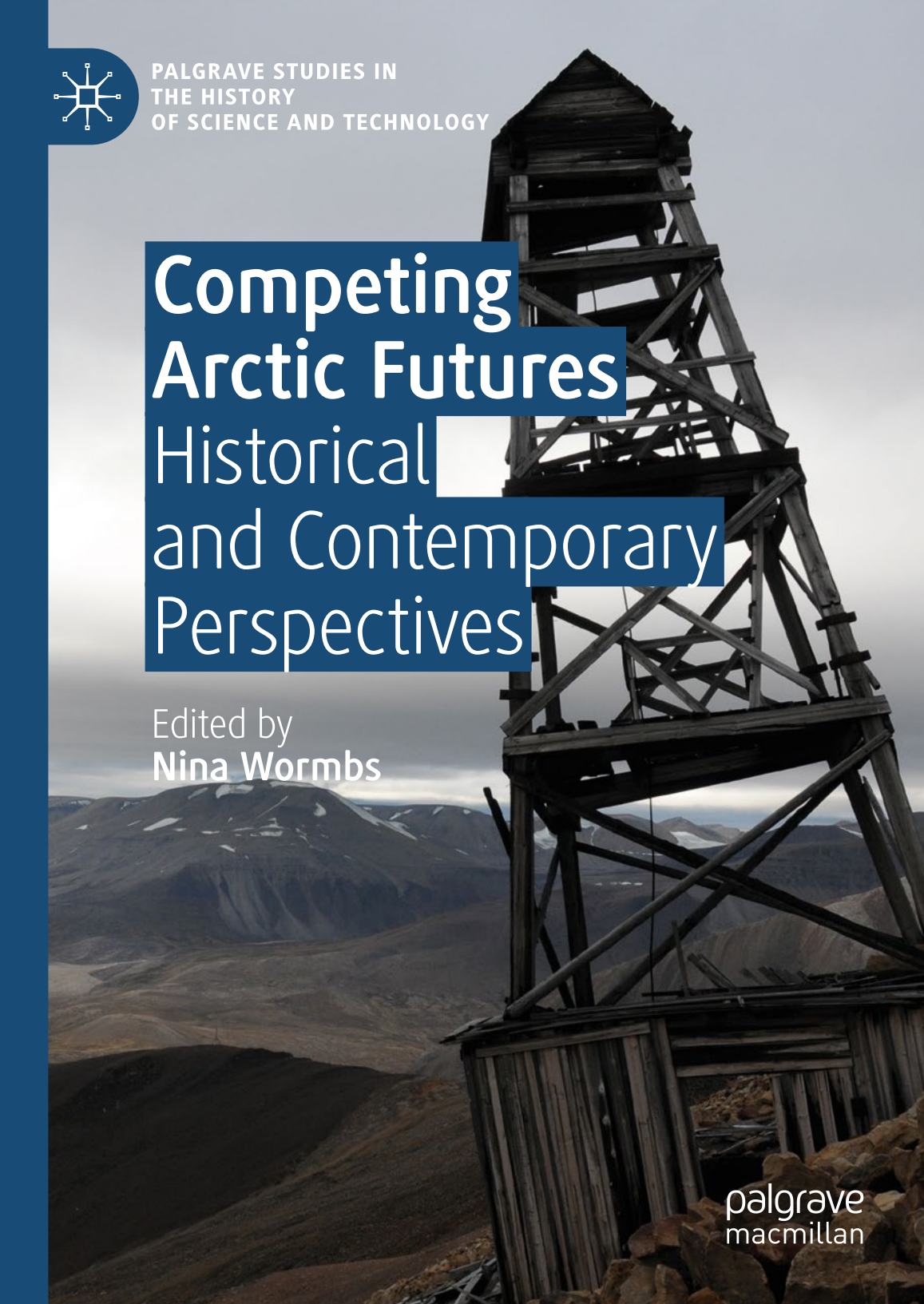
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Competing
Arctic Futures
Historical
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Perspectives
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Nina Wormbs
Editor

Competing Arctic Futures

Historical and Contemporary Perspectives

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CHAPTER 1

Introduction: Back to the Futures of an Uncertain Arctic

Nina Wormbs

Introduction

The Arctic is hot. Stories abound on this region and its weather and climate.[1] The relatively larger heating in the region has put this perceived periphery at the center of the global map. Among all these accounts, there is one dominant narrative: the ice is melting and this allows for increased shipping and resource extraction—or rather, *when* the ice melts, *there will be* increased shipping and resource extraction. This book is about unpacking such dominant and deterministic narratives of change that project a future we have not yet seen.

