmen Bay, explained how the whales "come when the ice melts, and almost at once we start to hunt...we approach them in absolute silence, [the calf] usually close to its mother. We come from the left side, in order to harpoon with the right hand... we throw the harpoon anywhere," because the calf "is small he cannot escape the *pykeb-pykeb* [the harpoon cord] into the water."⁹⁹¹

⁹⁸⁶ Hal Whitehead and Luke Randall discuss various aspects of cetacean culture, from sharing food and xenophobic reactions to their songs in a way that makes a persuasive case for some whale species having culture – and with it values for particular behaviors, types of songs, etc. See *The Cultural Lives* esp. chapters 9-11.

⁹⁸⁷ Petr Nutatagin, in Igor Krupnik ed. *Pust' govoriat nashi stariki: rasskazy azjatskikh eskimosov-inupik*, (Moscow: Institut Nasledia, 2000), 166.

⁹⁸⁸ For accounts of gray whale ferocity, see Krupnik, *Pust'*, 159, 168, 174-175, and Charles M. Scammon, *The Marine Mammals of the North-Western Coast of North America* (San Francisco: John H. Carmany and Company, 1874), 29. The whales have a similar reputation in Alaska. See Willman M. Marquette and Howard W. Braham, "Gray Whale Distribution and Catch by Alaskan Eskimos: A Replacement for the Bowhead Whale?" *Arctic* Vol. 35 No. 3 (September 1982):386-394, 392.

⁹⁸⁹ Igor Krupnik, "The Bowhead vs. the Gray Whale in Chukotkan Aboriginal Whaling," *Arctic* Vol. 40, No. 1 (March 1987): 16-32.

⁹⁹⁰ Data on ancient whaling is from Igor Krupnik, "Gray Whales and the Aborigines of the Pacific Northwest: The History of Aboriginal Whaling," in Mary Lou Jones, Steven L. Swartz, and Stephen Leatherwood eds. *The Gray Whale: Eschrichtius robustus* (Orlando, FL: Academic Press, 1984), 107-109.

⁹⁹¹ Ran'awa, in Krupnik ed. *Pust'*, 175. See also, GAPK F. 633, Op. 4, D. 85, L. 38-39; Scammon, *The Marine Mammals*, 30-32 and N.O. Kallinikov, *Nash krajnyi severo-vostok* (Saint Petersburg: Tipografiia Morskogo Ministerstva, 1912), 138-139. The villages that historically hunted gray whales in Chukotka were ethnically Chukchi, rather than Yupik.

It was a tradition that survived even when few gray whales remained. Then it spread, out of necessity. In the 1840s, commercial whalers discovered grays in Baja lagoons and inlets north along the California coast. They feared the animals, and called them “devil fish” and “hard heads” for their tempers, but slaughtered them anyway.⁹⁹² So did whalers in the arctic. Gray whales became part of the great caloric exodus from the northern ocean. By 1910s, market hunting had liquidated roughly three quarters of Beringia’s walrus, two-thirds of the bowhead population, and turned between quarter and a third of the gray whales into oil.⁹⁹³ The industry had also killed itself out of business. Most Arctic whalers retired in the early twentieth century, the cost of hunting a rare live whale greater than the value of a dead one. What ships remained made their profits from trading furs, not killing whales.⁹⁹⁴

But cetaceans breed slowly, leaving a long echoing absence in the seas. For coastal peoples, the absence of marine mammals in general began to make any whale in particular valuable.⁹⁹⁵ In many communities, whales were the physical manifestation of plenty, a caloric necessity in local economies. In the early decades of the twentieth century, despite their dislike of the meat’s taste, the villages of Avan, Naukan, and Ungazik began killing grays, lest famine come to “carry off the surplus” population.⁹⁹⁶

IT WAS THIS world – a world where the surplus, human and otherwise, had been carried off by commerce – which the communist revolution inherited in 1923. It is also where the Soviets began to whale. The Bolsheviks came to exile the past, with its drudgery, its backwardness, and its

⁹⁹² Scammon, *The Marine Mammals*, 24. Scammon also describes boats charged frequently by “enraged” mother whales; 29. This observation is shared by Ran’awa, in Krupnik ed. *Pust’*, 174-175.

⁹⁹³ For the kill of California grays, see Serge Dedina, *Saving the Gray Whale: People, Politics, and Conservation in Baja California* (Tucson, AZ: University of Arizona Press, 2000), 21. Some of the animals killed in the North Pacific also came from the so-called Korean stock of gray whales, especially those harvested in the Sea of Okhotsk. For an overview of the California and Korean hunt’s locations, terminology, and duration, see David A. Henderson, “Nineteenth Century Gray Whaling: Grounds, Catches and Kills, Practices and Depletion of Whale Population,” in Mary Lou Jones, Steven L. Swartz, and Stephen Leatherwood eds. *The Gray Whale: Eschrichtius robustus* (Orlando, FL: Academic Press, 1984), 159-186. For bowhead and walrus kills, see John Bockstoce, *Whales, Ice, and Men: The History of Whaling in the Western Arctic* (Seattle: University of Washington Press, 1986), 346-347.

⁹⁹⁴ The market for baleen also collapsed in 1908, with the invention of spring-steel and changes in fashion. See Bockstoce, *Whales, Ice, and Men*, 336-337. Bockstoce reports that the last bowhead was killed commercially in 1921. Soviet official reported two bowheads killed by the Northern Pacific Sea Products Company in 1923, although the source of his information is unclear; GAPK F.633, Op. 4, D. 84, L. 35. The gray whale fishery was also far past its boom years, although a few were still caught in California and along the U.S. side of the Northern Pacific; see Henderson, “Nineteenth Century Gray Whaling,” 176.

⁹⁹⁵ The timing and geography of the gray migration along the Alaska coast made them a rare substitute for bowheads in North America, grays did come to Chukotka. These estimates are highly approximate, as gray whale hunting tallies by Inupiat and Yupik hunters are difficult to compile. Gray whales were not part of the oral record like bowheads, and written records of whale catches in the period are rare. After 1925, only a few gray whales per year were landed in Alaska. See Marquette and Braham, “Gray Whale Distribution and Catch by Alaskan Eskimos?” 388-392.

⁹⁹⁶ Waldemar Bogoras, *The Chukchee*. Memoirs of the American Museum of Natural History, vol. 11 (New York, NY: The American Museum of Natural History, 1904), 733. For more on the change to gray whale hunting, see Krupnik, “The Bowhead vs. the Gray Whale,” 23-25. The dislike of gray whale meat was especially acute at Sereniki, according to later oral history accounts. See Lyudmila Bogoslovskaya, “The Bowhead Whale off Chukotka: Integration of Scientific and Traditional Knowledge,” in Allen P. McCartney ed. *Indigenous Ways to the Present: Native Whaling in the Western Arctic* (Edmonton: Canadian Circumpolar Institute Press, 2003), 209-254, 246-247.

misery. They came to substantiate their vision of the future, “by uniting and involving the masses in socialist construction, aiming for the realization of socialism through the dictatorship of the proletariat.”⁹⁹⁷ And they came expecting to find primitive communists subjected the villainies of the present, to capitalism that “ruthlessly fleeces and exploits.”⁹⁹⁸ In Chukotka the ruthlessness appeared extreme. There was exploitation, and then there was starvation so routine that, as N. Galkin observed in 1925, “you do not hear a single word of complaint...if it happens, [the natives] just keep silent and die.”⁹⁹⁹ G. Rudykh was eager to “help people escape their poverty and lack of culture.” What he found were men and women eating their walrus-hide tents. The revolution was secondary to “allocating food to the starving population.”¹⁰⁰⁰ Socialist organizers formed a “worker’s front for the salvation of the region from famine and economic ruin.”¹⁰⁰¹ Nearly every telegram sent south contained a plea for calories.¹⁰⁰²

While this suffering was terrible, it was also ideologically explicable. The weather might be bad, supplies of ammunition might be low, but the real culprit was the “industrial-capitalist slaughter of whales” and other coastal creatures.¹⁰⁰³ And the slaughter had ensnared the Chukchi and Yupik. “The Americans, having destroyed the creatures along their coasts,” one Committee of the North report stated, now visited Asia “with inflated prices on highly desirable products, thereby forcing the natives to intensify and increase the number of animals killed.”¹⁰⁰⁴ The escalation required new means of production – boats, harpoons, rifles, ammunition – which the Americans sold on credit, leaving the robbed in debt to their robbers. Whether or not the robbed saw themselves as such was beside the point. I. Krivitsyn summarized the Soviet view of the indigenous condition as “Forced dependence on the kulak merchants, who were vitally interested in the natives being benighted, cowed, unable to struggle, and economically without power.”¹⁰⁰⁵

The Soviet solution was to unite the benighted into collectives, wrest the technologies of whaling from capitalist creditors, drive out American predators, and kill whales for the *kolkhozy*. In the 1920s, the cetacean role in the Bolshevik script was as the base for an otherwise nearly baseless local economy. “To talk about the place of marine animals in the lives of the settled natives is to speak of the earth and its role in the lives of a Russian peasant,” one Committee of the North report read. “It is all to them.”¹⁰⁰⁶ The Yupik and Chukchi, while having a more generous interpretation of

⁹⁹⁷ B. I. Mukhachev, *Bor’ba za vlast’ sovetov na Chukotke 1919-1923 gg.: sbornik dokumentov i materialov* (Magadanskoe Knizhnoe izdatel’stvo, 1967), 105.

⁹⁹⁸ Mukhachev, *Bor’ba za vlast’*, 104.

⁹⁹⁹ N. Galkin, *V zemle polunochnogo solntsa* (Leningrad: Molodaia gvardiia, 1931), 190.

¹⁰⁰⁰ Mukhachev, *Bor’ba za vlast’*, 132.

¹⁰⁰¹ N.A. Zhikharev, *V bor’be za sovery na Chukotke: Ocherki istorii bor’by za ustanovlenie Sovetskoi vlasti na Chukotke* (Magadan: Magadanskoe Knizhnoe izdatel’stvo, 1958), 92.

¹⁰⁰² See for example GARF F. 3997, Op. 1, D. 811, L. 68b; RGIA DV. F R-2413, Op. 4, D. 1798, L. 12; RGIA DV F. R-2413, Op. 4, D. 39, L. 169.

¹⁰⁰³ RGIA DV F. R-2413, Op. 4, D. 39, L. 165. Whale catches were down in the 1920s, but the proximate cause was probably a lack of ammunition and equipment due to the Soviet displacement of American traders and bad weather conditions; see Krupnik, “The Bowhead vs. the Gray Whale,” 23-24. There were generally far fewer whales due to the sustained commercial overharvesting of the nineteenth century which had essentially ceased in the North Pacific in the 1910s.

¹⁰⁰⁴ GARF F. 3997, Op. 1, D. 811, L. 126.

¹⁰⁰⁵ RGIA DV F. R-2333, Op. 1, D. 128, L.372. See also RGIA DV F. R-623, Op. 1, D. 36, L. 1

¹⁰⁰⁶ GARF F. 3997, Op. 1, D. 811, L. 126-126b.

arctic production, also wanted to eat whale. And they wanted to hunt with manufactured tools and motorized boats. By the late 1920s, Soviets could provide some of these things at least some of the time in some places.¹⁰⁰⁷ The Yupik convert Mallu recalled assessing the plight of “children without fathers,” after “a winter when we had hunger, because the sea animals did not come.” His solution: “I decided to organize a *kolkhoz*.”¹⁰⁰⁸

The *kolkhozy* had a certain sense for coastal peoples. Certainly the communist missionaries were preoccupied with the use of soap, the disuse of alcohol, and a whole set of rituals having to do with flags, Lenin, and production plans.¹⁰⁰⁹ Some native converts like Mallu pressed the glories of socialism through “a great deal of explanatory work among the population.”¹⁰¹⁰ But the state’s ideal communal economic form allowed that population to carry on more or less as before. Whalers organized the same hunting parties to kill the same number of whales for the same reasons. When Soviets went looking for class enemies in the late 1920s, they found ostensible communists, apparently becoming less primitive by the day. The success, and the pace of change, was not exactly dizzying. Troubling signals of backwardness beyond the specter of hunger lingered; Bolshevik teachers lamented the continued potency of “the tradition of [native] unwritten laws.”¹⁰¹¹ But coastal Chukchi and Yupik recorded and distributed their whale kills with the *kolkhoz* and learned to read and went to Soviet meetings to discuss new harpoons or annual hunting plans and listened to speeches about how “working in socialist organizations... is the only way to build our new life.”¹⁰¹²

These socialist organizations still had class enemies without. Soviets working in Chukotka saw whales as a critical answer to the local problem of calories: after all, there could be no life, new or otherwise, without food. But whales did not choose to die more readily for a communist harpoon than a capitalist one. The Soviets kept careful track of American vessels working in the North Pacific. There were only a few in the 1920s, mostly killing fin and humpback whales well south of Chukotka. But the North Pacific Sea Products Company killed a few bowheads in the Bering Sea.¹⁰¹³ These reports escalated in scale and rhetoric as they moved west to Moscow. The Committee of the North estimated that fifty whales were robbed from Soviet waters annually.¹⁰¹⁴

One way to deal with such theft was to make the Soviet Union a beneficiary of the spoils. Imperial Russia left no whaling industry to collectivize for the revolution, and the revolution lacked

¹⁰⁰⁷ RGIA DV F. R-4559, Op. 1, D. 1, L. 43. For more on the formation of collectives, see Igor Krupnik and Michael Chlenov, *Yupik Transitions: Change and Survival at Bering Strait, 1900-1960* (Fairbanks: University of Alaska Press, 2013), 237-238. The Soviets struggled to supply Chukotkan villages throughout the 1920s and 1930s – a topic of much complaint at local party meetings – but by the late 1920s were essentially the only option, the Americans having abandoned trading on the Russian coast. RGIA DV F. R-2413, Op. 4, D. 974, L. 114-115b.

¹⁰⁰⁸ ChOKM, Matlu, *Avtobiografiia (Rasskaz Matlu)*, Coll. N. 5357, L. 1.

¹⁰⁰⁹ The flags and Lenin, and later Stalin, appear constantly in walrus-tusk carvings that present the history of Yupik/Chukchi contact with the Soviets.

¹⁰¹⁰ ChOKM, Matlu, *Avtobiografiia (Rasskaz Matlu)*, Coll. N. 5357, L. 1.

¹⁰¹¹ ChOKM, Tikhon Semushkin Collection, “Predvaritel’nye materialy po administrativno-upravlencheskoi strukture na Chukotke, sovremennomu sovetскому stroitel’stvu i perspektivam,” 18. Collectivization among the coastal peoples in Chukotka was remarkably different than the general Soviet experience, from peasants in Ukraine to the reindeer herders on the nearby tundra. The already existing collective, and sedentary, nature of coastal life seems to have prevented the outright violence that was the norm elsewhere.

¹⁰¹² RGIA DV F. R-2413, Op. 4, D. 974, L. 115b.

¹⁰¹³ GAPK F. 633, Op. 4, D. 85, L. 35-37.

¹⁰¹⁴ GARF F. 3977, Op. 1, D. 423, L. 79.

ships that could whale. So, in a NEP-era act of commission, the Soviet Union granted the Norwegian whaling company Vega the rights to hunt with the *Comandoren-1* off Kamchatka and Chukotka in 1923. The Norwegians had to employ some Soviets, obey rules regarding maximally efficient disposition of whale flesh, and pay five percent of their annual profits to Moscow.¹⁰¹⁵

The Vega concession was unpopular among Bolsheviks in Chukotka. First, it was capitalist, thus ideologically suspect. It was economically wasteful, leading to a “decrease in the whales in the coastal areas of the Chukchi Peninsula.”¹⁰¹⁶ Moreover, the ship killed several hundred whales annually, “enough for the natives to feed themselves for ten years,” but never brought unused meat to Yupik villages, a habit of even the most mercenary Americans.¹⁰¹⁷ Meanwhile, Chukotkan collectives only harvested six or eight or ten bowheads each year, and half that many gray whales.¹⁰¹⁸ Local Soviets repeatedly blamed Norwegian-inflicted “industrial-capitalist carnage” for native starvation.¹⁰¹⁹ The regional problem of regional hunger became national when *Pravda* reported, in graphic olfactory detail, the Norwegian’s “completely pointless slaughter” of a hundred whales.¹⁰²⁰ The Vega’s concession was terminated shortly thereafter.

The sense of capitalist encroachment did not end with the *Comandoren-1*’s departure. Capitalist whalers still encircled communist whales. In the long term, the solution was world communism. In the short term, it meant ending the Vega’s predation in communist waters.¹⁰²¹ But in the short term, providing regional caloric security might require transnational negotiation. “We are not far from a time when it will be necessary to put forth the question of protecting sea animals in the interest of safeguarding the local population,” wrote A. Bonch-Osmolovskii, “which may be achieved only by way of an international agreement.”¹⁰²²

¹⁰¹⁵ GAPK F. 633, Op. 5, D. 3, L. 57-61.

¹⁰¹⁶ RGIA DV F. R-2413, Op. 4, D. 39, L. 165. Capitalist whaling was seen as especially primitive because of the 19th century hunt for baleen, rather than calories; GAPK F. 633, Op. 7, D. 19, L. 69b-70.

¹⁰¹⁷ GARF F. 3977, Op. 1, D. 423, L. 79; ¹⁰¹⁷ GAPK F. 633, Op. 5, D. 3, L. 72. Mamonov, the director of fisheries in the Far East, dismissed these reports, noting that killing a hundred whales took too much work to use nothing of the carcass; L. 73.

The *Comandoren-1* was managed by the Norwegian company Vega, and was granted a 15-year concession to whale in the North Pacific. The Vega’s terms included a ban on killing nursing female whales and use of the entire whale carcass; GAPK F. 633, Op. 7, D. 19, L. 20-21; GAPK F. 633, Op. 5, D. 3, L. 39-45.

¹⁰¹⁸ The actual harvests of whales in these years remain incomplete. Krupnik argues that 16-24 whales, with 10-15 bowheads and the rest grays, would have been a good year in the late nineteenth century, meaning that whale harvests were probably lower in the early Soviet period. How much this contributed to hunger is difficult to tell, as walrus stocks were also low and the Soviet takeover disrupted trade. See Krupnik, “The Bowhead vs. the Gray Whale,” 23-25.

¹⁰¹⁹ RGIA DV F. R-2413, Op. 4, D. 39, L. 165; GAPK F. 633, Op. 7, D. 19, L. 54.

¹⁰²⁰ GAPK F. 633, Op. 5, D. 3, L. 72. Mamonov, the director of fisheries in the Far East, dismissed these reports, noting that killing a hundred whales took too much work to use nothing of the carcass; L. 73. See also GAPK F. 633, Op. 7, D. 19, L. 71-72. The Vega did employ some Yupik whalers, who worked in exchange for ammunition and apparently started a rumor embarrassing to the Soviets that all native firearms had been confiscated.

¹⁰²¹ The Vega’s concession ended in 1927; it was initially granted for 15 years. GAPK F. 633, Op. 7, D. 19, L. 71.

¹⁰²² GARF F. 3977, Op. 1, D. 11, L. 19.

TECHNOLOGIES OF EXCESS, 1920S-1930S

The Soviets were not alone in thinking that whales required coordinated protection.¹⁰²³ While Chukotka's Bolsheviks tried to make backward people part of the communist future by providing nineteenth-century means of whaling production, twentieth-century capitalists had devised new ways of killing and using cetaceans. Engineers, most of them Norwegian, built ships large enough to haul a whale on deck without sinking and equipped with boilers that rendered fat from muscle, not just blubber. Evaporators supplied nearly limitless fresh water. Compressors pumped whale carcasses with air to keep them from sinking before butchering. Powerful motors propelled catcher boats. Fitted with all manner of winches, pressurizers, hooks, and hoses, modern whaling ships were mobile industrial disassembly lines.¹⁰²⁴ It was technology that exposed any whale – no matter how thin, how huge, how distant, or how quick – to human appetites.