The conventional future of the Arctic trope is deterministic with climate and the extraction of natural resources as the chief two *drivers* of change. As will be demonstrated in this volume, these two have been interlinked for a long time. Recently, however, the possibility to choose between different futures by the way of our own actions seems virtually absent. Determinism has increased with the forcefulness of climate change, to many invisible but nonetheless perceived as unstoppable.

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This narrative has consequences for the possibility of action in the present. It certainly provides opportunities for some, but for others it offers mostly constraints, if not decay. The language of natural science, with terms like *resilience* and *mitigation*, and (monolithic) *drivers* as shorthand for explanations and complex causal relationships, points to precisely this process of adjustment and adaptation to changes as a consequence of a warming Earth. However, we must not conflate how climate responds to human action—captured in the term anthropogenic climate change and brought further with the geological terminology of the Anthropocene—with how humans can respond to the changing climate.[2]

In this volume, we claim that it is important to unpack the nested arguments of this determinism, where science, environment, resources, economy, ideology, lifestyle, etc. are mixed to form projections on the future of the Arctic. There are actors who propose these futures before they happen, and to propose and project is a practice with a long tradition.[3] History is in fact a great repository of projections about the future and not the least the future of the Arctic. The exploration of such futures, in a number of areas and in different times, forms the core of this volume. We show the processes by which futures are made and argued for, why they get traction, how they are carried out in action or alternatively lose ground and get forgotten.

This is not just another version of the idea of predict and provide, as for example in planning, but a larger and more complex argument involving entire frames of understanding of the forces behind change.[4] In this volume, we regard projections as performative acts. How projections of the future function as predictive of that same future and when they actually become performative statements are therefore questions of central importance in this volume. We have not set out to look for specific scenarios or *imaginaries*, to use a term recently applied in an Arctic context,[5] and we have not had the ambition to categorize the ones we have identified. Rather we aim for a more contextual analysis of the assessments of the future that are constantly produced and how they become part of history itself.

This region lends itself to a more limited and therefore manageable analysis, partly because some themes are more prominent and they have been prominent also historically. Resource extraction is one, scientific exploration and monitoring is another, and the presence and agency of indigenous peoples is a third theme. Over time, these themes have become interconnected, supporting, and even creating each other,

but today they are interlinked in partly new and unexpected ways. By pointing out these processes in the past and the trivial fact that the projections did not all come true we hope to contribute to a more reflexive and critical discussion of the present production of Arctic futures.

Theoretical and Empirical Background

The present volume has developed around the theoretical understanding that the production of futures in the Arctic can be analyzed in three separate but interconnected dimensions: voices, resources, and governance.[6] *Voices* highlights the fact that it is actors (individual or institutional) who articulate visions, do politics, and perform the actions that shape the future of the Arctic. The actors in this framework are not just those who act on the big stages of geopolitics but also those who have a voice, of any kind, that can be expressed in the discursive production of futures. Sometimes, they voice arguments and concerns, propose alternatives and oppositions, but which do not gain traction or are actively silenced. The voice and position of indigenous peoples is a case in point.[7] To bring forward and analyze these statements—supported or not by scientific knowledge, economic analysis, or personal experience—is a crucial part of elucidating the role of human and social agency in Arctic change. Or, put differently, "facts do not speak for themselves,"[8] nor do views or experience.

Actors also articulate the value and utility of *resources. Resources* are a constructed category—their value and utility determined by their location within political and economic networks rather than being a priori qualities. They are not just "out there" ready to use. This idea, inspired by geographer Gavin Bridge,[9] also implies that resources must be understood as historical and relative to political, economic, technological, ethical, and other circumstances. What is valued as a resource is dependent precisely on value *systems*, which are deeply situated in specific historical and ideological contexts, and have to be voiced as such. The transformation of fossils into fuels is not just geological, and societal relations to resources are complex.