It was human appetite that inspired the factory ships. The means of slaughter were novel, the ends were fundamental. Twentieth century capitalists valued whale flesh because twentieth century chemists had learned to separate the molecules that made it taste like whale from the molecules that made it caloric.¹⁰²⁵ Oil lamps and corset stays were passé, but people still ate fat. And the seas, particularly the Antarctic waters inaccessible to nineteenth century technologies, were alive with blubber. Fleets from the United Kingdom and Norway ate through thousands of whales a year. By the 1930s, forty percent of the margarine Britons and Northern Europeans spread on their toast came from whales.¹⁰²⁶

Such a market made companies like the British conglomerate Unilever very rich. It also threatened to make the oceans very poor. This fact was hardly lost on whalers, scientists, diplomats, or anyone else familiar with the industry's past. Because factory ships killed most of their prey in international waters, preventing what the U.S. State Department called "the indiscriminate slaughter

¹⁰²³ Here and elsewhere in this chapter I am venturing into the growing literature on twentieth century international efforts to coordinate whale hunting and whale conservation, mostly focused on Antarctica. Several recent books treat aspects of this story with a thoroughness beyond the scope of this chapter. For a detailed, if British and U.S.-focused account of the diplomatic history, see Kurkpatrick Dorsey, *Whales and Nations: Environmental Diplomacy on the High Seas* (Seattle: University of Washington Press, 2014). D. Graham Burnett's *The Sounding of the Whale: Science and Cetaceans in the Twentieth Century* (Chicago: Chicago University Press, 2012), describes in vigorous detail the scientific community's (again, mostly British and American) involvement in whaling and whale policy. Frank Zelko talks about environmentalist anti-whaling campaigns in *Make it a Green Peace!: The Rise of Countercultural Environmentalism* (New York: Oxford University Press, 2013). The actions of Russia and Japan remain rather opaque in both books, as the authors did not work in non-English archives. For an account of the Japanese case, see Jun Morikawa, *Whaling in Japan: Power, Politics, and Diplomacy* (New York: Columbia University Press, 2009). Ryan Tucker Jones' work-in-progress should offer a much needed discussion of Russian Antarctic whaling. There is a tendency in these books to celebrate the (mostly) elite (mostly) white men who championed conservation, either as diplomats, scientists, or environmental activists, a perspective that ascribes the *why* of whaling to fairly unexamined market forces (or the black box of communism) and forecloses on human-whale interactions beyond those of factory-ship harvesting or conservation. Indigenous whaling is generally a small part of these stories. Anthropologists like Tom Lowenstein are of course an exception; a corrective from the historians is Joshua Reid's excellent, U.S.-based discussion of contested aboriginal and contemporary animal rights ideas in *The Sea is My Country: The Maritime World of the Makahs* (New Haven: Yale University Press, 2015). All of these books are generally treat industrial whaling as a mistake; for a provocative if unconvincing argument *for* industrial whaling, see Arne Kalland, *Unveiling the Whale: Discourses on Whales and Whaling* (New York: Berghahn Books, 2009).

¹⁰²⁴ For more on the development of this technology, see Dorsey, *Whales and Nations*, chapter one.

¹⁰²⁵ Dorsey, *Whales and Nations*, 21-22.

¹⁰²⁶ Undated letter, Leonard Carmichael to Robert Murphy, SI RU 7165, Box 23, Folder 6.

of the kind that has been practiced in the past” required international coordination.¹⁰²⁷ The reasons to curtail the slaughter varied between countries. The British and Norwegians wanted to protect cetacean economic worth: too many dead whales drove down profits, too few drove away consumers. In the United States, where blubber buttered very little bread, whale value was set for the government and the general public by the Council for the Conservation of Whales.¹⁰²⁸ The Council’s members, mostly scientists from the Bureau of Biological Survey, the Smithsonian, and the American Museum of Natural History, stretched the utilitarian arguments of Progressive-era conservation beyond the fiscal. Whales, “the greatest beasts that ever lived,” carried in their beings medical secrets and evolutionary mysteries. As the Council argued in one of their frequent and coordinated press releases, “it would be a scientific as well as an economic catastrophe if whales should be exterminated.”¹⁰²⁹ Whales were valuable as an object of human knowledge.

Neither the British nor Norwegians, nor the Council for the Conservation of Whales, were making an argument like that emanating from Chukotka, about human beings dying because they had been robbed of blubber. But like Bonch-Osmolovskii, Europeans and Americans saw value in continued cetacean existence, and believed such existence required international action. In 1931, delegates signed the Convention for the Regulation of Whaling in Geneva. The Soviets were not present; the issue of whaling was pressing in Chukotka but not in a Moscow dizzy with the successes and excesses of the First Five Year Plan. The Convention called for further biological research, and said nothing about quotas or limits beyond requiring that whalers maximize their use of each whale, avoid hunting nursing calves and mothers, and eschew killing the species most recently decimated by commercial whaling, the bowheads and right whales.¹⁰³⁰ In language familiar to anyone used to the Bureau of Biological Survey’s game laws, indigenous people were an exception. Or they were so long as they acted as the Convention assumed aboriginals should: employing “exclusively native” tools and selling no part of their catch.¹⁰³¹

By 1931, the actual aboriginal people whaling along Alaska’s coasts only partly met the ideal definition of their lives devised in Geneva. Inupiat and Yupik hunters did not use walrus-tusk harpoons. They did use motors and guns. They only abdicated from the market because the market for baleen or the occasional barrel of whale oil no longer existed along the Bering Strait. The villages

¹⁰²⁷ Robert Philips to Wilbur Carr, September 19 1930, NARA MD RG 59, Department of State Decimal File 1930-1939, File 562.8F1. For a discussion of why whale fat was preferred, economically, over vegetable fats available at the time see Mark Cioc, *The Game of Conservation: International Treaties to Protect the World’s Migratory Animals* (Athens, 2009), 132–133.

¹⁰²⁸ Dorsey makes this point regarding the U.S. ability to take science seriously over profit, adding that the New Zealanders were concerned about the biological future of whales for similar reasons. He also argues, quite convincingly, that the U.S. State Department actually cared very little about whales at this point and was pushed to send a delegate to negotiate at all by the CCW. See *Whales and Nations*, 40-45. This is a highly cursory account of the negotiations and personalities involved in 1930s whaling negotiations. For a truly expansive discussion of the American scientists involved, see Burnett, *The Sounding of the Whale*, chapter three; the diplomatic history is well-treated in Dorsey’s first chapter.

¹⁰²⁹ “The Value of Whales to Science,” SI RU 7170, Box 10, Folder: “Information – Whale Press Releases.” The Council’s affiliations with Progressive-era conservation ideas ran deep, and Gifford Pinochet was a member.

¹⁰³⁰ Mark Cioc argues that the treaty avoided issues like whaling restrictions or closed seasons because the U.K. and Norway were protecting the interests of their industries; *The Game of Conservation*, 128.

¹⁰³¹ “Regulation of Whaling,” NARA MD RG 59, Department of State Decimal File 1930-1939, File 562.8F1/25. Indigenous use exceptions were also part of legislation regarding walrus use and that of other game animals.

that once enthusiastically sold whale's teeth now sold fox's skins.¹⁰³² But whales still fed people. And, as had been true for centuries, cetacean value went beyond calories. In transiting from life to death, whales substantiated the social and spiritual worlds of their Inupiat and Yupik killers. The labor of doing this was how people constituted their lives. The work of hunting and butchering made someone a true human, because work made people responsible to the wider family of beings, human and otherwise. There could be no families without food, no food without whales, and no whales without work done with respect.¹⁰³³ Such labor was hard, continuous, and necessary. It was also celebratory. As Paul Silook wrote in his diary on St. Lawrence Island, along with notes about trading furs, selling ivory, fleshing walrus skins and the coming and going of people, one day the "wind begins to blow hard and we hauled our whaleboats to our boat racks to have worship of whaling, which we always have."¹⁰³⁴ Cetaceans composed a human world both quotidian and transcendent.

ON THE SOVIET side of the Strait, parts of these rituals continued. Oleg Einetegin described the whaling festivals of his childhood "being a full day long, with dancing."¹⁰³⁵ Some were for gray whales, most for bowheads.¹⁰³⁶ But the ceremonies were fading. The first generation of Yupik and coastal Chukchi children taught in Soviet schools joined Russian-speaking communists and men like Mallu in agitating for the civilizer's desires – literacy, punctuality, cleanliness, women's equality – and the missionary's aspiration, participation in local "groups of the Bolshevik party."¹⁰³⁷ The missionaries, native or imported, had the material prestige of the socialist state behind them, and the metaphysical prestige of preaching a new world order. In that order there was no space for whale kills divided by hunting prowess or age; boat captains and elders had to get "their share of the catch in the same quantity as any of the rowers," as one Soviet school teacher described, an act of socialist "leveling out."¹⁰³⁸ So there also no space to celebrate. Festivals, as Andrei Kukilgin put it, "had to be thrown out altogether," simply "because the Soviet Union had been created."¹⁰³⁹ Some, like Kukilgin, found both this reason and the activists that endorsed it idiotic. Others carried on in

¹⁰³² For an overview of the catch numbers and patterns in northwestern Alaska, see W.M. Marquette and J.R. Bockstoce, "Historical Shore Based Catch of Bowhead Whales in the Bering, Chukchi and Beaufort Seas," *Marine Fisheries Review* Vol. 42 No. 9-10 (1980): 5-19.

¹⁰³³ For an excellent description of the work-social relationship, see Carol Zane Jolles, *Faith, Food, and Family in Yupik Whaling Community* (Seattle: University of Washington Press, 2002), 314-316. Although distinct in many ways, the relationship between good work, done with attention and without laziness, was part of Inupiat ritual as well; see Tom Lowenstein, *The Things that Were Said of Them: Shaman Stories and Oral Histories of the Tikigag People* (Berkeley: University of California Press, 1992), 29-33.

¹⁰³⁴ APRCA, Otto W. Geist Collection, Series 5, Box 9, Folder 40: Paul Silook Diary 1935 (?), p. 7. Paul Silook kept dairies for several anthropologists who worked on St. Lawrence Island, a practice he continued after they departed. These dairies give a strong sense of the place whaling had in structuring the annual round on St. Lawrence Island. For a description of his life and anthropological contributions, which were considerable, see Carol Zane Jolles, "Paul Silook's Legacy: The Ethnohistory of Whaling on St. Lawrence Island" in Allen P. McCartney ed. *Hunting the Largest Animals: Native Whaling in the Western Arctic and Subarctic* (Edmonton: Canadian Circumpolar Institute, 1995), 221-252.

¹⁰³⁵ Oleg Einetegin, in Krupnik, *Pust'*, 172. Einetegin notes that by the 1940s, people were no longer observing the full festival, but doing shortened versions.

¹⁰³⁶ Krupnik reports the ceremonial significance of whales in the 1930s in "The Bowhead vs. the Gray Whale," 23-25.

¹⁰³⁷ ChOKM, Matlu, *Antobiografiia (Rasskaz Matlin)*, Coll. N. 5357, L. 2.

¹⁰³⁸ Katerina Sergeeva, "V Urelikskom natssoвете (Bukhta Provideniia)," *Sovetskii sever* Vol. 1 (1935): 95-101, 97.

¹⁰³⁹ Andrei Kukilgin, in Krupnik *Pust'*, 267.

secret.¹⁰⁴⁰ Some young people flourished. For all, Stalin's revolution filtered out to the far Soviet edge to transform the social expression of whaling. The regional understanding of whales as critical to feeding human bodies was now inflected with a national desire to use them as raw material for Soviet construction.

The world that whales composed for the Soviets by the early 1930s was the world of the plan. Plans forecasted production of everything from cows to grain to reindeer and blubber, and production forecasted the arrival of socialism. In 1925, production plans, such as they existed in villages like Uelen and Sireniki, were local in origin and existential in need: the emphasis was on killing enough calories to not die. In 1928, when the First Five Year Plan made prognosticating the numerical construction of communism a national task, there was discussion of how much the sea off Chukotka could reasonably produce. Whale harvests, the Committee of the North concluded, had decreased in size "year by year, the natural result of [the *Comandoren-I's*] excessive slaughter of young and runty animals."¹⁰⁴¹ The Committee recommended better boats, motors, and harpoons for native hunters, but acknowledged that people needed whales, whales had limits, so there were limits to number of whales people could plan on killing. Hundreds per year was unreasonable, but dozens were essential. Chukotka was not so many years distant from hunger.

The first Five Year Plan ended in four years. Socialism was being constructed so quickly it defied expectations, even those set by Gosplan in Moscow. In Chukotka, the era of the Second Five Year Plan saw the threat of regional famine wane. Whale harvests more than doubled, from five or so a year to ten, fifteen, even twenty in 1934.¹⁰⁴² It was the weather that likely improved the hunt, not Stalin. But more whales could be folded into a waxing moment of socialist glory. Across the Soviet Union, this glory was evidenced in feats of construction and increased production. Production was idea made real: the communist promise of a new world built by collective human enterprise. The extant, present fact of production was pushed into the future by the plan. When the plan was met, it measured the fact of socialist progress; when exceeded, it measured the quickening approach of utopia. Workers who produced over plan were heroes; those who could not make their interest, intellect, muscles, and materials meet the plan were wreckers and saboteurs. If everyone pulled together in a communist unit, the twenty whales killed this year would become fifty the next. 2031 dead, skinned, rendered walrus would become 3948. Plans were scientifically precise: in 1932 there were 1900 workers involved with hunting and processing sea mammals, but by 1937 there would be 2156. The number of electrical workers in Chukotka would increase from ten to 159. No one labored on "local building materials" in 1932, but 238 people would in five years.¹⁰⁴³ The

¹⁰⁴⁰ Andrei Kukilgin, in Krupnik *Pust'*, 266-267. For a fuller description of what collectives did to traditional clan organization, see Krupnik and Chlenov, *Yupik Transitions*, 255-259.

¹⁰⁴¹ GARF F. 3799, Op. 1 D. 423, L. 79.

¹⁰⁴² For harvest data on gray and bowhead whales, see Igor Krupnik and Ludmila Bogoslovskaja, *Ecosystem Variability and Anthropogenic Hunting Pressure in the Bering Strait Area* (Washington, D.C.: Smithsonian Institution 1998), 109-110. The species breakdown during this period is unclear; most are probably bowheads, with some gray whales. N.B Shnakenburg estimated that about 40% of the whales killed between 1923-1932 were grays; see "Kitovyi promysel na Chukotke," *Tikhookeanskaya zvezda* Vol. 259 (1933): 3.

¹⁰⁴³ This example is from GARF F. 3799, Op. 1, D. 819, L. 70, but such planning documents are thick on the archival ground.

arbitrary exactitude seemed scientific, the science seemed rational, and so the plan was the logical guide and measure of the future.

The thing that made the plan accelerate was industry. Factories, and the grand conflagration of human and fuel energy that made them churn, were the physical prerequisite to “increasing... the tempo of progress toward a prosperous, cultured life.”¹⁰⁴⁴ In this view, the industrial aspect of industrial-capitalist slaughter was not just acceptable, it was desirable. So was slaughter. “A massive number of baleen and sperm whales swim in the Arctic Ocean,” wrote one planner, “where an industrial fleet should be sent... coal from Anadyr can extend the duration and radius of the voyage.”¹⁰⁴⁵ If their hunting ceased to be capitalist, whales would not just fend off starvation regionally. And if whaling ceased to be merely regional, it could feed soviet industry. A whale gave “between 15-20 thousand kilos of fat...this fat could be used for technological purposes.”¹⁰⁴⁶ Anything that could be put to technological purposes needed to be, and quickly. As I.D. Dobrovolskii concluded, “the economy of our Union demands greater urgency in order to boost the forces of the Far East in the development of whaling.”¹⁰⁴⁷ The value of a dead whale was not just saving a few villages at the end of the Soviet earth. Blubber was potential fuel for national construction.

What the Soviets needed was a ship. Confined to “narrow coastal bases,” as Dobrovolskii wrote, hunters had no access to the cetacean wealth congregated “in most cases outside our territorial waters.”¹⁰⁴⁸ Shore whaling as practiced by the Chukchi and Yupik sufficient for local production, but could never process enough whales to be a real industry. In 1932, a repurposed American cargo ship christened the *Aleut* and attended by three Norwegian catcher boats, the *Trudfront*, *Avangard* and *Entuziast*, left Leningrad. It was bound for the Bering Sea; Soviet whaling began where American whaling ended. On the twenty-fifth of October, the fifteenth anniversary of the Bolshevik Revolution, the crew made the Soviet Union’s first pelagic kill off the coast of Mexico.¹⁰⁴⁹ It was an immature fin whale. “We were deeply excited,” wrote B.A. Zenkovich, a biologist on the *Aleut*. “Today begins a new chapter in the history of an old fishing country – Soviet whaling. We are the witnesses and active creators of the birth of the industry.”¹⁰⁵⁰

In 1933, the *Aleut* began working the summer edge of the pack ice north from Kamchatka. The communist plan for whales had moved out of villages with their small boats and aboard ship.¹⁰⁵¹ This ship was a difficult place to live, and to work. The *Aleut* was not designed to be long at sea, and

¹⁰⁴⁴ GARF F. 5446, Op. 18, D. 3404, L. 3.

¹⁰⁴⁵ GARF F. 3799, Op. 1, D. 819, L. 37.

¹⁰⁴⁶ GARF F. 3977, Op. 1, D. 11, L. 40.

¹⁰⁴⁷ GAPK F. 633, Op. 5, D. 43, L. 28.

¹⁰⁴⁸ GAPK F. 633, Op. 5, D. 43, L. 27.

¹⁰⁴⁹ The 25th is the October Revolution’s anniversary in the Julian calendar. The first nine chapters of B.A. Zenkovich’s memoir of whaling, *Vokrug sveta za kitami* (Moscow: Gosudarstvennoe izdatel’stvo geograficheskoi literatury, 1954) talk about the voyage from Leningrad to the Pacific; see also Viacheslav Ivanitskii’s biography of the *Aleut*’s first captain, A. Dudnik, *Zhil otvazhnyi kapitan* (Vladivostok: Dal’nevostochnoe knizhnoe izdatel’stvo, 1990), 88-94. Ivanitskii and Zenkovich’s books seem to be the basis for A.A. Berzin’s description of these events in “The Truth about Soviet Whaling” trans. Yulia Ivashchenko, *Marine Fisheries Review* Vol. 70 No. 2 (2008): 4-59. Berzin’s later focus was on his experience whaling in the 1950s and later; he wrote his recollections in 1994.

¹⁰⁵⁰ Zenkovich, *Vokrug sveta*, 47.