Finally, *governance* refers to the means through which power over people, places, and objects is exercised. Just like voices and resources, the term can be further theorized. Our understanding is rather broad and includes organizational systems, processes, and institutions as well as national politics and international agreements, such as for example

the United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS in itself structures the way in which the seabed is perceived and hence what claims are made and can be made in relation to this international agreement. The possibility to extract something is not universal but also situated, and therefore it is not just the actual place of the extraction that is important but also the structures that govern it. Actors mostly have to act within the given governance structures tying together resources with voices. Thus, the traditional analytical space of agency, structure, and materiality are created through these three interconnected dimensions.

The contributing authors have chosen their own individual concepts and theoretical tools to make the most of their individual chapters, but the voices–resources–governance triad has served an underpinning and inspirational role throughout the preparation of the volume. The fact that they are interlinked and interdependent has proven to be a useful reminder to deconstruct externally invoked drivers and recognizes, for example, sea ice retreat or global oil prices as components of the futures articulated by actors rather than forces against which politics is helpless.

Many Arctics and Many Futures

As indicated above, interest in the Arctic is growing dramatically among scholars, students, so-called stakeholders, and in the wider policy community. This reflects both growing concerns for the region as well as the emerging possibilities relating to the environmental and other changes at hand. History has always reflected the interests of the present, and, as Sverker Sörlin and Paul Warde have put it, "our times are marked by the increasing role of the environment, as the Earth of wonders and resources, as the threatened Planet, as a Nature full of surprises who can 'hit back' on ignorant humans, or as the material Context of our everyday lives wherever we are."[10] The Arctic is an environment that fills all of those roles.

However, there are many Arctics. As the different contributions to this volume show, this vast region comprises a large variety of natures as well as cultures, structures as well as actors. In fact, to even regard this as a region in itself introduces new challenges of how to define it and articulate its borders.[11] We refrain from a particular definition of the Arctic and rather acknowledge what can be considered Arctic as a matter

of debate, and discussion and ultimately of power. For instance, when the five Arctic coastal states formed a Declaration at the 2008 meeting in Ilulissat, they stepped out of the governance structure that the Arctic Council has represented since 1995 with eight Arctic states, indigenous representatives, and observer states. Likewise, few inhabitants of the Swedish mining town of Kiruna, or anyone in northern Scandinavia, would say that they live in the Arctic, even though they definitely live above the Arctic Circle and are thus Arctic by a geographic definition. Political claims and personal identification do not always match.

Much of the writings on the Arctic have historically been grounded in an understanding of the region as exceptional and remote. The popular framing of the Arctic has been as a place of extremes, a last frontier with pristine but dangerous nature and thus well suited for the heroic endeavor of explorers and scientists. Slightly altered, this trope is carried through into the present, supporting and serving certain ideals of nationalism, purity, and strength.[12] *Arctic exceptionalism* is hence a long-lived trope both in the public sphere, within the political realm and in science. Over time, this trope has formed an understanding of the region which is at the same time surprisingly stable and historically contingent.

Recent scholarship, however, has distanced itself from this idea. Arctic, Northern, or Polar studies, also including writings on Antarctica, have investigated the historical formation of this region.[13] The concept *Arctic Norden* has been used in framing the issue of Arctic identity in a collection of essays spanning large parts of the North Atlantic including Greenland.[14] Likewise, the North has also been studied through the lens of landscapes, understood as at the same time economic, technological, and imaginary. Northern landscapes have been formed over time spanning the entire circumpolar area, including Alaska, Canada, Iceland, Orkney, Scandinavia, etc. The argument is that the Arctic has for a long time been part of human history.[15] Other efforts have been made to bring the activities in this area out of their exclusivity with case studies from the history of science, science and technology studies, and anthropology.[16] Books aiming at a more encompassing or educational framing also contribute to this normalization of the region.[17]

Recent scholarship has chosen special and quite distinct angles. Particularly focusing on legal and diplomatic issues is *Polar Geopolitics: Knowledges, Resources and Legal Regimes*,[18] as well as the above-mentioned *Contesting the Arctic*. In addition to the more circumpolar

and thematic approaches, there are a number of recent volumes focusing on a specific Arctic state.[19]