¹⁰⁵¹ Plans for native whaling production disappear by the late 1930s; whales are recorded but not planned for, perhaps because whale fat was regularly delivered by the *Aleut* by the mid-1930s. See GAMO F. R-22, Op. 1, D. 94, L. 176.

so was constantly short of fresh water. Powered by coal, the engine belched dust that thickened whale gore to a blackish paste on deck. Inside, the ship was cramped, infested with cockroaches, and stifling, as whale effluvia from the deck oozed in through any open porthole. Inside and out, the smell was formidable.¹⁰⁵² The experience of the crew was not. Most were Russian, most could read, and most were men, but *Aleut's* crew included women, Fins, Ukrainians, Jews, Tatars, Poles and the occasional American.¹⁰⁵³ Some were married, some got pregnant at sea, some came from fishing boats. But they were not generally people familiar with whaling. On the *Aleut* and its catchers, the crews had to learn the same cetacean indicators as nineteenth-century sailors: the distinct shape of fin whale's spout in comparison to a gray or sperm; the tell-tale slick of schooling krill; how sea birds flock where humpbacks feed; the protective, desperate roil of a mother whale cut off from her infant.¹⁰⁵⁴

Unlike the commercial ships that first hunted the Arctic, the Soviet fleet was not limited to slaughtering slow fatty animals. In the 1930s, they killed fin whales, sperm whales, humpback whales, blue whales, gray whales, and the occasional right or bowhead whale. Even orcas were sometimes targets.¹⁰⁵⁵ But the industrial hunt was assembled from the same practical actions as its wind-powered predecessor. The *Aleut* had to find prey, kill it, and rend the carcass into constituent parts: blubber for oil, meat for canning or freezing, bone for meal.¹⁰⁵⁶ Industrial catcher boats were fast, but not always maneuverable enough to keep pace with the dives and turns of a fleeing whale. Zenkovich once spent six hours chasing fins in a circle, never close enough for the harpooner to fire a true shot; the only struck whale spouted blood before disappearing.¹⁰⁵⁷ Industrial harpoons were charged with gunpowder and anchored to motorized winches, but as one harpooner reported, "a whale hauled to the very prow of the ship can, with a sudden jerk, break [the cable] and flee."¹⁰⁵⁸ And then there was the dismemberment. "It turns out that to kill a whale is easier than to process it," Berzin recalled. "People could not do simple things: turning the carcass from one side to the other during the flensing, finding the joint to separate the head from the body, separating a spine into parts."¹⁰⁵⁹

What should become of the carcass was not yet clear. When the fleet worked near Chukotka, they brought fresh whale meat ashore, where, as one whaler reported, the "Eskimos know the *Aleut*

¹⁰⁵² See Berzin, "Truth," 9-10; GAPK F. 1196 Op. 1, D. 227, L. 91-92.

¹⁰⁵³ GAPK F. 1196, Op. 1, D. 227, L. 13-14;

¹⁰⁵⁴ Zenkovich's role as a scientist with the *Aleut* fleet was in large part to document these biological and behavioral lessons for the Soviet Union; in addition to his book, the archives in Vladivostok contain many of his 1930s reports on whale behavior. See GAKP F. 1196, Op. 1, D. 9; GAPK F. 1196, Op. 1, D. 197.

¹⁰⁵⁵ Bowhead whales killed during the 1930s were apparently unintended; a report from 1944 notes that three had been killed since the inception of industrial whaling "had to be regarded as an accident" since the stocks of the animals were so low evening seeing one was rare; GAPK F. 1196, Op. 1, D. 212, L. 5. For a full count of the whales killed by the Soviet fleet in the North Pacific, see Y.V. Ivashchenko, P.J. Clapham, and R.L. Brownell Jr., "Soviet Catches of Whales in the North Pacific: Revised Totals," *Journal of Cetacean Resource Management* Vol. 13 No. 1 (2013): 59-71.

¹⁰⁵⁶ These different products were not produced consistently each year in the 1930s; sometimes the *Aleut* fleet lacked canning facilities or access to freezers and concentrated on blubber refining and limited bone meal production; see for example GAPK F. 1196, Op. 1, D. 1, L. 34-37; GAPK F. 1196, Op. 1, D. 221, L. 2-7.

¹⁰⁵⁷ Zenkovich, *Vogrug sveta*, 130-132.

¹⁰⁵⁸ GAPK F. 1196, Op. 1, D. 221, L. 11.

¹⁰⁵⁹ Berzin, "Truth," 10.

well.”¹⁰⁶⁰ Supplying Chukotka’s regional needs was not, however, the primary ambition of the fleet: it was supposed to manufacture nationally useful products. The *Aleut* went to sea outfitted with pressure cookers to preserve whale meat, “which when canned has the same quality as beef.”¹⁰⁶¹ But whale flesh putrefied so quickly that within a few years the assembly line could not keep pace with the killing. Blubber too spoiled within a half day, or turned acidic in processing. There was not always the proper equipment to boil the bones.¹⁰⁶² Depending on the weather, the harpooner, the vessel’s condition, and the size of the daily kill, the fleet might lack the “the means or opportunity to save the raw product.”¹⁰⁶³ No one thought this was ideal. “To whale effectively,” wrote Dobrovolskii, required the “full utilization of the carcass of the beasts.”¹⁰⁶⁴ But there was no time to wait for technical ability to match ideological appetite. In the breach, much of the cetacean tonnage hauled rudely from the ocean dribbled rudely back down the spillway, leaving a trail of gore on the sea.

Despite harpoons that missed whale backs, whale backs that sunk before they could be butchered, and butchery that was too slow to salvage whales for human use, the labor of slaughter did produce measurable progress, or at least something to measure. Each season, the *Aleut’s* reports put the quantitative results of the catch into every possible permutation: the number of males and females of each species killed; the size of the whales killed; the size of the whales compared to the year previously; the size of the whales in comparison to each other; the total fat, meat, and meal produced by each species; the total fat, meat, and meal produced that year and in comparison to previous years; the quantity of raw fat and meat; the quantity of processed conserves and meal; the total number of whales killed by month; killed by location; and killed by each catcher boat. And above all, the reports noted the number of whales killed against the planned harvest. In 1933, the *Aleut* fleet took 204 whales, more the double the plan. Two years later, the number jumped to 484, again well over the 300 planned.¹⁰⁶⁵ Acts of creative division made it possible to be over plan in the number of whales killed but under plan for the totals of raw products, or under plan for raw products and overproduce canned meat.¹⁰⁶⁶ Numbers were both irrefutable and malleable in their representation of progress.

No matter the creative acts of division, the plan kept growing. In 1936, 501 whales died. The plan demanded 495.¹⁰⁶⁷ Captain A. Dudnik could proclaim the plan reached 101.4% fulfillment, and was awarded the Order of Lenin for his labors.¹⁰⁶⁸ But in the same year, he warned that plan targets needed to be curtailed, or meeting them would be impossible.¹⁰⁶⁹ The season was too short and the

¹⁰⁶⁰ GAPK F. 1196, Op. 1, D. 227, L. 26.

¹⁰⁶¹ GAPK F. 1196, Op. 1, D. 1, L. 18.

¹⁰⁶² GAPK F. 1196, Op. 1, D. 1, L. 19-20; Berzin, “Truth,” 10-12.

¹⁰⁶³ GAPK F. 1196, Op. 1, D. 212, L. 1.

¹⁰⁶⁴ GAPK F. 633, Op. 5, D. 43, L. 28.

¹⁰⁶⁵ Plan numbers from GAPK F. 1196, Op. 1, D. 3, L. 64b-65; harvest totals in Ivashchenko et. al., “Soviet Catches of Whales in the North Pacific,” 63. Ivashchenko and Clapham have done the important and unenviably labor-intensive work of sorting through Soviet whaling statistics for accurate catch totals.

¹⁰⁶⁶ See for example GAPK. F. 1196, Op. 1, D. 226, L. 12-15; GAPK F. 1196, Op. 1, D. 4, L. 2-7. This accounting is in every annual report, however, and usually goes on for dozens of pages.

¹⁰⁶⁷ GAPK F. 1196, Op. 1, D. 3, L. 65.

¹⁰⁶⁸ GAPK F. 1196, Op. 1, D. 3, L. 64b.

¹⁰⁶⁹ GAPK F. 1196, Op. 1, D. 1, L. 9b.

equipment too frail to demand more. And in 1937, the *Aleut* failed to fill its quota. It was a terrible year to disappoint the plan. The momentum of the purges was spiraling outward from the party select in Moscow to selections from every population in the Soviet Union. Under-production had become an act of internal treason. In 1938, the Eighth City Party Congress in Vladivostok pledged to fully “liquidate the consequences of sabotage and badly completed economic plans...by cleaning enemies of the people from the party ranks.”¹⁰⁷⁰ A few weeks later, Dudnik was arrested on the gangway of the *Aleut*. He spent the next six years in prison.¹⁰⁷¹

THUS ON THE eve of the Second World War, the fault of decreasing harvests was a matter of politics. Biology was not a particular impediment. Soviet scientists had learned enough on the *Aleut's* deck, and from talking to native whalers, to conclude that killing immature whales “should be declared illegal,” especially since the *Aleut* could count on “the tens of hundreds” of adult whales elsewhere. Research in general signaled a promising future: fin whale harvests alone could increase by four hundred animals per year.¹⁰⁷² More scientific knowledge of whale migrations and concentrations might even increase the catch.¹⁰⁷³ Other than ideological wreckers and saboteurs, the biggest issue was technology. “The failure of the fleet to meet the state’s plan in the 1937-1940 seasons,” one report noted in 1941, “is attributable solely to organizational and various other defects” that included accidents, weather, insufficient fuel and supplies, and “seemingly small things like the captains’ irrational gear, which does not protect them from water.”¹⁰⁷⁴ An insufficient haul, on any given voyage, was the fault of insufficient technology, or knowledge - or worst, of communist commitment. When voyages met plan, it was because, as Dudnik’s successor Captain Egorov put it, “the Stakhanovite collective of the whaling fleet” managed an “intensity of whale slaughter much higher than in all previous years.”¹⁰⁷⁵ On the deck of the *Aleut* any dead whale was a good whale, because dead whales were proof of devotion, a material tally of captain and crew correctly following the line of the plan - the plan that counted, and counted toward, the construction of the future.

CALORIC VALUES, 1940S-1950S

There are many ways for an animal to survive the tempers of the open ocean. Jellyfish exist as no more than a tissue. Squids take on the color of their surroundings. Fish school by the thousands and spawn by the millions. Cetaceans’ way of living requires in bulk, longevity, and knowledge built through experience. Like humans, some whale species pool and share this knowledge between generations and across space. The worth of a place, the route of a journey, or the results of an action

¹⁰⁷⁰ Ivanitskii, *Zhil otvazhnyi kapitan*, 129.

¹⁰⁷¹ Ivanitskii’s full and rather hagiographic account of Dudnik’s downfall is in *Zhil otvazhnyi kapitan*, 122-137.

¹⁰⁷² GAPK F. 1196, Op. 1, D. 207, L. 64, 32-33.

¹⁰⁷³ GAPK F. 1196, Op. 1, D. 4, L. 116.

¹⁰⁷⁴ GAPK F. 1196, Op. 1, D. 9, L. 269.

¹⁰⁷⁵ RGAE F. 8202, Op. 3, D. 1132, L. 108.

is inherited in the genetic code, but through communication.¹⁰⁷⁶ Some of this transmission is aural. Sound reaches out where the yawning vastness of the ocean curtails sight or touch. Species like humpbacks and bowheads spool out long, syntactically complex songs.¹⁰⁷⁷ Their social world is loose and diffused in space. Gray whales do not have songs but signal each other in tones so low they circumvent ambient biological noise. They will approach an outboard motor with curiosity, emitting sounds that match the sputtering mechanical frequency.¹⁰⁷⁸ Sperm whales communicate through clicks and creaks, sounds that young calves babble before they can articulate sense. The sounds they master are their clan's dialect, a vocabulary they share with thousands of other sperm whales over thousands of kilometers and which anchors sperm's identity in marine space.¹⁰⁷⁹ The knowledge of how to communicate, taken along with the other tactics of the habitat from migrating and feeding to taking a sunbath, forms the culture of a cetacean community.¹⁰⁸⁰ But much of what whales speak exists beyond the human ken. It could be to lure, to entertain, to love, to protect, or to trumpet joy. Because whales do not rework stone or metal or pigment, some sounds may be the sonic form of things human cultures sculpt or forge or paint. Others are likely to warn.

If whales do sing songs of warning, the 1930s would have been reason for new notes of caution. International whaling diplomacy had not curtailed the commercial persecution of cetaceans. Communist whaling was small compared to the thirty or more Norwegian and British factory ships hunting the world's oceans, mostly in Antarctic waters. German and Japan joined them in the late 1930s.¹⁰⁸¹ Diplomats, scientists, and whaling industrialists met and argued as the decade waned: did whales deserve preservation for science or for industry? Should there be quotas assigned to nations? *Could* there be quotas, given the jurisdictional issues of international harvesting? Did whales of any value alive?¹⁰⁸² The answer to the latter question was yes, but in theory. Around thirty thousand whales died in the 1935 season. With rate of increase worthy of a communist plan, global totals jumped to over forty five thousand whales in 1938.¹⁰⁸³ The industry was imperiling itself, again. And

¹⁰⁷⁶ This paragraph draws where not referenced otherwise, from Whitehead and Rendell's remarkable *Cultural Lives of Whales and Dolphins*, especially chapters four, ten and eleven.

¹⁰⁷⁷ Ryuji Suzuki, John Buck, and Peter Tyack, "Informational Entropy of Humpback Whale Songs," *Journal of the Acoustical Society of America* Vol. 119 No. 3 (2006): 1849-1866; Whitehead and Rendell, *Cultural Lives of Whales and Dolphins* 84-97.

¹⁰⁷⁸ Marilyn Dahlheim, H. Dean Fisher, and James Schempp, "Sound Production by the Gray Whale and Ambient Noise Levels in Laguna San Ignacio, Baja California Sur, Mexico," in Mary Lou Jones, Steven L. Swartz, and Stephen Leatherwood eds. *The Gray Whale: Eschrichtius robustus* (Orlando, FL: Academic Press, 1984), 511-541.

¹⁰⁷⁹ T.M. Schultz, H. Whitehead, S. Gero, and L. Rendell, "Individual Vocal Production in a Sperm Whale (*Physeter macrocephalus*) Social Unit," *Marine Mammal Science* Vol. 27 (2010): 148-166., Whitehead and Rendell, *Cultural Lives of Whales and Dolphins*, 146-158.

¹⁰⁸⁰ Cetacean researcher Toshio Kasuya makes this argument for the link between communities of knowledge transmission and culture, as do Whitehead and Rendell. See "The Kenneth S. Norris Lifetime Achievement Award Lecture: Presented on 29 November 2007, Cape Town, South Africa," *Marine Mammal Science* Vol. 24 (2008): 749-773. Kasuya calls for preserving the "cultural diversity" of whale species, beyond simple biological diversity.

¹⁰⁸¹ Dorsey, *Whales and Nations*, 291-292.

¹⁰⁸² Discussions of international whaling meetings are from SI RU 7165, Box 3, Folder 6, "London- International Whaling Commission 1937"; SI RU 7165 Box 5, Folder 5, "London- International Whaling Conference, 1938"; and SI RU 7156, Box 5, Folder 2, "London-International Whaling Conference 1939 – U.S. Delegation Correspondence."

¹⁰⁸³ Dorsey, *Whales and Nations*, 291-292. This is a considerable over-simplification of the diplomatic and industrial debates of the time; for a more complete treatment, see Dorsey, *Whales and Nations*, chapter 2; and Burnett, *The Sounding of the Whale*, 330-336.

again, as Smithsonian scientist Remington Kellogg put it, “The commercial aspects [of whaling] seem to have outweighed the biological.”¹⁰⁸⁴

The commercial whalers were also outweighing the communists. In 1940, the marine biologist B. A. Zenkovich wrote to Stalin in alarm: not because too many whales were dying, but because not enough Soviets were their killers. Capitalists and fascists, Zenkovich argued, were outpacing the *Alent* at time when “our country needs fat, especially fats like those of whales, with wide food and industrial applications.”¹⁰⁸⁵ His letter set the course of national ambitions: Zenkovich wanted additional ships to whale the North Pacific, a fleet to hunt in Antarctic waters, and shore-based stations in the Kirill Islands. The People’s Commissariat for Fisheries began studying the costs.¹⁰⁸⁶ But their plans were interrupted by the Second World War. There was no time or labor to build anything not sent to the front. From pole to pole, industrial combat between humans diminished the industrial combat between humans and whales. Factory ships joined convoys, catcher boats were repurposed as minesweepers. Like their crews, many did not survive the war.¹⁰⁸⁷ The result was relative peace in the cetacean Antarctic. In the North Pacific, the *Alent* did not sail in 1942 or 1943, and killed only a few whales in 1944.

The decrease in whaling was not for lack of need. Spermaceti, the fluid in the bulbous front of a sperm whale’s skull, had various military applications. The U.S. War Productions Board requested that the American Pacific Whaling Company, one of the few commercial enterprises in the U.S., produce as much oil as possible. The Company complied, noting that “if we don’t take the whales Japan will get them.”¹⁰⁸⁸ The few wartime seasons when British fleets were able to hunt, they killed any whale, any time, and any place, regardless of international agreements, to satiate the “scarcity of fats and proteins.”¹⁰⁸⁹ Food was even scarcer in the Soviet Union. By 1942, the Wehrmacht occupied most of the U.S.S.R.’s best agricultural land. It was a moment of productive panic, not just to prove fealty to the communist future but to survive the embattled present.¹⁰⁹⁰ Everything, in Stalin’s words, was for the front. No species was beyond recruitment for human consumption, because it was human consumption that would “crush the war machines of the fascist invaders and German occupiers.”¹⁰⁹¹ Fisheries experts began developing recipes for seal-meat sausage, beluga-whale brisket, smoked dolphin kielbasa, and tinned baleen whale hash.¹⁰⁹² The major problem, according the Red Army’s director of supplies for the Pacific, was the “peculiar smell of whale meat.” His solution was to “add more spice.”¹⁰⁹³

¹⁰⁸⁴ “ICW 1938 /19/fifth session,” SI RU 7165 Box 5, Folder 5, page 2.

¹⁰⁸⁵ GARF F. 5446, Op. 24a, D. 614, L. 3-4.

¹⁰⁸⁶ GARF F. 5446, Op. 24a, D. 614, L. 11.

¹⁰⁸⁷ Dorsey, *Whales and Nations*, 97.

¹⁰⁸⁸ M.A. Lagen to Chas. E. Jackson, April 13 1942, SI RU 7165 Box 6, Folder 4. The U.S. also used Norwegian factory vessels to hunt sperm whales in secret in 1941; see Dorsey *Whales and Nations*, 97.

¹⁰⁸⁹ Chamber of Shipping of the United Kingdom, August 1945, “The Future of Whaling,” p. 4, NARA MD RG 43, Entry 242.

¹⁰⁹⁰ For a discussion of the hunger caused during the war years in the Soviet Union, see Wendy Goldman and Donald Filtzer eds. *Hunger and War: Food Provisioning in the Soviet Union During World War II* (Bloomington: Indiana University Press, 2015), especially Filtzer and Goldman “Introduction: the Politics of Food and War,” 1-43; and Brandon Schechter “The State’s Pot and the Soldier’s Spoon: Rations (paek) in the Red Army,” 98-157.

¹⁰⁹¹ GACHAO F. R-23, Op. 1, D. 7, L. 36.

¹⁰⁹² RGAE F. 8202, Op. 3, D. 1166, L. 35-36.

¹⁰⁹³ RGAE F. 8202, Op. 3, D. 1166, L. 104.

The other problem was the act of making whales into meat. For most of the war, the only Soviet people killing cetaceans were in Chukotka's collectives. These collectives, like any in the wartime Soviet Union, were expected to "give the country more bread, more meat, and more raw materials."¹⁰⁹⁴ Speeches about destroying the fascists were followed by detailed production plans, the number of dead marine mammals trialing upward toward victory.¹⁰⁹⁵ Even shore whaling, written off in the 1930s as primitive, might have a place. "It is possible to increase the production and profitability of maritime collectives several times over," one Party expert reported in 1941, particularly by hunting seals and "developing whaling."¹⁰⁹⁶ There was no *Alent* to hunt at sea, but by "multiplying the number of *dvukhsotniki*, and by leading in socialist competition, and in the Stakhanovite movement," Chukotkan collectives could do their part for the front.¹⁰⁹⁷ The rhetoric was of the communist factory, but the means were not. Petrol, ammunition, and outboard motors were scarce. Whaleboats and harpoons, purchased decades earlier from American traders, were decrepit.¹⁰⁹⁸ Between 1941 and 1944, Yupik and Chukchi collectives killed only six bowhead whales and fifteen grays.¹⁰⁹⁹ "Here, comrades," one of Chukotka's Party leaders admonished in 1942, "we have extremely poor results, as the plan for sea mammal harvests in our region is not filled... in 1941 it was only 72.6% complete," a percentage that had to exceed one hundred percent in order to "completely defeat the fascist hordes."¹¹⁰⁰

The Second World War created massive and unmet need for calories in the Soviet Union. Among a certain set of Soviets – one that extended from Stalin with his letter promising vast fat resources to fisheries specialists with their cetacean meatball recipes to Chukotkan collectives with their rusting harpoons – this translated into a massive and unmet national need for whales. It was an idea that outlasted the war. In 1945, the Red Army took possession of a German factory whaler suitable for Antarctic voyages and relaunched the *Alent* in the North Pacific. A year later, a Soviet delegation arrived unannounced in Washington, D.C, where diplomats, scientists, and industry representatives from other whaling nations were negotiating postwar rules for whaling.

THE UNITED STATES did not host the 1946 meeting out of national ambition to launch factory ships. Most whalers in America were aboriginal, lived in Alaska, and the whales they killed were, to the Departments of Interior and State alike, a regional necessity but a federal afterthought.¹¹⁰¹ But the US came out of the war with a radically expanded international role, from Bretton Woods fiscal diplomacy to a military that occupied swaths of hungry Europe and Asia. Whaling cut across both. As Douglas MacArthur made clear in his message from surrendered Japan

¹⁰⁹⁴ GACHAO F. R-23, Op. 1, D. 7, L. 13. See also GAMO F. P-22, Op. 1, D. 94, L. 185-187.

¹⁰⁹⁵ GACHAO F. R-23, Op. 1, D. 7, L. 36-37.

¹⁰⁹⁶ GAMO F. P-22, Op. 1, D. 94, L. 177.

¹⁰⁹⁷ GACHAO F. R-23, Op. 1, D. 7, L. 36. A *dvukhsotnik* was a person who over-fulfilled their production plan by two hundred percent.

¹⁰⁹⁸ GACHAO F. R-23, Op. 1, D. 7, L. 19-20.

¹⁰⁹⁹ Krupnik and Bogoslovskaiia, *Ecosystem Variability*, 109-110

¹¹⁰⁰ GAMO F. P-22, Op. 1, D. 94, L. 182, 186.

¹¹⁰¹ By 1945, no American companies were registered as whalers with the federal government; "Leviathan's Decline and Fall," NARA MD RG 43 Entry 242.

to “Give me bread or give me bullets,” the US saw future peace depending on present welfare.¹¹⁰² MacArthur restored the Antarctic factory fleet as part of Japanese reconstruction. The British also wanted whale bodies to meet “critical shortage of world supplies of fats and oils.”¹¹⁰³ The meeting in D.C. was to plan harvests “up to estimated requirements” for calories, as long as this caused “no lasting damage to existing stocks of whales.”¹¹⁰⁴ The value of cetaceans to the United States was as calories that would help guarantee “a more peaceful and happy future for mankind.”¹¹⁰⁵

The only way for whales to make humans peaceful or happy, however, was to guarantee that whales existed in the future. The United States came to the 1946 meeting under no illusion that the market, and the factory ships that served it, had any interest in the long term “perpetuation of whale stocks,” in the words of US marine scientist Remington Kellogg.¹¹⁰⁶ The combination of demand from “increasing human populations on all kinds of natural resources,” with “more efficient methods of taking and processing these resources” made industry incapable of valuing whales alive.¹¹⁰⁷ The proposed a global conservation regime, headed by technocrats and diplomats and charged with establishing rational – meaning sustainable – human use. Making this position palatable to countries with a whaling industry, like Britain and Norway, or with industrial ambitions, like the Soviets, took many weeks and many concessions. Finally, on December 2nd the Soviet Union, the United States, the United Kingdom, Norway, Japan, and an assortment of other countries signed the International Convention for the Regulation of Whaling.

The ICRW established the International Whaling Commission, a group of scientists, diplomats, and industry representatives who decided, ideally, how “to achieve the optimum level of whale stocks as rapidly as possible without causing widespread economic and nutritional distress.”¹¹⁰⁸ The IWC’s mandate was, essentially, to decide kinds of whales were valuable alive, what kinds were valuable dead, and who might do the killing.¹¹⁰⁹ Many of the rules for making these judgements had American Progressive-era roots. Aboriginal people could kill whales with aboriginal tools; scientists could kill whales to study them; no one could kill gray whales, right whales or whales that were pregnant or nursing; any whale that was killed needed to be used completely; and nations with industrial fleets could kill up to 16,000 blue whale units per year. A blue whale unit was equal to one dead blue whale, or two fin whales, or two and a half humpback whales, or to six sei whales, and

¹¹⁰² Quoted in Walter LaFeber, *The Clash: U.S.-Japanese Relations Throughout History* (New York: Norton, 1997), 260. See chapters nine and ten of the same book for post-war US/Japanese relations. For a discussion of the whaling issue in particular, see Dorsey, *Whales and Nations*, chapter four. For a discussion of the idea that world peace rested on world welfare after WWII, see James Sheehan, *Where Have All the Soldiers Gone? The Transformation of Modern Europe* (New York: Houghton Mifflin, 2008). For a somewhat more cynical take on American involvement in post-war reconstruction, also focused on Europe, see Victoria de Grazia, *Irresistible Empire: America’s Advance Through Twentieth Century Europe* (Cambridge: Belknap Press, 2005). Germany was cut out of postwar whaling.

¹¹⁰³ “Draft Comments for US Delegation, November 9, 1945,” NARA MD RG 43 Entry 242.

¹¹⁰⁴ “Draft Comments for US Delegation, November 9, 1945,” NARA MD RG 43 Entry 242.

¹¹⁰⁵ “Address of the Honorable C. Girard Davidson, November 26 1946,” NARA MD RG 43 Entry 246.

¹¹⁰⁶ Kellogg to Hamilton, December 16 1946, SI RU 7165 Box 9 Folder 2.

¹¹⁰⁷ “Sanctuaries as a Conservation Measure,” November 1945, NARA MD RG 43 Entry 242.

¹¹⁰⁸ International Convention for the Regulation of Whaling, Washington, 2nd December 1946, p. 1

¹¹⁰⁹ For a longer discussion of the many diplomatic and scientific intrigues involved in the 1946 process, see Burnett, *The Sounding of the Whale* chapters four and five; and Dorsey, *Whales and Nations*, chapter three.

on through the commercially approved species.¹¹¹⁰ No one knew if that number was sustainable. Kellogg suspected not. But there were competing national interests to consider, and it was hard to argue against hungry countries killing more whales when even the most dedicated scientists had minimal cetacean knowledge. Basic facts of whale migration and population were still mysteries. The Soviets, for one, were vocal in their call for more research into Antarctic whales before any strict limits were imposed. But no matter the great pool of unknowns, the ICRW and the multiple IWC committees it spawned was a codified attempt to make a mostly American, mostly utilitarian, generally market-oriented but also conservation-minded way of valuing cetaceans the global norm.

FOR PLAN AND MOTHERLAND, 1950S-1960S

For the men who haunted diplomatic meetings in the 1940s and 1950s, the idea that whales might value each other – as singers, parents, clan members, caretakers, or teachers – was not yet thinkable. In IWC legal terms, all whales were some standard deviation of a blue whale, and they all died to be human food.¹¹¹¹ There was industrial death, where whales became corpses in factory ships and factory ships fed component cetacean parts to national citizens or markets. Or there was indigenous death, where whale corpses were eaten by their killers. Both were essentially caloric interpretations of cetacean value, an interpretation with room for scientific wonder and frank acknowledgement that the ocean was better with whales in it. But cetaceans' social worlds were not a part of the statistical calculus that tallied and permitted internationally monitored whaling.

In the North Pacific of the 1950s and 1960s, however, whale hunters had geographically distinct ways of comprehending the beasts they pursued, killed, and ate. On the American side of the Bering Strait, the Inupiat and Yupik prized whales as food. But there could be no caloric value in a whale without first recognizing whales as bearing their own moral values. In villages like Point Hope, bowheads were understood as coming from their own country in the south, their *nunat*. Swimming north to die was a choice. Whales lingered among the ice floes to watch, to judge, and to discuss with their families if and to whom they would give over their bodies. The cetacean social world made the human one. Hunters in skin boats or in motor boats knew to bring the head of the whale down to the sea after buttering, so its great mammal soul could return to the *nunat* and be reincarnated.¹¹¹²

The value of a whale on the Soviet side of the Strait, at least in public, no longer counted cetacean souls. The ceremonies that held together the social world of people were directed not toward the moral collective of whales but toward the material collective of man. Chukchi and Yupik

¹¹¹⁰ The Blue Whale Unit convention predated the IWC; it was originally used as a metric to regulate whale oil production, rather than for conservation. For a history of this early use, see Arne Odd Johnsen, *The History of Modern Whaling* (Berkeley: The University of California Press, 1982), 402-3; for the outcome of this use on conservation efforts, see Burnett, *The Sounding of the Whale*, chapters four and five.

¹¹¹¹ There was an exception for scientific killing, but generally the IWC of this period was focused on regulating hunting for human food use, not research. The scientific exception became an issue later, when the Japanese in particular used it to expand their whaling.

¹¹¹² Tom Lowenstein, *The Things that Were Said of Them: Shaman Stories and Oral Histories of the Tikigiq People* (Berkeley: University of California Press, 1992), 93-94.

hunters killed whales for their *kolkhoz*. The *kolkhoz* turned whales into raw things, into meat and fat, which counted toward the plan through rituals of caloric accounting grown as nearly elaborate on shore as at sea on the *Aleut*.¹¹¹³ The plan, in demanding its pounds of flesh, set the number of whales to kill each year. The reason for a whale to die was to fill a plan; the decision to die was made entirely by human beings.

Human beings also killed new kinds of whales by with new means than in the past. In the early twentieth century, Chukchi and Yupik “took [bowheads] with the help of American whaling equipment,” as Naukan whaler Ankaun recalled, and relied on harpoons with “huge shells.”¹¹¹⁴ Such gear, traded from Nome in the early decades of the twentieth century, was derelict by the late 1930s and 1940s. In 1941, the village of Ungazik killed their last bowhead. Hunters in Naukan took theirs nine years later.¹¹¹⁵ But gray whales could be slaughtered with rifles. As biologist Nadezhda Sushkina saw in the late 1950s, a few open boats circled a whale for several hours, while “not less than 300-600 bullets are fired into the animal before it dies.”¹¹¹⁶ As with the traditional hunt in Mechigmen Bay, the targets were young. *Kolkhoz* brigades knew that larger whales, those weighing over ten tons, were “restless, and as soon as they are hit they struggle fiercely.”¹¹¹⁷ When the hunting brigades brought a carcass to shore, the whole village turned out to butcher, to share the skin, to pack away the meat in communal freezer pits. These were all old practices. But even when shared like bowheads, gray whales did not taste like bowheads; many people found the meat distasteful.¹¹¹⁸

Yet the plan had a taste for whales. In 1955, Chukotka’s *kolkhozy* became part of a federal push “to further develop the fishery industry of the Far East.” Because development meant increasing production, and because whales fell under the purview of fisheries, each collective needed to intensify their use of whales. The answer, generally, was technology. The plan called for “a rational industrial scheme for rendering fat efficiently even in small-scale operations” so that maximal calories could be wrung from flesh.¹¹¹⁹ This in turn required more flesh to wring. “We have whale stocks that could give ten times as much useful production in the form of fat and meat,” one official reported, but “the number of animals fished by some collectives is far from satisfactory.”¹¹²⁰ At fault was hunting that wasted both bullets and whale bodies. Perhaps a third of the whales hit by rifle fire sunk under a spreading red stain, and the largest, fattiest animals escaped from men “overcome by feelings of fear for these giants.”¹¹²¹

¹¹¹³ See, for example, GChAO F. R-23, Op.1, D. 23, Ll. 46-57.

¹¹¹⁴ Ankaun, in *Naukan i naukantsy: rasskazy naukanskiikh eskimosov*, V. Leonova, ed. (Vladivostok: Dal’press, 2014), 20.

¹¹¹⁵ Krupnik “The Bowhead vrs. The Gray Whale,” 26-27.

¹¹¹⁶ N.N. Sushkina, *Na puti vulkany, kity, l’dy* (Moscow: Gosudarstvennoe izdatel’stvo geograficheskoi literatury, 1962), 99.

¹¹¹⁷ Andrei Kukul’gin, in Krupnik, *Pust’*, 159.

¹¹¹⁸ For post-hunt sharing, see Sushkina, *Na puti vulkany*, 100-106; for cultural distaste of gray whale meat, see Krupnik “The Bowhead vrs. The Gray Whale,” 28-29.

¹¹¹⁹ GChAO F. R-23, Op. 1, D. 23, L. 103.

¹¹²⁰ GChAO F. R-23, Op. 1, D. 51, L. 178.

¹¹²¹ Krupnik “The Bowhead vrs. The Gray Whale,” 27-28; quote from GChAO F. R-23, Op. 1, D. 51, L. 179. The cutters were legally able to kill gray whales, which were otherwise protected by IWC regulations, because the meat was theoretically for indigenous subsistence.

THE ANSWER WAS to remove indigenous hunting from indigenous hands. As part of the fisheries reforms, a catcher ship with the capacity to kill “at least 200 whales per harvest season” replaced open-boat whaling.¹¹²² By the late 1950s, most of the cetaceans eaten and processed in Chukotka were harpooned in open water by crews on the *Zvezdnyi* or the *Druzhnyi*, which met *kollektiv* brigades offshore, where the bodies were towed to land for butchering. The results made whales fully participant in the glorious rituals of Soviet production, and made Chukotkan plans fully glorious. As one Party official proclaimed to his comrades, “in 1955-1956, only a few whales were harvested, but in 1958 the *kollektiv* of this district harvested 123 whales. Of this, the *kollektiv* ‘Lenin’ killed 68, ‘Red Banner’ – 28, and ‘Lenin’s Way’ – 14.”¹¹²³ Gray whales might not taste delicious, but they allowed *kollektiv* to over-fill their plans by 102.4%, or 123%, or even a triumphant 144%.¹¹²⁴ They put the collectives “on the way to achieving their socialist obligations toward the workers of Chukotka.”¹¹²⁵ The value of whales, on the Asian side of the Strait, was as food, and as food butchered and shared. But the value was also in being part of a *kollektiv*. Yupik and Chukchi started their whaling careers in “young Komsomol” brigades and spent their years tallying kills in the annual plan ledgers of their collectives.¹¹²⁶ Whales were partly what they had always been and partly a way of making indigenous production like Soviet production anywhere: industrial in form, communist in content, serving the plan with its numerical account of progress.

The shore whalers and small cutters in Chukotka were not the only cetacean hunters oriented toward the communist plan. These other communist whalers, however, were not hunting gray whales in territorial waters under the IWC indigenous catch exception. They were hunting every kind of whale in every sort of water under the IWC commercial regulations. By the early 1960s, the Soviet Union had multiple factory ships killing whales off Antarctica.¹¹²⁷ In the North Pacific, the *Aleut* was joined by the *Sovetskaia Rossiia* in 1962, and the *Vladivostok* and *Dal’nii Vostok* a year later.¹¹²⁸ These fleets were born at the Twenty-First Party Congress in 1959, where Nikita Khrushchev announced that the Soviet Union was in a new stage of history, a “period of the full-scale building of communism.”¹¹²⁹ Cetaceans were drafted as builders. In the Congress’ seven-year plan for the “significant development of all sectors of our industry,” whales were named explicitly in anticipation of the “annual demand for whale fat in the Soviet Union” to exceed one hundred

¹¹²² GACHAO F. R-23, Op. 1, D. 23, L. 44.

¹¹²³ GACHAO F. R-23, Op. 1, D. 51, L. 14.

¹¹²⁴ GACHAO F. R-23, Op. 1, D. 51, L. 178.

¹¹²⁵ GACHAO F. R-23, Op. 1, D. 51, L. 152.

¹¹²⁶ Khul’khug’e, in Krupnik, *Pust’*, 167.

¹¹²⁷ For discussion of the Soviet whaling program in the Antarctic, see Yulia Ivashchenko, P. Clapham, and R. Brownell, “Soviet Illegal Whaling: the Devil and the Details,” *Marine Fisheries Review*, Vol. 73 No. 3 (2011): 1-19 and Yulia Ivashchenko and P. Clapham, “A Whale of a Deception,” *Marine Fisheries Review*, Vol. 71 No. 1 (2009): 44-52. Ivashchenko and Clapham have quite tirelessly tracked down Soviet catch records and compiled accurate statistics.

¹¹²⁸ The *Sovetskaia Rossiia* whaled in the North Pacific from 1962-1965; the *Vladivostok* from 1963-1978; the *Dal’nii Vostok* from 1963 to 1979. The *Slava*, which was usually an Antarctic fleet, worked the North Pacific from 1966-1969. The *Aleut* retired in 1967. The Soviets also had shore-based whaling operations in the Kirill Islands during the same period. The account of industrial whaling that follows draws from the logs of all these vessels, and from ships working in Antarctica as well, since the level of detail in any given ship’s report varies a great deal.

¹¹²⁹ Khrushchev quoted in Ronald Grigor Suny, *The Soviet Experiment: Russia, the USSR, and the Successor States*, (New York: Oxford University Press, 1998), 407. Khrushchev consolidated his control at the 21st Congress.

thousand tons.¹¹³⁰ Where this demand originated was neither clear nor the point. Soviet material life was supposed to improve, improvement required more production, and more whales could be made into products. So Gosplan financed massive factory fleets, each central processing ship escorted by ten or twenty or more catcher boats and manned by crews of hundreds.

These hundreds of people did dozens of tasks: there were mechanics, chefs, washerwomen, doctors, dentists, radio operators, scientific personnel, shopkeepers, an editorial staff for the on-board newspaper, KGB officers, crew for sailing the ship, crew for cutting blubber, and specialized harpooners for killing.¹¹³¹ They came from the army, the navy, from fishing families and university programs for mechanical engineers or marine biology. They found a floating world both different and familiar. Beyond the narrow bunks or wood-lined captain's suites, the modern factory ships were built with recognizable communal spaces: a *banya*, a cinema, a library. Crews played chess, learned musical instruments, had ongoing card games, put on theatricals, and, as one sailor recalled, "attended the night school...as for many of us the war had kept us from any opportunity to receive secondary education."¹¹³² The physical conditions were sometimes a distraction. Rendering whales smelled horribly. Cockroaches were so endemic that medical staff dusted DDT everywhere. Temperatures above and below deck could broil or freeze, depending on weather and mechanics. There were accidents with ropes, gunpowder, knives, and with the drunken use of ropes, gunpowder, and knives.¹¹³³ The diet was short on fresh vegetables and long on porridge. But crews ate more meat than most Soviet citizens, from slivers of raw whale heart to "steaks fried with onion, which taste like veal."¹¹³⁴ There were discomforts, but not so many as in the early days of the *Aleut*, and not so many more than in any other Soviet factory.