There has also been a growing interest in the study of the cryosphere as such, in which the Arctic is one prominent example. Studies of snow and ice are now forming a humanist glaciology incorporating, for example, anthropology, sociology, history, and science studies.[20] The International Polar Year of 2007–2008 contributed to this incorporation of the humanities and social sciences in the larger scientific discussion on the Arctic and its ongoing changes, resulting in several major publications.[21] Some of this scholarship is also reflexive in that it takes the increased interest in the Arctic as an object of study. *Media and the Politics of Arctic Climate Change: When the Ice Breaks* zooms in on the 2007 sea-ice minimum as the (media) event around which a lot of questions concerning our historical and present understanding of the Arctic are posed.

In much the same way as the Arctic is attracting greater interest, so is the future. But just as this volume is not concerned with one Arctic, neither are we interested in *the* future. A central point of departure for our work is the claim that there are *many* futures projected and possible at any given point in time. *How* some futures but not others are selected and developed, used and rephrased, discarded and forgotten, lies at the core of our investigations. This does not mean that the study of the *scientific* effort to "forge the future" is of no interest.[22] On the contrary, it is a challenging task to deconstruct the way in which the scientific methods used to say things about the future are entangled with other methods, extrapolations, models, visions, utopias, and dystopias forming complex ideas of what might come.

It is a matter of increasing academic interest to investigate how and when the future became so important and gained such status. The scientific methods dealing with the future, as Andersson and Rindzevičiūtė have pointed out, have largely been developed after World War II, in the atmosphere of Cold War politics and ideology.[23] They go under different names, require different methodologies, and have a palette of different uses and users. Under the broader heading of future studies, examples like futurology, forecasting, back-casting, scenarios, and prediction can be included. These are of interest to us when we look for futures in the relatively recent past.

Arctic Assessments and the Scientific Gaze

To state in the late 2010s that we live in a knowledge society, where science is highly regarded and taken as a given base in many areas of policy, might be provocative for some, given recent political events in the United States. Nonetheless, science and the scientific method of producing knowledge still dominates, and will probably continue to do so. When it comes to the Arctic, it is safe to say that most of the information collected about the region has been and is scientific. During the twentieth century, large-scale research has come to dominate data collection in this region, with the International Geophysical Year 1957/1958 as an important landmark. More recently, these endeavors have often been carried out within the organizational form of assessments.

Assessments by now have a rather long history, with an increasing importance since World War II. The US Office of Technology Assessment was created in 1972, and in the United Kingdom the first Research Assessment Exercise was conducted in 1986.[24] The scientific projects dealing with the ozone hole over the Antarctic could be said to be assessments with a policy aim of finding convincing arguments for the relation between the environmental change and pollution. The same might be said for CO_2 emissions and acid rain.[25] For the Arctic, the first assessments in the contemporary sense of the term were under the framework of the Arctic Environmental Protection Strategy, which was part of the Rovaniemi Declaration adapted by the eight Arctic states in 1991. To implement the strategy, the Arctic Monitoring and Assessment Programme (AMAP) was put in place together with a number of other working groups.[26]

The first and second AMAP reports were presented in 1997/1998 and 2002, respectively, and both dealt with pollution issues. The recommendations were to adhere to international law, stressing the need for more data. In 2004, the Arctic Climate Impact Assessment (ACIA) was published, which became influential even though clear recommendations were not stated. It suggested ways to improve coming assessments further and gave much attention to the impact on humans. Moreover, this was also the assessment that focused on climate as an Arctic concern rather than just a global issue handled by the IPCC.[27]

More assessments followed with varying foci such as pollution, climate—for example the cryosphere—and human population. A recent

effort is the *Arctic Resilience Report* that applied the terminology of resilience to the entire region including both the ecosystems and the human conditions. Still, the outcome of the analysis by and large failed to engage seriously with complicated factors such as human societies and human agency.[28] This leaves the region mostly viewed through the eyes of the scientists studying the Arctic environment. Moreover, this gaze is magnified and circulated through the lens of global media and thus the general image of what the Arctic is and what is going on in the Arctic is framed through natural science. This is a gaze with limitations since it does not account for the centrality of social and economic factors in challenges facing the Arctic.

Chapter Contributions

Many Arctics and many futures are presented in this volume, but many are not. The region is enormous and we do not claim to give any kind of full picture. Still, the cases and chapters presented give a more-than-national representation of the Arctic. There are empirical cases from Canada, Sweden, Finland, Russia, and the Svalbard archipelago, there are governance contributions on core institutions like the Arctic Council and the Svalbard Treaty, and there are voices from the miners in Nikel and the Sami in Västerbotten, as well as from stakeholders in South Korea and China.

The first four chapters all deal with resources, at the same time also contributing to other parts of the voices–resources–governance triad. Economics is central to resource exploitation and a discipline since long heavily invested in the future. Bookkeeping and accounting was a way of limiting uncertainty and systematizing knowledge of crops and harvests to project the possibility of feeding society. The task of modern-day economics is of course different but pricing and evaluation of resources and endeavors in economic terms is a practice central to extraction. Expected returns have been part of exploration and exploitation for centuries, perhaps always.

In his contribution on the dream of Canadian oil and gas in Yukon and the North West territories, Paul Warde shows how the assessment of the market for the prospected fossil deposits was key to the possibility of embarking on extraction. Investors needed credible geoscience and “plausible” actors. The way in which economy and geophysics are tied together through politics is not straightforward, as a recent example

from Canada illustrates: Signing the COP 21 treaty in April 2016—having specifically moved to aim for a 1.5-degree warming target for the future—prime minister Trudeau found himself in serious debate on new gas pipelines in May, which lined up a totally different future, both taking place during a two-year period when the price of oil had dropped dramatically.

The extracting companies and their view are and have been central in producing images for the future. In his chapter, Dag Avango gives examples that parallel those of Warde. Avango details the case of Svalbard and the coal extraction of the late nineteenth and early twentieth centuries, a story echoed by many present-day claims. The number of companies is striking, divided into prospecting and extracting as main undertaking. Also this chapter focuses on how the value of a resource was constructed—a central concern for all new companies that wanted to make a profit in the North. Furthermore, Avango treats a period when national identity was reconstructed for several of the central countries involved, adding yet another facet to resource exploitation, namely that of national identity.

In the contribution by Julia Lajus, fish is the illusive resource that does not behave as expected. As Lajus demonstrates, scientists explaining and projecting herring appearances at the Soviet coast of the Barents sea in the 1930s, found themselves trapped between what Moscow wanted to hear and the behaviors of the fish, between the unpredictable politics of the central Soviet state and the similarly unpredictable but natural marine environment. Their professional role was not primarily to investigate the future but rather the fish, still the line between historic, present day, and future catches was hard to draw. The fish was an important resource for the northern ambitions of the Soviet state, and when it disappeared blame had to be placed somewhere.

Compared to coal and oil, reindeer have not had the same status as a sought-after resource. Perhaps ironically, it is a present-day icon of the North, much like the polar bear, possibly due to its dual nature of being both well known through its cultural fairy-tail associations and through being exceptional for many. As Patrik Lantto shows, however, the reindeer was a contested resource in negotiating Sami rights. The idea of the Sami as a homogenous nomadic reindeer herding people affected state policy for the entire community, even though not all were reindeer herding. The romanticized ideal type, featuring specific clothing and traditions, in practice forced them to dress and behave accordingly

in order to earn the rights that central regulation entitled them to. The balance between being representative and being authentic was delicate. In Lantto's contribution, some of the central Sami leaders and their visions are presented, together with their strategies and actions to enable Sami rights. They did not always agree, however, and in particular Lantto highlights how they differed in relation to their identity as reindeer herding. The animal was a tool for the ethnopolitics of the Sami, but a contested one. In his chapter, Lantto also illustrates how otherwise silenced indigenous voices can work towards changing state governance structures.

In the following four chapters, governance is the organizing principle, even though these chapters too tell richer stories. Several governance structures in the Arctic are currently under pressure as interests shift in the wake of environmental and political change. In this section, the separate chapters each contribute to the multitude of understandings that form the basis of proclaiming new ways forward.