The products that emerged from these factories were various: bone meal for fertilizers, fat for food, grease for industry, vitamins for strong bodies; each an element of further productive Soviet action. But they all began in the moment that humans met whales. The ships of the 1960s, even more than the *Aleut*, reduced the capacity for whale resistance – any whale, from aggressive sperms to fast fins –to essentially nil. If the crews could find whales they could kill them. The catcher boats were fast; the harpoons were armed with "long, sharp grenades attached to endless synthetic lines. The harpoons cut into whales, the grenades exploded inside." Once dead, dead whales were pumped full of air until they floated like "giant pontoons on the surface," and tagged with radio receivers for the factory ship to find. A successful catcher could hunt twenty-four hours a

¹¹³⁰ GARF F. A-262, Op. 5, D. 8259, L. 1.

¹¹³¹ The North Pacific voyages were less glamorous than those going to the South Polar seas, which put into ports in New Zealand and Australia and came with ample opportunity to visit exotic foreign locales and purchase goods.

¹¹³² Anna Berdichevskaia, "Proshchai, Antarkitka, i prosti" *Iug*, November 30, 2006. This is a long interview with Vasilii Kondrachuk, a whalemens' association chairman, interviewed on the sixtieth anniversary of the launch of the Soviet's first Antarctic fleet, the *Slava*. Here as elsewhere I have sometimes used the records of Antarctic whalers to fill in experiences not accessible in the archive of the North Pacific whaling experience.

¹¹³³ Descriptions of life onboard ship from GAPK F. 666, Op. 1, D. 990, Ll. 98-116; GAPK F. 666, Op. 1, D. 983, Ll. 3-14; "Skol'ko zhe mozhno zhdai," *Dalnevostochnii kitoboi*, December 1, 1967; First Mate P. Panov, "Eto kasaetsia vsekh" *Dalnevostochnii kitoboi*, January 12, 1968; "Poleznaia vstrecha," *Dalnevostochnii kitoboi*, January 26, 1968; "Sudovoi Mekhanik," *Dalnevostochnii kitoboi*, October 22, 1967; Berzin, "The Truth," 3-4; Vladimir Verevkin, "Gorzhus", chto byl kitoboem," *Gazeta Vladivostok*, September 19, 2008; and Berdichevskaia, "Proshchai." The *Dalnevostochnii kitoboi* was the on-board newspaper of the *Sovetskaia Rossiia*; in the years for which I have copies, the fleet was working in Antarctic. I have used examples that are not location specific or that are alluded to in the GAPK records.

¹¹³⁴ Zenkovich, *Vokrug sveta*, 73; Berzin, "The Truth,"

day, and left a half dozen, or a dozen, or twenty whale corpses in its wake in a day. The factory ship then took them up and the crew ripped them down: blubber from meat, meat from bone, bones from viscera, then all into separate rooms and hoppers, freezers and boilers.¹¹³⁵

It was intimate work, forcing whalers to stare into the eyes of whales “as their resistance finally broke” and their life ran out in bloody gouts, then waded into each rib-valued cetacean body amid a rising, humid stench.¹¹³⁶ The intimacy was also in knowing how whales navigated their world, from the bubbly sign of feeding humpbacks to the communal schooling of sperms. Shipboard newspapers carried scientific reports of animal intelligence, probably only confirming what hunters knew the “increasingly cautious behavior of whales” they watched flee.¹¹³⁷ And hunters saw enough cetacean extremity to use words like “love” or “help.”¹¹³⁸ Zenkovich wrote about a female humpback that, struck and bleeding “with danger looming over her, only pressed closer to her calf, protecting him with her body... she hugged the little whale, their spouts mixing” through the hours-long ordeal of killing both.¹¹³⁹ Some sailors, at least retrospectively, alluded to the empathetic toll of slaughter. “If whales could scream out in pain like people,” one sailor remembered, “we would all have gone mad.”¹¹⁴⁰ But whales did not scream. They substantiated the world of their hunters by dead weight, not as living subject. So also like their capitalist predecessors, Soviet whalers learned to use young whales as lures and signals. Nursing calves paddled up the slipways of factory ships after their mothers’ still lactating carcasses, to become another few tons in the computation of the plan.¹¹⁴¹

Whaling for the plan was the central task of the factory ship. The original production targets were handed down from Gosplan in Moscow, as part of the Five Year Plan. Between the Five Year Plans, there were annual plans; within annual plans there were quarter-year targets; within the targets there were categories for total numbers of whales each ship should kill; the total raw weight; the quantity of food-grade blubber, medicinal blubber, industrial blubber of the first grade, and industrial blubber of the second grade; the weight of meat for food, and meat for animals; the pounds of spermaceti, bone meal, and frozen liver; the number of sperm whale teeth; the grams of vitamins and ambergris.¹¹⁴² One whale could be counted dozens of ways in any given year, and new plans were reconstituted from how pieces of whale were counted the year before, often increased by

¹¹³⁵ Berzin, “Truth,” 30-31. See also Iosif Benenson, *Kitoboi i kitoboitsy*, no page numbers, 2011. Manuscript in possession of author.

¹¹³⁶ Benenson, *Kitoboi i kitoboitsy*.

¹¹³⁷ G. Veinger, “Nezvanyi gost,” *Dalnevostochnii kitoboi*, May 9, 1968; quote from GAPK F. 666, Op. 1, D. 983, L. 10.

¹¹³⁸ Berzin, “The Truth,” 47.

¹¹³⁹ Zenkovich, *Vokrug sveta*, 159-161; see also Berzin, “The Truth,” Zenkovich notes that this kill of a calf and mother was an accident, and that he tried to impress upon the *Alent* crew the importance of leaving nursing or pregnant whales alone, especially as this incident came after the USSR signed the ICRW.

¹¹⁴⁰ Berdichevskaia, “Proshchai.” Zenkovich also uses empathetically descriptive language in some of his accounts of whaling.

¹¹⁴¹ Berzin, “The Truth,” 26. Berzin also notes that Soviet whalers learned to track adult whales by watching where the young, who need to breathe more frequently, surfaced; “The Truth,” 47.

¹¹⁴² See for example, “Vypolnenie plana po pererabotke syrtsa i vypuska produktsii za 1964 god (*Dal'nii Vostok*),” document in author’s possession; GAPK F. 666, Op. 1, D. 1001, Ll. 38-46; “Svedeniia o vypolnenii plana po vyrabotke produktsii k/f *Vladivostok* za 1968 god,” document in author’s possession; GAPK F. 66, Op. 1, D. 1033, Ll. 9-25. The list of these annual reports could go on and on – every voyage produced dozens of pages of accounting paperwork for the number and disposition of whales.

a percentage ambitious enough to demonstrate progress.¹¹⁴³ All of this addition, multiplication, and division – ultimately based on subtracting life from a whale and a whale from the ocean – then fed back to the Five Year planners. Thus in 1962, Gosplan called for 1000000 *tsentner* of dead whale flesh, the total subdivided into fats, meat, bone meal, and other products. This number was expected to jump to 1600000 *tsentner* the next year, and reach 2000000 by 1965, or roughly the equivalent of eleven thousand blue whales.¹¹⁴⁴

THERE WERE PRACTICAL motivations to these grandiose acts of cetacean slaughter. From Yupik skin boats to Yankee tall ships, whaling had long been a collective enterprise, also but one that rewarded a vanguard individual, usually the harpooner.¹¹⁴⁵ This combination lent itself well to Soviet labor ideals. Everyone worked for collective glory: meeting targets earned crews a twenty-five percent salary bonus over their base pay, and workers could more than double their salaries if they exceeded the plan by twenty percent.¹¹⁴⁶ Because all production started with dead whales, and all dead whales started with a successful harpoon strike, “all successful production depend[ed] on the harpooner,” in the words of one ship’s log.¹¹⁴⁷ Harpooners could easily be singled out as Stakhanovite over-producing heroes, their support crews spurred on by healthy socialist competition.¹¹⁴⁸ The fleet newspaper reported the results, ranking individual successes in the quest

¹¹⁴³ For more on how plans were made, see Ivashchenko, Clapham, and Brownell, “Soviet Illegal Whaling,” 4-6 and I.F. Golovlev, “Ekho ‘Misterii o kitakh’” in Y.A. Yablokov and V.A. Zemsky eds. *Materialy sovetskogo kitoboynogo promysla (1949-1979)* (Moscow: Tsentr ekologicheskoi politiki Rossii, 2000), 11-24, 16. Golovlev states that plans took the previous year’s catch plus a minimum of ten percent, but the reality seems to have been far less fixed and the basis of the plan is often unclear.

¹¹⁴⁴ “Plan dobychi kitov i vypusk produktsii iz syrtsa kitov po upravleniiu kitoboinykh flotilii na 1960-1965 g.g.” Document in author’s possession, from a collection provided by Yulia Ivashchenko. A *tsentner* is equivalent to 100 kilograms. These numbers were later revised upward, with the expectation that the Soviet fleet could kill 2500000 *tsentner* in 1965.

¹¹⁴⁵ Skilled harpooners were paid more on Yankee whaling voyages, and indigenous whalers had rules regarding how the choicest bits of the kill were distributed based on an individual’s role in the hunting party.

¹¹⁴⁶ Ivashchenko, Clapham, and Brownell, “Soviet Illegal Whaling,” 4.

¹¹⁴⁷ GAPK F. 666, Op. 1, D. 991, L. 42.

¹¹⁴⁸ The idea of socialist competition originated with Lenin, but was given intense social import during the 1930s; see V.I. Lenin, *How to Organize Competition* (Moscow: Progress Publishers, 1964). Studies of labor as daily practice and site of cultural production have not been much the vogue since the Soviet archives became fully open, particularly when it comes to post-WWII studies. This makes the comparison of factory ship whaling to other types of factory work incomplete. Whaling ships, especially in their treatment of harpooners, carried on some of the tropes of pre-war Stakhanovism, by pitting individuals against the norms of the plan and rewarding overproduction both rhetorically and materially; for an account of Stakhanovite origins and operations in Soviet factories see Lewis Siegelbaum, *Stakhanovism and the Politics of Productivity in the USSR, 1935-1941* (Cambridge, UK: Cambridge University Press, 1988) and Lewis Siegelbaum and Ronald Grigor Suny eds. *Making Workers Soviet: Power, Class and Identity* (Ithaca: Cornell University Press, 1995). Stephen Kotkin also discusses the world of Soviet labor, though through the lens of subject-creation in the Stalinist period. What he identifies as the “centrality of labor in personal identity” remained true on whaling ships WWII (a centrality that is arguably hardly Soviet); see *Magnetic Mountain: Stalinism as Civilization* (Berkeley: University of California Press, 1995), 150; and chapters three and especially five. For studies of labor after the war, see Donald Filtzer, *Soviet Workers and Late Stalinism: Labour and the Restoration of the Stalinist System after World War II* (New York: Cambridge University Press, 2002) and *Soviet Workers and de-Stalinization: The Consolidation of the Modern System of Soviet Production Relations, 1953-1964* (New York: Cambridge University Press, 1992). Filtzer paints the Soviet labor experience as a gloomy one, with planners in an ongoing, low-level war against laborers in a way that produced widespread productive dysfunction. Whaling was often less dreary, at least when the air compressors worked, and its chosen dysfunction was overproduction.

for collective triumph.¹¹⁴⁹ “Comrade Kurazhagomedov has shown himself to be an excellent harpooner,” the report of the *Vladivostok* noted in 1964, and his “humility, scrupulous work, and tireless vigilance won him the praise and respect of the other whalers.”¹¹⁵⁰ Underperformers were critiqued, or worst, cast out of the collective. The end result of such health competition, according to the *Dal'nii Vostok* log, were catchers that “successfully met the government plan, but in the lead are still those whalers who are masters of their craft – Kozakevich, Novikov, Remeniuk, Nasonov.”¹¹⁵¹

The celebration of such “Heroes of Socialist Labor” did not stay at sea. The national press carried gushing accounts whaler’s skill and bravery, like those of “harpooner Comrade Gnilyank, who started hunting even in stormy weather, or the harpooner Comrade Tupikov, who mastered striking a whale at a great distance. Now these innovative methods of hunting are used successfully by all harpooners.”¹¹⁵² These accounts joined *Pravda* articles that educated readers on the uses of ambergris and whale fat, celebrated the launch of whaling vessels, and, of course, applauded “not only the successful implementation of the state plan” but a year with “three and a half million rubles in above-plan profits.”¹¹⁵³ And *Pravda*, like fleet newspapers, captains, and many crew, tied plan fulfillment to Party membership. The best Stakhanovite harpooners were also people whose “daily work and trials of labor...pull Party and non-Party organizations closer” and eventually increased Party membership while “growing and tempering people.”¹¹⁵⁴ On the *Vladivostok* in 1965, where over twenty percent of the crew were Party members already, any “problem in implementing the state plan” could be solved by the Party “mobilizing staff to implement plans and through socialist pledges” and by “improving the moral and political qualities of each member of the crew.”¹¹⁵⁵ Good whalers were excellent producers, and excellent producers were loyal communists, and loyal communists were Party members. Laboring for the plan was tied neatly to ideological practice at the frequent ship Party meetings, movie screenings, and other events. For the people living on Soviet factory ships, taking up whale bodies and breaking them to pieces made a real, existing, floating palace of Soviets.

The model of Stakhanovite labor realized on whaling fleets was borrowed from factories. But instead of pushing their bodies or their machines to produce as much as possible, whalers pushed the ocean to produce more than possible. Whalers had every reason to meet the ever-expanding plans, and the plans, in the end, came down to the number of whales killed; the actual products made from their corpses were secondary. So harpooners, in their acts of labor heroism, often killed beyond the ability of the disassembly line. The result made modern factory ships more deadly to live whales than the old capitalist sailing rigs, but no more efficient with their bodies. The Soviet plan of canning or freezing meat never produced either efficient processing or terrestrial

¹¹⁴⁹ “V Bazovom komitete,” *Dalnevostochnii kitoboi*, January 12, 1968.

¹¹⁵⁰ GAPK F. 666, Op. 1, D. 982, L. 66.

¹¹⁵¹ GAPK F. 666, Op. 1, D. 991, L. 42.

¹¹⁵² “V dalekoi Antarktike,” *Pravda*, May 5, 1955.

¹¹⁵³ “Krepkii splav,” *Pravda*, October 24, 1964.

¹¹⁵⁴ Quote from “Krepkii splav,” *Pravda*, October 24, 1964. For a scattershot example of national press coverage of Soviet whaling in this period, see “Kratkie novosti,” *Pravda*, January 15, 1961; “Bagatstva okeana – Rodine,” *Pravda*, October 24, 1963; “Zolotoi kashalot,” *Pravda*, January 16, 1967; “Bogatye ulovy” *Pravda*, April 2, 1965.

¹¹⁵⁵ GAPK F. 666, Op. 1, D. 990, L. 118.

appetites, so cetacean bodies were often stripped only of their fat, the meat and bone disgorged back to sea. Other whales were never rendered; their bodies left to suppurate in the heat leaking from tons of extinguished life. Others were lashed to ships' sides as "fenders," the contact between catcher boats and the factory ship insulated by corpses.¹¹⁵⁶ None of this violated the plan. The plan did not require that cetacean species have a future. The world Soviet whale ships substantiated was incommensurate with the biological facts of being a whale.

It was not a fact lost on the Soviet marine scientists from the Pacific Research and Fisheries Center (TINRO) who shipped out with the whaling fleets. By 1941, the *Alent* reported the humpback, sperm, fin and gray whales they killed were shrinking.¹¹⁵⁷ In 1951, Zenkovich worried that sperm whales were being killed too young, in "a manner which is not right and not expedient."¹¹⁵⁸ Four years later, the marine biologist S.K. Klumov lamented that production targets were far larger than could be sustained even as fleets in the North Pacific, fixated on output, ignored "outrages taking place in the whaling industry regarding the huge loss of blubber, and the poor use of graksa [a component of margarine] and other whaling products."¹¹⁵⁹ By 1965, N.V. Doroshenko tallied the kills of the *Vladivostok* and the *Dal'nii Vostok* with alarm, reporting that after just a few seasons of hunting "humpback whale stocks in the North Pacific and Bering Sea are in a critical state. After one more year of such intensive catches, whale stocks will be so depleted that it will be impossible to continue any whaling."¹¹⁶⁰ A year later, the *Dal'nii Vostok* stayed south of the Gulf of Anadyr because a scouting mission found no "important whales" in the formerly cetacean-swarmed waters. The captain blamed Japanese whalers, sailed to new hunting grounds, and managed to overfill a monthly plan by 130.4%.¹¹⁶¹ Finding new seas to whale drove the North Pacific fleet from the northern Bering Sea off Chukotka, southeast to the Aleutian Islands, then into the Gulf of Alaska, and into the eastern Bering Sea and the waters off the western coast of North America. Other voyages balanced the equation of absent whales and ever-expanding production plans by ordering new harpoons or devising more rational – meaning more communist – forms of labor organization.¹¹⁶²

¹¹⁵⁶ For discussions of waste on whaling ships, see Golovlev, "Ekho 'Misterii o kitakh'", 20-21; Berzin "The Truth," 15-25; E.I. Chernyi, "Neskol'ko shtrikhov k portretu sovetskogo kitoboinogo promysla," in Y.A. Yablokov and V.A. Zemsky eds. *Materialy sovetskogo kitoboinogo promysla (1949-1979)* (Moscow: Tsentr ekologicheskoi politiki Rossii, 2000), 25-30, 26; and N.V. Doroshenko, "Sovetskii promysel bliuvalov, serykh i gladkikh (grenlandskikh i iuzhnykh iaponskikh) kitov v Severnoi Patsifike v 1961-1979 gg" in Y.A. Yablokov and V.A. Zemsky eds. *Materialy sovetskogo kitoboinogo promysla (1949-1979)* (Moscow: Tsentr ekologicheskoi politiki Rossii, 2000), 96-103. The use of fender whales appears in various places in the archives; see for example GAPK F. 1196, Op. 1, D. 9, L. 47.

¹¹⁵⁷ GAPK F. 1196, Op. 1, D. 9, Ll. 55-56.

¹¹⁵⁸ Yulia Ivashchenko, P. Clapham, and R. Brownell, "Scientific Reports of Soviet Whaling Expeditions in the North Pacific, 1955-1978," *Publications, Agencies and Staff of the U.S. Department of Commerce*, Paper 127 (2006), 6. This collection of documents was copied and transported out of the closed archives of the Pacific Research and Fisheries Center (TINRO) in Vladivostok by Alfred A. Berzin, the former director of the center's marine mammal program, and translated by Ivashchenko. Because TINRO remains closed to researchers, it is a rare glimpse at the internal debates about whaling between Soviet scientists and planners. Some of these also surface in the archives of the RSFSR.

¹¹⁵⁹ Ivashchenko, Clapham, and Brownell, "Scientific Reports of Soviet Whaling Expeditions," 8.

¹¹⁶⁰ Ivashchenko, Clapham, and Brownell, "Scientific Reports of Soviet Whaling Expeditions," 10.

¹¹⁶¹ GAPK F. 666, Op. 1, D. 1001, L. 7, 15.

¹¹⁶² GAPK F. 666, Op. 1, D. 991, L. 55; GAPK F. 1196, Op. 1, D. 9, L. 269.