Annika E. Nilsson discusses the emerging focus on safety and security as the Arctic is increasingly envisioned as a growing economic zone, connecting it to the above-mentioned examples of resources continuously sought after in the region. Nilsson analyzes the speech acts proclaiming a specific future of the Arctic, where protecting the environment is replaced by an ambition to keep business safe, all under the overarching banner of maintaining peace. The focus on securing business must be seen in the light of the changing geopolitical context of the Arctic Council.

Lize-Marié van der Watt and Peder Roberts pose a totally different question in their bi-polar chapter. Why is it that the Antarctic Treaty System of 1959 increasingly functions as a source of inspiration or even a blueprint for the future governance of the Arctic? Through several examples, they detail a growing fascination with the ATS among academics, policy makers, and journalists, and unpack its components. Their contextual critical analysis challenges the idea that systems are unchanged by history and shows how the politics and moral dimensions of the ATS are conveniently downplayed in portraying it as useful to the Arctic.

Yet another but rather different example is discussed in the contribution by Alexander Gnatenko and Andrian Vlakhov, who look at changes in the governance structures of two Russian regions, the Republic of Karelia and Murmansk Oblast, in the 1990s and 2000s. Following the collapse of the Soviet Union, the Moscow leadership varied greatly

between Yeltsin and Putin, respectively. However, the effects on the local and regional level were arguably not as profound. In their nested approach, Gnatenko and Vlakhov also involve workers in the towns of Karelia and Murmansk, illustrating the inhabitants' deep dependence on the resource extractive industries for employment.

The last chapter that can be said to deal primarily with governance is written by Eric Paglia, who lets us follow the argumentation for achieving observer status to the Arctic Council. In recent years, the number of applications has increased, coming from states which might not be the first ones that come to mind as Arctic. Arguing at a distance, they claim to be connected to this region, telecoupled, and therefore should be allowed to have a say in its governance. In Paglia's analysis, it becomes apparent that almost anything can be used to get closer to this circle, physically and metaphorically.

Whereas many of the above-proclaimed futures of the Arctic are textual or vocal, Ekatarina Kalemeneva's contribution, the penultimate chapter in the volume, adds a visual component. In her chapter, she discusses the visions of future Soviet Arctic urban settlements in the 1960s. High modern Leningrad architects envisioned microclimates enabled by domes and other futuristic constructions in the far north that would be attractive to settlers, and serve as the frontier of the Soviet Union. They were exceptional, but at the same time did not take into account local conditions. Eventually they did not materialize, partly because the ideas lacked both sensitivity to the climatic context and to the practices and knowledge on site.

The final chapter of this volume relates the present Arctic futures to a larger discussion on the "fate of the Earth" as it appears in the ongoing debate on the Anthropocene and planetary. In his contribution, Sverker Sörlin ties the entire book together by interleaving a long durée view of the development of the Arctic with today's fight for attention and right to define the region. With the help of earlier prophets of the Arctic, Sörlin shows how this region has been one of projections for a long time, and argues that we need more empirically sound and thick histories of the Arctic.

Agency in the Arctic

The chapters in this volume one by one bring back agency in a variety of stories about the Arctic by giving voice to people. As indicated

above, Ekaterina Kalemeneva shows how ideas of the North were the focus of Leningrad architects' building ideology, Lize-Marié van der Watt and Peder Roberts illustrate how the contemporary Arctic governance discussion engages journalists, academics, and politicians, and Eric Paglia brings civil servants of "near Arctic states" out in the open analyzing their quest to become part of Arctic governance. In their chapter, Alexander Gnatenko and Andrian Vlakhov give voice to miners in the town of Nikel, who have their view of the future as tightly connected to the ore as are the atoms of an alloy. Elsa Laula, the controversial early Sami rights spokesperson, is given space in Patrik Lantto's chapter on Sami futures. In Julia Lajus' piece, Nikolai Knipowitsch, Soviet marine biologist and oceanographer, argues for long-term research of marine resources, while at the same time trying to protect himself and others from unpredictable Soviet-state disappointment in the face of waning herring catches. In the chapter by Paul Warde, Cam Sproule and Jack Gallagher are men who use their persuasive skills to get resources for surveying and assessing the oil reserves of Northern Canada.