Changing geography and technology, rather than adjusting the plan, was the preferred tactic in Moscow. TINRO biologists met yearly with the plan-makers at the Whaling Coordination Department, within the Ministry of Fisheries. A vocal group recommended, with increasing urgency, that the whale catch be diminished.¹¹⁶³ Humpback and blue whales were near extinction. More whaling in the Pacific Ocean and the Bering Sea endangered “the economic value of these stocks.”¹¹⁶⁴ But TINRO scientists were not the only experts. Gosplan, with the credentials of planning the communist future on their side, held that it was a “lack of high speed whalers,” not “a sharp decline in the average size and weight” of whales that caused decreased returns.¹¹⁶⁵ Moreover, better ships could fish further afield, and “take at the expense of the ‘American’ whale population around 800 additional units of baleen whales and about 1500 sperm whales.”¹¹⁶⁶ And, one Ministry of Fisheries official argued, if whales were eradicated then trawlers could mechanize what had been the work of a whale into the work of industry and harvest krill.¹¹⁶⁷ Above all, Gosplan made the plan, so the plan kept growing.

The only way to meet the growing plan was to kill any and every whale. Killing any whale meant violating not just cetacean biological reality, but the interpretation of cetacean biological reality as understood by the International Whaling Commission. The Soviet fleets whaled out of season; they whaled protected species; they killed nursing females and calves and juveniles; they slaughtered whales they did not butcher and they butchered whales they did not use. Doing so, in the 1950s and 1960s, was the only way to make plan, with all its practical and metaphysical import for harpooners and crew. “In total, illegal whales represented 68.3% of whales by number, and 48.6% by weight,” --- reported in 1967. “If the fleet had strictly followed the ‘Regulations’ the yearly plan target would not have been fulfilled.”¹¹⁶⁸

The simultaneous public embrace of international whaling regulations and their systematic internal violation had another result. It made the communist plan rule the seas. Such rule, especially in the North Pacific, had a long history of evading Russian grasp. It was American predators who stole seal, walrus, and whales in the nineteenth century, and thwarted Soviet rule in the early twentieth. In the Far East, memories of these humiliations lingered. A.N. Solyanik, one of the Soviet fleet’s most influential captains and eventual director of Antarctic whaling, grew up on stories of marine predation on the eastern coast. Citing the history of killing walrus and bowheads, Solyanik told his crews that the drive for profit made market hunters incapable of restraint.¹¹⁶⁹ His view of

¹¹⁶³ Ivashchenko, Clapham, and Brownell, “Scientific Reports of Soviet Whaling Expeditions,” 19. See also N.V. Doroshenko, “Sovetskii promysel gorbachei (*Megaptera novaeangliae*) v Severnoi Patsifike,” in Y.A. Yablokov and V.A. Zemsky eds. *Materialy sovetskogo khitoboinogo promysla (1949-1979)* (Moscow: Tsentr ekologicheskoi politiki Rossii, 2000), 48-95.

¹¹⁶⁴ Ivashchenko, Clapham, and Brownell, “Scientific Reports of Soviet Whaling Expeditions,” 13.

¹¹⁶⁵ GARF F. A-262, Op. 5, D. 8259, L. 21. These debates with Gosplan began at least in the late 1950s, when Klumov testified to the grim condition of North Pacific stocks. Gosplan’s response was to launch the *Vladivostok* and *Dal’nii Vostok* a few years later.

¹¹⁶⁶ GARF F. A-262, Op. 5, D. 8259, L. 7.

¹¹⁶⁷ Berzin, “The Truth,” 57. The Soviet Union did attempt to harvest some krill in Antarctica.

¹¹⁶⁸ 1967 report of the *Dal’nii Vostok*, appendix to Ivashchenko, Clapham, and Brownell, “Soviet Illegal Whaling,” 19.

¹¹⁶⁹ Golovlev, “Ekho ‘Misterii o kitakh’”, 14-15. Solyanik probably has more to answer for when it comes to Soviet whaling and its abuses to both man and beast than any other individual; this is certainly Berzin’s take. See “The Truth,” 27-37.

capitalist duplicity and rapaciousness may have been assisted by witnessing, as a delegate to the International Whaling Commission in the 1950s, debates about regarding Aristotle Onassis' illegal hunting and the general "desire of the whaling companies to gather in every whale they can find."¹¹⁷⁰ It was a theme A. A. Vakhov made national in a trilogy of whaling novels, beginning with a tragic Imperial captain and ends with a Soviet factory fleet victorious over capitalist spies, idiots, and idiotic spying diplomats whose "extensive talk" about "saving the whales from extinction" should "not fool" wise Soviet whalers from pursuing their prey.¹¹⁷¹ Some of this language, of encroaching Cold War threat, capitalist excess, and the IWC's conservation message as a cover for commercial slaughter, must have been common in the Ministry of Fisheries. It was routine enough to leak into the meetings of the International Whaling Commission, where in the 1950s the Soviet delegation accused the United States and Canada of using regulations and cetacean science to manufacture a "land grab" in the North Pacific.¹¹⁷² In the 1960s, Soviet suspicions rested on limits which unfairly privileged capitalist quotas.¹¹⁷³

Mostly it was action, not words, which mattered, and in action the Soviet whaling fleet had no desire to save whales for once and future commerce. Year after year, after agreeing to smaller quotas or closed seasons at IWC meetings, the Soviets went back to their ships and whaled for an expanding plan. That this violated international terms was known by whaling captains and planners alike, not to mention by Soviet biologists, who were ordered off the decks when particularly rare whales were killed.¹¹⁷⁴ These kills did not make the reports sent to the IWC each year. Animals killed at the wrong time or at the wrong size or of the wrong species were re-written, by the KGB officers that sailed with each fleet, into new tallies. A wrongly killed right whale became a legal humpback; illegally small humpbacks became blue whales, too many blue whales became very many sperm

¹¹⁷⁰ IWC Verbatim Record 1959, Eleventh Meeting, Document XIV, p. 25. Onassis posed the first enforcement crisis at the IWC, which was unable to regulate his actions; Onassis was eventually indicted for fraud by the U.S. and forced out of the whaling business. See Dorsey, *Whales and Nations*, 145-151. That capitalist countries at the IWC worried about how their discussions of catch appeared to the Soviets is clear; as R.G.R. Wall of New Zealand noted at the IWC meeting in 1958, "I cannot help but feeling that the Commissioner from the Soviet Union must be taking careful note of [reports of depleted stocks but no reduction of quotas] as evidence of the inability of capitalist industries to rationalize their activities, because the plea is that the industry got itself into such a position that only by carrying on with the extermination of the whale is it likely to survive." IWC Verbatim Record 1958, Tenth Meeting, Document XIII, p. 83.

¹¹⁷¹ A. A. Vakhov, *Fontany na gorizonte* (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1963), 141. The first in this series is *Tragediia kapitana Ligova*, (Magadan: Oblastnoe knizhnoe izdatel'stvo, 1955) and the second, *Shtorm ne utikhaet* (Magadan: Magadanskoe knizhnoe izdatel'stvo 1957), and the final is *Fontany*. Together paint a portrait of Russian whaling against the world, with the Far East as the main backdrop. Petr Sazhin's novella *Kapitan Kiribeev* has a similar setting, although the hero is a young marine biologist and the plot rather more romantic (Moscow: Khudozhestvennaia literatura, 1974).

¹¹⁷² "Minutes of the Scientific Committee Meeting, May 30 1952," SI RU 7165, Box 14, Folder 1. At issue were possible restrictions on whaling northeast of the Bering Strait, which the Soviets objected to. Burnett reads the Soviet actions at this meeting as a cynical stalling tactic, a view I think underestimates the paranoia regarding the vulnerability of Far Eastern resources; see *Sounding the Whale* 454-455.

¹¹⁷³ "Statement of the Delegation of the Soviet Union," February 10, 1967. SI RU 7165 Box 28, Folder 1. These are only a few choice North Pacific examples; there are many others, especially from the Antarctic. Much of my thinking on this must, sadly, remain conjecture, as important archives related to internal policy debates about whaling remain closed, or, as E.I. Chernyi speculates, have been destroyed.

¹¹⁷⁴ Berzin makes this claim throughout "The Truth"; see also Golovlev, "Ekho 'Misterii o kitakh,'" 15-18, who bases his statements on direct observation of Soviet whaling as a national inspector; his attempts to enforce whaling rules were systematically ignored.

whales, too many small sperm whales became one large one.¹¹⁷⁵ The hundred and forty-five bowhead whales and the hundred and forty-nine gray whales and the six hundred and eight one right whales killed in the postwar North Pacific were reconstituted as fin and sei and humpbacks, their banned bodies made posthumously legal.¹¹⁷⁶ This too was a kind of communist labor. Whaling to excess in the name of the motherland, for some, righted the historical wrong of capitalists killing too many whales in Russian waters.

THUS BY 1970, there were three ways humans valued a whale in the North Pacific. There was the whale as local sustenance and moral influence, as in North American Inupiat or Yupik villages. There was the whale that provided community food and communist participation in Soviet Chukchi and Yupik villages. Or, on the high seas, there was the whale as the material basis for building full-scale communism. None of them precisely matched the IWC vision for whales as a thing to be used according to rational, balanced economic and biological logic. But the Soviet national ideal was the most incompatible. Like all industrial postwar whaling, its origins were in the Second World War; for Soviets in the extremity of sustaining the revolutionary state through the Great Fatherland War and its aftermath. But by the 1960s, there was no more active revolution or existential threat. The fascist hordes were gone. Lenin's presence was constant, but in the quiet everyday of dead letters, his name on metro stops, streets, libraries, schools, ships. Stalin lacked even letters, having been officially written out of the state he helped shape. But working on a whale ship, with its socialist competitions and Party rewards, its shock work amid shocking gore, made tangible the ideal of a tight collective moving with efficient purpose toward an ideologically supported goal. From captain to harpooner to deck hand, whaling labor enlivened Lenin's promise that socialist work was "heroic, in the world-historical sense of the word."¹¹⁷⁷

On a factory ship, the heroics were not, usually, in mortal sacrifice, or in killing people in the name the leviathan of the revolutionary state. It was in killing actual leviathans. The only thing that had to die was a whale. Slaughtering that whale, any whale, but preferably many whales, substantiated the plan, and the plan composed the social world of whalers, from the celebration of the voyage's first kill to triumphant Vladivostok homecomings, where the most productive catcher boat lead the fleet into harbor.¹¹⁷⁸ On a Chukotka *kolleboz*, butchering whales caught by schooners made people part of the national Soviet project with their own regional materials. For the bureaucrats writing plans in Moscow, diagraming cetacean extermination made the entire ocean feed the maw of communist creation. Socialism might exist in one country, but it could eat away at any whale that touched any distant shore. It grasped at last what capitalists had grasped first. By doing so, Soviet whaling turned full-scale communism into the international subversion of values that were not communist. For the whaler or the planner, if not for the biologist, whaling was not a bad way to fashion a Soviet person.

¹¹⁷⁵ Berzin, "The Truth," 54; E.I. Chernyi, "Neskol'ko shtrikhov," 28. Chernyi also notes that captains usually sailed with a mate at the rank of Party Organizer of the Central Committee of the CPSU and a passel of secret informers, at least on Antarctic expeditions, where visits to foreign ports were frequent.

¹¹⁷⁶ Ivashchenko, Clapham, and Brownell Jr., "Soviet Catches of Whales in the North Pacific," 63.

¹¹⁷⁷ Lenin, "How to Organize Competition," 408.

¹¹⁷⁸ *Dalnevostochnii kitoboi*, September 28, 1967; Verevkin, "Gorzhus', chto byl kitoboem."

THE HARMONIOUS DEEP, 1970S-1980S

There is not a history, yet, that puts in human terms the cetacean experience of this period, this great un-fashioning of generations of whale minds: minds that listened as their seas grew quiet, watched as their clans shrank, fled as their families were consumed year after year in the adrenal chase, the agonized strike, the desperate breaths that ended in a fountain of blood. Perhaps the whales in their songs and clicks teach this past; perhaps they tell each other that the peculiar and terrifying work of humans is to compose a world without whales. And perhaps they carry no such burdens. People can and have, at least twice over, imagined a world made better by maximal cetacean killing. The world that killing made for its survivors remains beyond the ken of bipedal, terrestrial mammals.

By the 1970s, these survivors were a ragged fringe of their former biological and social mass. Between 1948 and 1979, the Soviet industrial fleets killed over a hundred and ninety thousand whales in the North Pacific.¹¹⁷⁹ In the early 1960s, when the *Vladivostok* and the *Dal'nii Vostok* launched north, they killed twenty or thirty humpback whales per day and a few thousand a season; within a few years there were too few to hunt.¹¹⁸⁰ In Chukotka, collectives were supplied with gray whales by schooners, a hundred or two hundred at a time. They were supposed to feed foxes on the *kolkebozy* fur farms, but there was so much meat some carcasses were dragged inland with tractors to rot, alongside the heaps of whale bones no small *kolkeboz* could process.¹¹⁸¹ At sea, blue whales were rare, lone creatures by the mid-1960s.¹¹⁸² Right and bowhead whales, their stocks barely recovered from the predations of Yankee ships, were again near extinction.¹¹⁸³ Over a hundred and fifty thousand sperm whales died in Soviet industrial ships.¹¹⁸⁴ Cetacean biomass in the North Pacific was twenty percent of what it had been less than two hundred years earlier, communists having done to every species of great whale what capitalists, in their slow ships, managed with only a few.¹¹⁸⁵

By 1970, delegates to the International Whaling Commission were well aware that the North Pacific cetaceans, along with whales the world over, were decimated. Rumors that part of the cause was the Soviet fleet hunting out of turn began in the 1950s. By the end of the decade, the US

¹¹⁷⁹ Ivashchenko, Clapham, and Brownell Jr., "Soviet Catches of Whales in the North Pacific," 63. It bears repeating that the bulk of the Soviet whale harvest actually came from Antarctica, where the scale of the slaughter was far greater.

¹¹⁸⁰ Doroshenko, "Sovetskii promysel gorbachei," 64-65.

¹¹⁸¹ Eduard Zdor, Personal Communication, May 2014; GChAO F. R-23, Op. 1, D. 51, L. 179.

¹¹⁸² Doroshenko, "Sovetskii promysel bliuvalov," 96.

¹¹⁸³ For a discussion of these species in particular, see Yulia Ivashchenko and P. Clapham, "Soviet Catches of Right Whales *Eubalaena japonica* and Bowhead Whales *Balaena mysticetus* in the Northern Pacific Ocean and the Okhotsk Sea," *Endangered Species Research* Vol. 18 (2012): 201-217.

¹¹⁸⁴ The pre-industrial sperm whale population for the North Pacific is not known. Hal Whitehead estimates that, worldwide, there were a little over a million sperm whales prior to 1800. Ship whaling dropped the population to about 70% of its historical norm, while industrial whaling dropped it to just a third of the initial population. However the density of sperm whales in the North Pacific specifically is unclear. See Whitehead, "Sperm Whales in Ocean Ecosystems," in J.A. Estes, D.P. DeMaster and D.F. Doak et al. eds. *Whales, Whaling and Ocean Ecosystems* (Berkeley, CA: University of California Press, 2006), 324-334

¹¹⁸⁵ See Bete Pfister and Douglas Demaster, "Changes in Marine Mammal Biomass in the Bering Sea / Aleutian Islands Region before and after the Period of Commercial Whaling," in J.A. Estes, D.P. DeMaster and D.F. Doak et al. eds. *Whales, Whaling and Ocean Ecosystems* (Berkeley, CA: University of California Press, 2006), 116-133.

Department of State had “little doubt that Russian whalers take all the whales which come in range of their harpoons, regardless of size or quota.”¹¹⁸⁶ Lack of compliance and an inability to enforce anything, including membership, plagued the IWC.¹¹⁸⁷ But the communists, so excessive in their catches and excessively duplicitous in their diplomacy, were not the only members whose values of cetaceans diverged from the values written into the IWC. The Commission’s mandate, as one chairman stated, was “to maintain a proper balance between economic requirements and natural resources.” “Protection” of the whales as whales was not the aim, only safeguarding their value as present and future commodities.¹¹⁸⁸ Rational use, in this view, balanced the two prerogatives. IWC scientists had the task of enumerating this balance by determining maximum sustainable yield.

In the 1950s, this classic Progressive solution snarled in debate, both scientific and political, over the size of a sustainable maximum. Marine scientists like Remington Kellogg advocated killing fewer animals. Industrial whalers countered that the science was unclear and their fleet investments demanded the revenue of large harvests. By the 1960s, with whales shrinking in body and range, the science clearly indicated lowering annual quotas to a point “adequate to preserve and increase the sustainable yield from this resource.”¹¹⁸⁹ But politics, in the form of delegates allied with national industries and loyalties, consistently voted to push the harvest recommendations off for a few seasons. “I believe [the objections] all boiled down to what is necessary to provide a profitable operation,” one U.S. participant noted in 1963. Not “a single consideration [was] based on conservation.”¹¹⁹⁰ In response, the new US delegation led by John McHugh, frustrated by the inability of maximum sustainable ideals to yield any result, reconceived cetacean economic value. Instead of the “purely aesthetic view” of conserving “these majestic beasts for posterity,” whales should be managed based on “economic objectives.” *Cetacean economicus* could be harvested like a mineral, with gold-rush “deliberate periods of over-fishing” followed by a biologically-prescribed respite.¹¹⁹¹ McHugh was channeling a new, or renewed, line of capitalist theory. Economists like Scott Gordon and S.V. Ciriacy-Wantrup argued that conservationists ignored “the history of man’s successes in discovering new resources to take the place of old.”¹¹⁹² It was also an understanding of whale value familiar to nineteenth century capitalist captains. Rational use did not require the future of whales *as* whales, only the future of the capital held temporarily in their flesh. Thus one way for cetaceans to compose the capitalist world was in the liquidation of an individual or species, to let its corporeal revenue live on in some more profitable venture.

Such bonanza economics were rational, for at least some capitalists, because it was the once and current reality: whales vanished and the market moved on. British and Dutch companies left the

¹¹⁸⁶ “Foreign Service Dispatch, November 24, 1958,” SI RU 7165 Box 25, Folder 5.

¹¹⁸⁷ I am, as any historian of diplomacy or science would be eager to point out, glossing over the many complexities of these events, not least the ongoing and strenuous Soviet objection to international observers, for obvious reasons. For a thorough discussion of the 1960s debates over whale quotas, regulation, and observers see Dorsey, *Whales and Nations* Chapter 5, and Burnett, *The Sounding of the Whale* chapter 5.

¹¹⁸⁸ IWC Verbatim Record 1958, Tenth Meeting Document XIII, p. 2.

¹¹⁸⁹ IWC Verbatim Record 1960, 12/11, p. 51.

¹¹⁹⁰ IWC Verbatim Record 1963, 15/17, p. 68.

¹¹⁹¹ John McHugh to Remington Kellogg, December 10, 1962, SI RU 7165, Box 27, Folder 1.

¹¹⁹² Scott Gordon, “Economics and the Conservation Question,” *The Journal of Law & Economics* Vol. 1 (October 1958): 110-121. The association of McHugh’s view with those of these new conservation economists, including S.V. Ciriacy-Wantrup and Anthony Scott, is also in Burnett, *The Sounding of the Whale*, 511-512.

whaling industry in 1963. The Norwegians had a lone factory ship hunting by the end of the decade. In Europe and the United States, edible fat calories were made mostly from soy, palm, rape seed, pigs or cows. There was little demand for whale meat beyond dog feed.¹¹⁹³ Japan still whaled aggressively for national reasons and the Soviets fed socialism with whale bodies. But by 1970, the world market had more or less ceased its formal valuation and exchange of cetacean calories and component pieces.

Yet ingesting blubbery calories was not the only way to consume a whale. In the same period that capitalist fleets dwindled, cetacean cultural products proliferated. In North America, people listened to Pete Seeger sing about whales or whales sing to themselves through Roger Payne's recording of humpbacks.¹¹⁹⁴ Cetaceans on television saved humans from misadventure and on the theater screen saved them from nuclear annihilation.¹¹⁹⁵ John Lilly's bestselling books *Man and Dolphin* and *The Mind of the Dolphin* popularized the idea cetacean intelligence and the capacity for interspecies communication, one that began in scientific experimentation before listing into LSD-fueled speculation.¹¹⁹⁶ In some coastal towns, it was possible to watch migrating whales from tour boats. And next to the old whaling yarn *Moby Dick*, a novel in which the pursuit of whales was a metaphor for the gap between the human mind and knowledge of God, bookstores sold Farley Mowat's *A Whale for the Killing*, an autobiography in which the pursuit of whales was proof of human Godlessness. Why, Mowat mused, would anyone kill such animals: intelligent, peaceful, so unlike people with their technological addictions, so able to "survive successfully as natural beings"?¹¹⁹⁷

Living as natural beings was, in the 1970s, increasingly an American aspiration. People from middle-class suburbanites to college-campus activists, from scientists to politicians, and from hunters to hikers, saw the world around them sliding toward "the greatest cataclysm in the history of man."¹¹⁹⁸ Springs were silent. The population was a bomb. Paradise was not made from *Cement* as in the Soviet novel; it was paved over with a parking lot.¹¹⁹⁹ Astronauts showed the earth as a lone blue

¹¹⁹³ The exception was sperm whale oil, which still had a market – mostly fed by the Japanese and Soviets – as an industrial lubricant. The Soviets used it in their intercontinental ballistic missile tubes; the U.S. Navy in nuclear submarines.

¹¹⁹⁴ Scott McVay discusses sonic forms of cetacean appreciation, including playing whale song at an IWC meeting where the Soviets were particularly intrigued; "Can Leviathan Endure so Wide a Chase," *Ecologist* Vol. 1 No 16 (October 1971):5-9.

¹¹⁹⁵ The childish version is *Flipper*, which aired as a movie in 1963 and later became a television program. The 1973 movie *The Day of the Dolphin* features highly trained military cetaceans; it was an adaptation of Robert Merle's book of the same title.

¹¹⁹⁶ Lilly was a deeply eccentric researcher, eventually driven out of the mainstream scientific community for his experimentation with LSD and experiments that featured young female researchers masturbating male dolphins; see Zelko, *Make it a Green Peace*, 185-189. For more on the development of cetacean science in this period, including on Lilly, see Burnett, *The Sounding of the Whale*, chapter six.

¹¹⁹⁷ Farley Mowat, *A Whale for the Killing* (Vancouver: Douglas & McIntyre, [1972] 2012), 39.

¹¹⁹⁸ Paul Ehrlich, "Eco-Catastrophe!" *Ramparts Magazine* (September 1969): 24-28, 28.

¹¹⁹⁹ The literature on the postwar American environmental movement is substantial if often geographically or thematically fragmented. I am drawing here, variously and partially, from Samuel Hays *Beauty, Health, and Permanence: Environmental Politics in the United States 1955-1885* (New York: Cambridge University Press, 1987); Adam Rome, *Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001); Hal Rothman, *The Greening of a Nation?: Environmental Politics in the United States Since 1945* (Fort Worth: Harcourt Brace College Publishers, 1998); Stephen Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison: University of Wisconsin Press, 1985); Linda Nash *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006); Adam Rome, *The Genius of Earth Day: How a 1970 Teach-In Unexpectedly Made the First*

marble, “a single spaceship,” in economist Kenneth Boulding’s words, “without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, many must find his place in a cyclical ecological system.”¹²⁰⁰ Human beings had rejected this cyclical time, one in which, as environmental theologian John Claypool put it, was “man part of the animals’ and plants’ support system, just as they were part of his.”¹²⁰¹ They had done so in the name of progress that was in reality its opposite – what ecologist Paul Ehrlich termed “the rape and murder of the planet for economic gain.”¹²⁰² Pollutants filled streams and bloodstreams. Nuclear capacity threatened disaster now for a geological half-life. Oil spilled, rivers caught fire, species vanished, wilderness retreated from slouching suburbs. These “were the apocalyptic facts.”¹²⁰³

The apocalyptic future could be avoided by returning the past; the past meant a time of balanced nature; balance meant curtailing growth, consumption, and otherwise excising industrial humanity from the “rhythms of the natural world.”¹²⁰⁴ This was not preservation for aesthetic enjoyment or even conservation for market utility. It was a vision that looked beyond economic rationale for its moral heft. It required what Maine senator Edmund Muskie called an “Environmental Revolution – a commitment to a whole society...one of values, not ideology” and “a sense of balance.”¹²⁰⁵ Balance and wholeness were concepts borrowed from ecologists. In its popular form, ecology had a normative edge: nature without humans tended toward life-producing harmony, but nature as used by industrial humans upset what Rachel Carson called “the delicate balance of populations by which nature accomplishes far-reaching aims.”¹²⁰⁶ These aims were global life itself. There were various ways to restore natural harmony, from the legislative – which produced the Clean Air Act, the Clean Water Act, and the Endangered Species Act – to the consumptive, which produced organic food.

Green Generation (New York: Hill and Wang, 2010); Zelko, *Make it a Green Peace*; and Paul Sabin, *The Bet: Paul Ehrlich, Julian Simon, and Our Gamble Over the Earth’s Future* (New Haven: Yale University Press, 2013).

¹²⁰⁰ Kenneth E. Boulding, “The Economics of the Coming Spaceship Earth,” in Henry Jarrett ed. *Environmental Quality in a Growing Economy: Essays from the Sixth RFF Forum* (Baltimore: Johns Hopkins University Press, 1966), 9.

¹²⁰¹ John Claypool quoted in Adam Rome, *Genius of Earth Day*, 175.

¹²⁰² Ehrlich, “Eco-Catastrophe!” 28.

¹²⁰³ John Claypool quoted in Adam Rome, *Genius of Earth Day*, 176. Rome’s discussion of how environmental ideas were disseminated and coalesced during the late 1960s and especially in 1970 and the years shortly after are excellent, and show how broad but also heterodox the environmental coalition was in this period; see *Genius of Earth Day* chapters four and five.

¹²⁰⁴ Mowat, *A Whale*, 9.

¹²⁰⁵ Edmund Muskie, *Congressional Record – Senate* Vol. 120, Part 9 (April 23, 1974): 11324-11327. See also, Transcript of Hugh Downs on the *Today* show, April 20 1970, in Frank Herbert ed., *New World or No World* (New York: Ace Books, 1970), 19-20. Revolutionaries of the more traditional, social mode were not always impressed with the idea of turning back the clock, viewing it as too conservative; see Rome, *Genius of Earth Day*, 135-137. Nor did all actual conservatives agree that environmental revolution was desirable; for discussion of the backlash to environmentalism, see David Helvarg, *The War Against the Greens: The ‘Wise-Use’ Movement, the New Right, and Anti-Environmental Violence* (San Francisco: Sierra Club Books, 1994) and Sabin, *The Bet*.

¹²⁰⁶ Rachel Carson, *Silent Spring* (New York: Houghton Mifflin [1962] 2002), 57. I am glossing here over some fascinating moves within ecological science, and in its popularization. For more on the history of ecology and its relationship with postwar environmentalism, see Donald Worster, *Nature’s Economy: A History of Ecological Ideas* (Cambridge: Cambridge University Press, 1994); Sharon Kingsland, *Evolution of American Ecology 1890-2000* (Baltimore: Johns Hopkins University Press, 2005); and Frank Golley, *A History of the Ecosystem Concept in Ecology: More than the Sum of the Parts* (New Haven: Yale University Press, 1993). John Kricher is far more critical of the balance idea; see *Balance of Nature: Ecology’s Enduring Myth* (Princeton: Princeton University Press, 2009) see also Dana Phillips, *Truth of Ecology: Nature, Culture, and Literature in America* (New York, Oxford University Press, 2003).

Yet revolutions are not just material acts. They require mental reconstruction. Environmental collapse originated, in the minds of many revolutionaries, with the conceptual separation of humans from nature. From this original sin, nature was bent to industrial purpose, and industry annihilated the garden of natural harmony.¹²⁰⁷ Ending earthly degradation, therefore, required transcending the mental dualism between nature and culture. Different sorts of environmentalists cast around for different methods. They tripped LSD, adored Native Americans, moved back to the land, contemplated Gaia. Others found a path out of the human predicament that wasn't human at all. Many of the cultural whales Americans consumed in the 1960s and 1970s were innately nonviolent, nontechnical, and non-dualistic, a "naked body encasing the floating mind, the two, split by technological culture...one again."¹²⁰⁸ With the power of their individual minds, they could solve a "major riddle of nature and relations between species," teaching humans to "live in harmony with Nature instead of ruthlessly plundering the seas that nurtured us."¹²⁰⁹ Where American cetacean advocates once wanted to save whales to feed people, the new generation wanted to save people with whales.

Valuing whales for their transcendence was very far from the pragmatic economics of the International Whaling Commission. It was even further from the valuing whales as fuel for the communist plan: Farley Mowat's whale was a guide to a restored natural past; the Soviet whale was the raw material of a perfectly human future. But for whales to play their part in the communist plan they needed not just to exist but exist in ever greater numbers. And the numbers were gone. TINRO biologists sent a dispassionate history of recent cetacean apocalypse to Moscow. Where thousands once schooled, V.I Prevalichin reported, "humpback and blue whales in the North Pacific can be considered to have been practically eliminated." The *Dal'nii Vostok* could only find a few dozen fin whales to kill. Half the sperm whales they harvested were pregnant or nursing. Extinction loomed.¹²¹⁰ In 1970, Gosplan reduced the annual plan for the North Pacific. The fleets went on whaling in excess. Two years later, after more than a decade of stalling, the Soviet Union agreed to allow IWC-affiliated international observers on their ships to record the catch.¹²¹¹ Perhaps it was some sea-change within Gosplan; perhaps it was so bureaucrats at the Ministry of Fisheries could earn plush salaries as observers abroad; perhaps it left the discipline to the capitalists, letting them

¹²⁰⁷ Some of these thinkers were foundational to the field of environmental history – the intellectual grandparents of this author, if you will. Most explicit in the critique of Enlightenment dualism is Carolyn Merchant, especially in *The Death of Nature: Women, Ecology, and the Scientific Revolution* (San Francisco: Harper Collins, 1980). For the degree to which I am trampling on their legacy by reducing a decade of thinking to a paragraph, my apologies.

¹²⁰⁸ Joan McIntyre, "Mind Play," in Joan McIntyre comp., *Mind in the Waters: A Book to Celebrate the Consciousness of Whales and Dolphins* (New York: Scribner and Sons, 1974), 196. Mowat expresses similar sentiments throughout *A Whale for the Killing*. McIntyre was involved with the Friends of the Earth anti-fur campaigns before taking up the cause of whales, after hearing whale song recordings. For more on the connection between these ideas and cetacean science, see Burnett, *The Sounding of the Whale*, chapter 6.

¹²⁰⁹ Peter Morgane, "The Whale Brain: The Anatomical Basis of Intelligence," in Joan McIntyre comp., *Mind in the Waters: A Book to Celebrate the Consciousness of Whales and Dolphins* (New York: Scribner and Sons, 1974), 93.

¹²¹⁰ Ivashchenko, Clapham, and Brownell, "Scientific Reports of Soviet Whaling Expeditions," 20-22.

¹²¹¹ IWC Verbatim Record 1971, Meeting 23, 25-27.

take blame for the inevitable.¹²¹² Whatever the reasons, after 1972, North Pacific fleets kept their kills more or less in line with International Whaling Commission limits.¹²¹³

Soviet whaling was whimpering toward an end. The decline was far too slow, however, for people who valued whales not materially but transcendently – people for whom the IWC’s utilitarian policies were hopelessly corrupted by industrial ties and ignored how killing such spiritual creatures violated basic “morality,” as marine biologist Victor Scheffer argued, “the simple right of the animal to live and to carry on its ancestral bloodline.”¹²¹⁴ Whales had new and vocal advocates for these rights, from established groups like the Humane Society to the cetacean-focused Project Jonah. Activists tried boycotts, letter-writing campaigns, or making their pets vegetarian lest dog-food contain Soviet-killed whale.¹²¹⁵ Such advocacy helped add great whales to the Endangered Species List, granting them protection in the U.S. This, however, did not touch international whaling. So advocates played humpback songs at the 1970 International Whaling Commission meeting, hoping that evidence of communication would move the Soviets to treat great whales as the ‘marine brother of man.’¹²¹⁶

Five years later, the Soviet whaling program was confronted by music of a different sort. For lack of whales, the *Dal’nii Vostok* had abandoned hunting in the Alaskan basin, moving south to the waters off the coast of California. On June 27th, the crew was on deck flensing sperm whales when the sound of tinny, English voicing singing “We are the whales, living in the sea / Come on now, why can’t we live in harmony?” Likely few on board understood the words. When they peered over the factory ship’s gunwales, even fewer knew why they were being hailed by guitar-playing, camera-toting men in inflatable boats.¹²¹⁷ So for a few strange minutes, the gore-spattered Soviet crew danced along as bearded men in wetsuits sang “We’ll make love, above the ocean floor.”¹²¹⁸

The singers were activists from Greenpeace. The group began by protesting nuclear weapons; inspired by Farley Mowat’s public declarations that human and cetacean annihilation were linked by the sperm oil that lubricated nuclear missiles, they turned to saving whales.¹²¹⁹ The group was varied – a photojournalist, a former Soviet prisoner, a man who called himself Walrus Oakenbough, an *I Ching* mystic. Some were holistic ecologists, and others more motivated by the

¹²¹² Berzin argues that the Soviets were motivated by foreign salaries; see “The Truth,” 38. The current archive does not offer evidence on the Soviet decision.

¹²¹³ Some fraud did continue, abetted by the fact that Soviets observed Japanese ships and vs-versa, and both countries were apparently involved in illegal harvesting during the period. However, the scale of illegal hunting dropped substantially along with the total Soviet harvests in the North Pacific. See Ivashchenko, Clapham, and Brownell Jr., “Soviet Catches of Whales in the North Pacific,” 64-67.

¹²¹⁴ Victor Scheffer, “The Case for a World Moratorium on Whaling,” in Joan McIntyre, comp. *Mind in the Waters: A Book to Celebrate the Consciousness of Whales and Dolphins* (New York: Scribner and Sons, 1974), 230.

¹²¹⁵ For a discussion of the boycotts and letter campaigns, see Dorsey, *Whales and Nations*, 237-240.

¹²¹⁶ McVay, “Can Leviathan Endure,” 6-7, 9.

¹²¹⁷ Some on the *Dal’nii Vostok* might have known of Greenpeace’s intent; the group knew about the fleet’s position because of information another member received at the IWC meeting happening simultaneously.

¹²¹⁸ Robert Hunter, *Warriors of the Rainbow: A Chronicle of the Greenpeace Movement 1971-1979* (Amsterdam: Greenpeace International, [1979], 2011 Kindle Edition), 192.

¹²¹⁹ Rex Weyler, *Song of the Whale* (Garden City NY: Anchor Press/ Doubleday 1986), 119. Sperm oil was considered strategically important in the U.S.; see Dorsey, *Whales and Nations*, 235. Weyler was a journalist who became very active in Greenpeace. Here he is recounting an interlude between Mowat and Paul Spong, a cetacean researcher and one of the original Greenpeace crew. For a thorough history of Greenpeace, including the diverse social and intellectual origins of the group, see Zelko, *Make it a Green Peace*.

idea of individual cetacean rights. But by the time they confronted the *Dal'nii Vostok*, they had spent a month on the *Phyllis Cormack* attempting to communicate with gray whales – by playing music or mediating – an experience that, the group's leader Robert Hunter recalled, had the effect “of ‘converting’ everyone into whale freaks.”¹²²⁰ It was conversion that made the primary objective, of disrupting the whale fleet, morally pressing. The actual smell of the *Dal'nii Vostok*, and the sight of it gushing blood from the gunwales in the midst of butchering, was unexpectedly shocking. “We realized,” Hunter wrote, “that here was a beast that fed itself through its anus, and it was into this inglorious hole that the last of the world's whales were vanishing – before our eyes.”¹²²¹ With cameras rolling, and with the whalers no longer clapping, the Greenpeace crew tried to shelter a pod of sperms from industrial death with their own bodies.¹²²² From the resulting confusion of roaring engines, screaming humans, spouting whales, and seeping gore, the *Dal'nii Vostok* harvested two sperms. Greenpeace took away priceless footage of a Soviet harpoon exploding into the flesh of an exhausted whale, its explosive charge barely clearing the people risking their lives to shelter her.

For the next several years, Greenpeace pursued Soviet fleet, using coordinates provided by the Pentagon – which thought the *Dal'nii Vostok* was a surveillance front – to throw human bodies between cetaceans and the harpoon, and human cameras between the Soviet vision for whales and the American.¹²²³ The heckling opprobrium of international activists, which only increased IWC pressure to reduce quotas or cease the hunt altogether, offered the Soviets yet another reason not to whale. It had been decades since the country had driving material cause to kill cetaceans. By the late 1970s, there was no longer even an ideological purpose. Whales had value to the communist project as blubbery manifestations the plan, the plan that in is increase substantiated the promises of socialist progress. Scarcity violated this, lessening the value of whales and the labor of killing them. Capitalists eighty years prior whaled limited stock because there could be real market value in paucity. But for the Soviet whaler, cetaceans fueled the fiction of the plan, the fiction of endless expansion, only in the act of ever-increasing death. And death could not increase year after year without eating finally into its generative source, the slow-breeding stock of life. The milk spilled on Soviet decks left communist hunters floating on a sea of lack, their rituals emptied of whale content and impossible to perform. Harassed by singing men in rubber boats, the ocean was no place for socialist heroes. Soviet palaces became rusting monuments to earthly limits. In 1979, the USSR withdrew its last factory fleets from in the North Pacific, a few years before a worldwide moratorium on industrial whaling.¹²²⁴ After nearly a hundred a fifty years of combined capitalist and communist mass slaughter in the North Pacific, the remorseless havoc ceased. Leviathan had endured.

¹²²⁰ Hunter, *Warriors*, 176.

¹²²¹ Hunter, *Warriors*, 207.

¹²²² I have not found Russian language accounts of this event; the narrative here is based primarily on Zelko, *Make it a Green Peace*, chapter nine; and Hunter, *Warriors*, chapter two.

¹²²³ Zelko, *Make it a Green Peace*, 285-286. Greenpeace was apparently suspected by the Soviets as a spy front, an image assisted by the fact that it targeted only Soviet ships, since the Pentagon had no use for tracking the Japanese; it is an image the group retains in Russia today.

¹²²⁴ The IWC moratorium went into effect in after the 1985/1986 season; some countries, Japan most notably, did not follow it or used the scientific exception to the disgust of many. The Russian Federation has filed an objection to the moratorium, but does not currently whale. For a history of how the moratorium was passed, see Dorsey, *Whales and Nations*, chapter seven.

COMPOSING A FUTURE

A gray whale born in the late 1980s did not swim through the same sea of risk as its parents, or its grandparents. The people in New Bedford and Moscow no longer released the value of a live whale to human society only through its death, its parsed transition into capitalist commodity or communist statistic. For much of the world, a world far from the Bering Strait, the right thing to do was let calves grow into mottled, barnacled adults. Dead whales had once been valuable as light; left alive, they had become a sign of enlightenment.

Enlightenment, even one born in the longing for a pre-lapsarian past, envisions a universal line from the benighted world to a better one. In the Bering Strait, capitalists had tried variations on this theme of progress through private property and markets. Communists tried salvation by collective production. Neither vision proved precisely or particularly universal; both stumbled over real existing arctic nature and split into variations of themselves. Enlightenment, as understood by environmental activists, was supposed to fly by such anthropocentric nets. People had to progress (back) to a better world by living in harmony with their environment.

The end of industrial whaling seemed like a successful exercise in creating harmony: people learned about whales and stopped killing them. Capitalist and communist ideals of value had bowed to the environmental. But in the Bering Strait, enlightenment-as-harmony met an ecology in which people still wanted and needed to kill whales. Inupiat and Yupik hunters from North America killed ten or twenty bowhead whales each year.¹²²⁵ Across the Strait, schooners hunted for Chukotkan *kolkehozy*, taking dozens of gray whales for the final, local enactment of plan-making with whale bodies and old ideas of community. Did this count as harmonious? The issue of indigenous whaling revealed a schism in environmental thinking about whales, and a more general difficulty with making natural balance normative. On the one hand were people who valued whales – or humans or any other creature – equally in an ecological sense. If whales contributed to marine habitats at the species-level, any given animal was unimportant, part of a larger equilibrium that included human predation. It was a position that implicated all human life in all other life; people could hunt because other animals hunted. On the other were activists who saw whales, like humans, as bearing selves, souls even, granting each individual rights. This position implicated all life – at least all life intelligent enough to warrant rights – in a moral order imposed by the human mind, while asking human bodies to withdraw from the fleshy business of finding prey.

Neither vision worked, exactly, in Beringia. Animal rights ran afoul of human rites. Paul Spong, a Greenpeace activist and cetacean researcher, concluded that native hunters used too much technology to be traditional hunters; they should instead think of whales, “as neighbor and friend, an object of curiosity and affection, rather than food.”¹²²⁶ Native hunters responded by organizing politically, asserting to Congress and the IWC that they held whales as objects of affection *and* sustenance simultaneously. They had done for a very long time, in a place where abstaining from

¹²²⁵ Indigenous whalers were given legal exception from the Marine Mammal Protection Act. After 1970, the number of bowhead whales increased fairly dramatically, as more hunters were able to buy whaling kit due to a surge in oil revenue in the state. Inexperienced new crews killed more whales, and struck more than they landed.

¹²²⁶ Paul Spong, “In Search of a Bowhead Policy,” *Greenpeace Chronicles* (November 1978): 2.

taking life meant their own death. First in Alaska and eventually in Chukotka, Inupiat, Yupik, and Chukchi hunters won the political entitlement to enact their version of cetacean value.¹²²⁷

The vision of ecological harmony faced a different challenge. The gray whales that Chukchi and Yupik hunters hunted in the late 1980s did not swim through the same ocean as their ancestors. In killing off most of its great cetaceans, humans helped alter the composition of the Bering Sea. The different species of whales in the wider North Pacific – not just the grays and bowheads, but blues and sperms and humpbacks further from the Bering Strait – were gone, and their work with them. Sperm whales stopped eating so many squids. Baleen whales stopped consuming as much krill. Around their absence, the movement energy through the layers of the ocean, from the small creatures through to the fish, shifted. There were more flat-fish and fewer herring. Deprived of young whales, orcas began killing more seals. Energy moved through the ocean differently, and perhaps less was fixed in the bodies of plants and animals.¹²²⁸ But energy is always changing how it moves through the oceans. What of these changes came from the death of great whales and what of it was climate; and what of the climate was inevitable and what was human, is impossible to parse. These alterations in the Bering Sea ecology challenge the value of judging human action by its accordance with ecological balance. Human beings are implicated in the harmony, constantly playing with the tune even while trying to catch its rhythm.

The ocean will roll on even when human beings rewrite its score of species, from the leviathan to the diatom. The grand reshuffling of Bering Sea energy in the nineteenth and twentieth centuries might come to appear, in the twenty-first, like a mild prelude to the cascade effects of a warming climate. Humans may have become greater than the greatest whale in the capacity to make life, or to take it away. Temperature changes are already working their way across the ocean floor and up through the bodies of fish and mammals. Yet the ocean will roll on. It does not answer the questions posed by its changing depths. On what time scale will the marks of *Homo sapiens* shock and fade, ebb and pulse over the earth? What makes for a right and just association between beings and things, human and otherwise? These questions are not abstract. They are the cumulative result of daily life. They are questions of value, of what human imaginations make real through political decision and practical action. The transformed relationship between people and whales along the Strait over a hundred a fifty years demonstrates the power of that imagination. It made landing a bowhead whale on St. Lawrence Island in 2016 host a whole social world; it made capitalist whalers and Soviet factory ships alike deny the present for hope of the future; it made those same factory ships so horrible to other people they risked death in stopping them. Yet none of the ideas capitalists or communists or anyone else hurled north made the Bering Sea roll fully to the will of markets or plans or other trajectories of perfection. The foremost limit to the ideological imaginations of the twentieth century was in believing there were no limits. The twenty-first century may be less idealistic, but we are still embarked. We must wager on the world we wish to compose.

Meanwhile, the Bering Sea rolls on, making do with the sunlight and silt.

¹²²⁷ For more on the politics of the bowhead whale controversy, see Dorsey, *Whales and Nations*, 244-255.

¹²²⁸ For an overview of the trophic cascades initiated by whaling, see and Croll, et. al., “Ecosystem impacts” 202-214; National Research Council, *The Bering Sea Ecosystem*; and Phyllis J. Stabeno et. al., “Physical Forcing,” 1177-1212.

CONCLUSION

BERINGIA, 2015

In late autumn, Beringia's ravens begin to gather. They are fat and glossy after the endless day of the arctic summer, chicks grown over two feet high and ready, with their parents, to join in the company others. If there is a town or village nearby, the flock may turn to it, air hissing through their wings as they settle amid the eaves. Beyond, the tundra is turning deep red after the frost, the river valleys become looping lines of gilt yellow willows. Along the coast the sea is pewter dark and rimmed with ice. One day is lit by watery sun; the next will bring winter, all at once, in a blizzard. Against this the black birds cluster, patterns of ink forming and resolving as they move in the air.

Ravens flock but do not go south. They do not need to. The common raven, *Corvus corax*, is omnivorous and intelligent, and finds ways to live across every arctic continent – and in deserts, temperate forests, plowed fields, and cities. In the north they inhabit every ravine's birches, every coastline's sheltering patch of spruce. And always with one rolling black eye on the world of people. It is not idle curiosity; the birds learned long ago to prospect among humans because humans make energy predictable: leaving piles of steaming carrion, untended racks of drying fish, tins of cast-off miners' biscuits, the endless possibilities of refuse heaps. So the birds come into Beringian villages when the cold bears down on the land.¹²²⁹ Oil-slick black bodies gather around a dog-team at feeding time, perch on a gunwale to snatch fish from a net, congregate at dusk to gurgle and rasp and cry in their liquid croaking voices.

From their ubiquity, Chukchi, Inupiat, and Yupik wove ravens into their narratives of origin. Across communities of the Strait, the birds are both tricksters and saviors, using their wits to fetch earth for drowning people, cast away the evil spirits that torment reindeer, or kill a great whale to make land.¹²³⁰ The people at Point Hope have a story about a raven that covets a skin ball, hoarded underground by a night-loving peregrine falcon. The ball holds the whole life-giving sun, made sterile by internment. Raven's plot is to free the light in order to make a new world, a better world, for human beings.¹²³¹ Liberating energy is the root of a human revolution in a story first told long before its tellers met a metal oil lamp, let alone an internal combustion engine.

In the twenty-first century, it was people rather than a black bird that came to liberate energy from below Beringia's habitable surface. They came not for light but for its relics. Under the Chukchi Sea are millions of gallons of old sun made flesh by plants, made petroleum by time and

¹²²⁹ Descriptions of raven behavior and appearance are drawn from the author's experience; information on range, population, and habits come from W. Boarman and B. Heinrich, "Corvus corax: Common Raven," *The Birds of North America*, 476 (1999): 1-32.

¹²³⁰ For examples of raven stories, see Kira Van Deusen, *Raven and Rock: Storytelling in Chukotka* (Seattle: University of Washington Press, 1999), 21-23 and 102-104; Edwin Hall Jr., *The Eskimo Storyteller: Folktales from Noatak, Alaska* (Knoxville: University of Tennessee Press, 1975), 93-95, 347-348, 447-449; Nicholas Gubser, *The Nunamiut Eskimos: Hunters of Caribou* (New Haven: Yale University Press, 1965); and Tom Lowenstein, *Ancient Land: Sacred Whale: The Inuit Hunt and its Rituals* (New York: Farrar, Straus and Giroux, 1993), 3-6; 65-66.

¹²³¹ Lowenstein, *Ancient Land*, 65-70. Lowenstein's telling of the raven and light story echoes versions told elsewhere across Beringia, but I am in debt to his ability to make real the telling and meaning through poetics in English.

heat and pressure, and made precious by the internal combustion engine. Geologists knew for much of the twentieth century that oil pooled under Beringian waters in a submarine field as rich as Prudhoe Bay. But only in the twenty-first century was there technology and demand sufficient to attempt extracting petroleum so guarded by water, earth, and climate. In 2005, Royal Dutch Shell began buying development leases in the Chukchi and Beaufort Seas. One day in May, a decade later, a half-submersible oil-drilling rig named the *Polar Pioneer* arrived in the Port of Seattle. With its eight yellow towers suspending a central drill and bristling with cranes, it bore little resemblance to the ships that bore whalers, hunters, and miners north the past. But like them, the *Polar Pioneer* was waiting for the sea ice to retreat and liberate value from the arctic. Like many of the prospectors gone north before, that source of value was energy. Only this time, instead of making do with reindeer meat and whale blubber, Beringia seemed poised to offer up industry's most potent fuel.

THE *POLAR PIONEER* is a fitting coda for the previous five chapters. Sailing an oil rig to the Chukchi Sea was an endeavor heir to the appetites and motives of the long twentieth century. For the US government, not exploiting Beringia resources risked, as one editorial argued, of jeopardizing "America's global competitiveness, leadership and influence in the Arctic."¹²³² Modern economies grow on inexpensive energy; the thirty billion barrels lying under the seabed made access to energy predictable.¹²³³ Barak Obama authorized arctic drilling, since "US production of oil and natural gas is important," and "importing it...is bad for our people."¹²³⁴ Royal Dutch Shell, the fourth largest corporation in the world, cared less about sovereignty but plenty about growing profits. Through drilling they saw "a future of new ports, new airports and permanent rigs," able to "bind Arctic Alaska to the rest of the world."¹²³⁵ The Russian Federation, with its own offshore ambitions, its own claims to the arctic seabed, and its own partnerships with Shell, sent a ship to surveil the *Polar Pioneer*.¹²³⁶ Environmentalists worried that the end of the world lay under the ends of the earth. In the words of Bill McKibben, "Shell helped melt the Arctic and now they want to drill in the thawing waters," noting that arctic oil is "exactly the sort of carbon we need to leave underground if we're going to have any chance of avoiding [climate] catastrophe."¹²³⁷ Inupiat communities found themselves torn between the possibility of participating in the market through oil jobs and or being left with nothing but the sludge of oil spills. Their past was a guide to the goods and havoc energy prospecting brought. "The hunger for oil," Point Hope mayor Steven Oomittuk told a reporter, "our ancestors went through it before."¹²³⁸

The motives and ideas that flocked around the *Polar Pioneer* as it sailed north in June 2015 were not new. Walrus were once folded into national border-making, a miniature act of sovereignty

¹²³² Gary Roughead, "In the Race for Arctic Energy, the U.S. and Russia Are Polar Opposites," *The Wall Street Journal*, August 25, 2015.

¹²³³ "A Narrow Opening for Arctic Oil," *The New York Times*, May 13, 2015.

¹²³⁴ The White House Press Release, "Remarks by President Obama in Press Conference after GSS Summit," May 14, 2015.

¹²³⁵ McKenzie Funk, "The Wreck of the Kulluck," *The New York Times* December 30, 2014. The size of Shell was true when it purchased the Beringian leases.

¹²³⁶ Jack Tapper and Jeremy Diamond, "Russian Intelligence Ship Spots American Oil Vessel," CNN.com, September 7, 2015.

¹²³⁷ 350.org Press Release, "Bill McKibben Responds to White House Decision on Arctic Drilling," May 11, 2015.

¹²³⁸ William Yardley and Erik Olsen, "Arctic Village Is Torn by Plan for Oil Drilling," *New York Times* October 11, 2011.

through energy. Reindeer made local populations participant in markets or their collective denunciation. Gold and tin from the Straits went everywhere and left behind ports and airports and roads. Hunting whales bound Beringian waters to distant people, first as buyers of lamp fuel, then as participants in socialist construction or advocates of cetacean rights. And beyond the familiarity of the energy hunger it was built to feed, the *Polar Pioneer* entered a Beringia littered with artifacts of prior revolutions. Present everywhere were traces of the individuals and ideas that unmade small nations; made national borders; remade the environments of the sea, the shore, and the land; and reformed through practice the concepts, desires, and motives of the region's inhabitants.

Yet notably absent from the twenty-first century was the possibility of utopia. Communism and its vision of transformation through collective industry was gone. Russia's petrol ambitions had them cooperating with Shell, not denouncing the imperialism of global capital while attempting to make a new world order. And capitalism's world order had lost if not faith altogether, than its bygone sense of progressive anticipation. When Shell lobbied for northern drilling rights, they ran television ads showing a little girl in bed, a polar bear on the lampshade illuminating her book, while a narrator told viewers that to "keep the lights on for her, we will need to look at every possible energy source." Capitalism in the twenty-first century requires aggressive growth just to stand still. On the environmental side, the argument is no more hopeful. The environmentalists who protested the *Polar Pioneer* in editorials and from kayaks in Seattle's harbor and so not in the service of Eden restored, but to keep the grubby present from deteriorating further. These were not narratives of progress or even preservation, but of hard-won stasis. Nor was the language of public policy any more triumphant. It divided roughly between those who valued Beringia for its goods – its oil, its minerals – or for "ecosystem services." Some of the services were cultural or ephemeral, like the experience of a frontier or the aesthetic pleasure of the wild. Others were concrete, as when sea ice assists in regulating climate, or when a whale enlivens the surrounding ocean. But the terms are telling; goods and services are the primary units of capitalist value. They are units of worth that deflate easily into the abstraction of currency, that conflate monetary value with utility with rationality. A sunrise lights deep orange steam as it rises from an icing autumn river: this is a service. The salmon battling up that river, carrying ten thousand years of genetic memory, next year's potential spawn, and the energy of its delicious flesh: that is a good. Utopia is gone from this, the dominant rhetoric of our time. What remains are thoughts and prospects constrained by the apparent universality of economic estimation.

What this ignores is history. The long twentieth century was often terrible. It was terrible to people and terrible to the landscapes and living things that existed alongside them. Its years saw Inupiat, Yupik, and Chukchi villages wracked with disease and filled with starving children. It saw men die in mines and on ships, for money and for ideas and for no reason at all. It saw rivers and mountainsides remade, and saw species left near extinction to fuel markets and collectives. But the twentieth century was also a place of continual experimentation done for progressive impulse. Under scrutiny, it is also a place where universals fared badly. Capitalism and communism did not look the same across space. At sea, the technological capacity for humans to kill whales overcame whales' adaptive avoidance, meaning that the modernist expectation of efficiency and growth through technology ran afoul of slow-breeding animal biology. On the coastlines, both the United

States and the Soviet Union recognized these biological limits in walrus populations, choosing to curtail hunting, a moment of shared ecological recognition that violated the idea that the market or Marxist production managed best. On the tundra, capitalist and communist efforts to standardize reindeer as an agricultural resource did change indigenous lives, but did not become a stable resource because of climate factors. And in their hunt for gold, both countries proved able to master the static problem of geology and do with the land what they wanted. Beringia flexed hard ideas into new forms; human values and politics constantly compromised between ideological drive and material circumstance. The result indicates that the rule of the past is not universality, but plasticity. It is a lesson buried in the post-communist moment, when we have cast aside the hope for a better world and retained faith in universal historical laws. It is an equation that the twenty-first century may require we reverse.

A RAVEN LIVES for a decade. Fifteen generations of *Corvus corvax* watched Beringia's long twentieth century, from the whaler's revolution of 1848 to the arrival of miners in 1898, from domestic reindeer coming to Alaska and Bolsheviks coming to Chukotka, from the advent of Cold war borders in 1948 to the whimpering end of Soviet factory whaling in 1978. The ravens watched people come to the arctic for the raw material upon which human ideas feed, and ravens ate the leftovers of the revolutions that followed. From the Alaskan shore, ravens were witnesses to the *Polar Pioneer* turn and leave Beringia in the autumn of 2015. After ten years and six billion dollars, Shell discovered too little oil in their test well to legitimate the expense of work among the familiar arctic burdens of cold, distance, rough seas, and intemperate weather. Compounding material problems was a contest over value; the US government imposed strict and costly rules meant to protect the services of the arctic, the species and seascapes, from the contamination of leaking oily goods. Come to the arctic to take energy, Shell left having expended far more than it gained. Its plan adapted to local circumstances, like many a plan before, by failing. The one universal in Beringia is the inconsistency between human desire and material outcome.

Around the anchors the *Polar Pioneer* left on floor of the Chukchi Sea, the arctic world is also failing. It is failing to exist in the form these chapters described, the form familiar to the hunters, miners, government workers, missionaries, whalers, teachers, merchants, prisoners, communist converts, capitalist resisters, and occasional tourist. The most recent revolution in the arctic is to rob it of its defining coldness through the distant, furious activity of billions of people burning up the fixed carbon artifacts of ancient sunshine. In the creeping absence of frost, the sea is coming for whole villages. Black spruces die and lean drunkenly as the permafrost melts from beneath them. Walrus without their usual frozen berths beach themselves by the thousands. Caribou and reindeer catch their antlers in shrubs grown tall and thickly green by warmth. Salmon eek north to find cold rivers. On iceless shores, polar bears meet grizzlies and between them make strange new creatures: perhaps fit for a warmer age, perhaps unfit for any. Their lives are heir to a thousand natural shocks, many now of human origin.

Writing about the rapid alterations to Beringia is elegiac. But it is not entirely an act of mourning. Ravens, like some other species, are not afflicted by a warming climate or human presence. Their range has expanded onto the high tundra because they learned that houses and

equipment substitute for nesting trees. In their apparent contentment in raising their young under streetlights, the birds are a warning against using nature as a universal measure for what people value. Ravens thrive in this changing world. We may not. Estimating Beringia is a human endeavor, an ideological endeavor, and that makes it adaptable and subject to political contest, not perfect measurement or universal outcome. It is also an endeavor that will never entirely shake the influence of the natures it tries to harvest, to protect, to value.

IN THE INUPIAT legend of raven stealing light, he is successful in creating a new world. But it is not quite the world he planned. When the raven takes the ball of the sun from the falcon, they fight. In the course of their battle, the two birds etch a pattern of dark and light into the land and the sky, patterns that are neither all shadow nor sun, neither all old nor all new. Looking at this pattern, the birds decide that light and dark are better together than separated. The mixture, born in the happenstance, makes seasons and time. It is in the blending that the world becomes habitable. At its origin, this is not a story about how the human and nonhuman world fit with each other. But it could be, at least as a metaphor. It could be a story about the inseparable pattern of things born from contest, from conflicting desires, from the hope to make existence better, and from the raw elements that make a place our home. There are human beings, and there are all the other beings and features of the earth. As the raven told the falcon,
“It would be no good,
if we had one and not the other.”¹²³⁹

¹²³⁹ Lowenstein, *Ancient Land*, 66-70.

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