Whether regional Russian politicians, Canadian oil prospectors, Swedish Sami leaders, Norwegian entrepreneurs, or Chinese ambassadors, they have all been, and some are still, deeply engaged with this region trying to accomplish something. They have intentions, they have desires, and they have fears and hopes. Some are responsible and others are ruthless. Some work in teams and some alone. These stories are striking in how they put human agency and interest back into narratives of change in the Arctic. In doing so they can balance the faceless drivers of climate, globalization and geopolitics that otherwise permeate the media image of this region.

There have been people in the stories before, primarily the explorers and the scientists. Indigenous peoples have obviously also attracted a lot of attention over centuries, likewise exceptionalized, but perceived as static. It is only recently that the circumstances of local fishermen and reindeer herders have been allowed to also illustrate the general effects of change in the Arctic in a mainstream narrative. In the stories of this volume, the cast is much broader. The chapters deal with different time periods and different areas, but a unifying theme is the every-day character of many the actors; they are simply normal people, indigenous or not, with an Arctic interest and engagement.

True understanding and a subsequent will to act calls for identification and empathy. These are emotions that stories containing humans

are more likely to evoke. Therefore, we should complement the necessary continuous environmental monitoring of this region with gathering information about societies and their circumstances in order not to have natural science form the basis of policy in the human realm. We must make sure that the news is not told without the flesh and blood of people, so that the narratives can be interpreted for what they are, namely life stories. Such stories are necessarily complex and do not immediately—or perhaps ever—lend themselves to simple one-liners or tweets. They need space and time; they need a certain kind of presence.

The engagement of the actors in this volume is of a rather particular kind as is stressed by Sverker Sörlin in his contribution: it is future oriented. The actors are exclusively occupied with how to form a particular piece of this region for their own purposes and perhaps that of their nation or children. This illustrates one of the central arguments of this volume, namely that the Arctic has for a long time been the place of the future. It is the arena for future talk and the object of future visions. To imagine any other region soaked in more future-ness is difficult. Other places are also occupied with tomorrow, in different ways and manners, but it is always balanced by a preoccupation with the present as well as the past. The stories of the Arctic are the future. And sometimes, as was argued above, even The Future.

Beyond Weather Puns

During the winters 2016, 2017, and 2018, the temperatures on the North Pole rose to around zero degrees centigrade several times, leading to melting of the sea-ice in the Arctic Ocean quite contrary to the general idea of winter in the Northern Hemisphere. In winter, we rather expect the snow to fall and the water to freeze in the North, giving us the cozy white covered land- and cityscapes of Christmas, the right conditions for skating and long-distance skiing, and the reflections of the sparse winter-night light on the crystal surface. However, there has been nothing comforting about the weather in the Arctic lately. The shrinking sea-ice in the Arctic destabilizes the weather, and unexpected exchanges of air between the Arctic and other places result in temporary thaw on the North Pole and rain on Svalbard, in February. The image is just as gloomy as it sounds. While weather should not be conflated with climate, there are strong reasons to believe that the recent short-term changes are in fact a consequence of global warming.[29]

The connection between weather and climate is of specific importance but also has consequences for the discourse on the Arctic and its futures in general. As not only climate change events—like the long-term decrease in sea-ice detectable each year in the fall—but also extreme weather events—like thaw on the North Pole during winter—can be made into media events catering to core principles of the media, like drama and news, the framing of the Arctic as a region of Nature rather than Culture will be reinforced.[30] The region has become a stage for a weather and climate drama, where the main actors of the play are illusively moving air, enormous changing water masses, and unpredictable ice in many shapes and forms. We have trouble recognizing the writer of the play, however, and we can barely identify the director.

This connects very well with the concept of drivers of change. In everyday language, a driver is a distinct actor with specific skills and powers, most often in position of a vehicle, typically a car—itself a commodity epitomizing the Great Acceleration in combining wealth, autonomy, and emissions with power and superiority.[31] In the climate-change context, however, the drivers of change are viewed as external and autonomous, out of control. They are also in a diffusely articulated relation to culture and society. The dichotomy between Nature and Culture is also here enhanced and underscored, and the irony of the story—that they are tightly linked—is obscured. The fundamental realization that these drivers are part and parcel of human activity is hidden in boxes and behind arrows of cause and consequence.[32]

Agency needs to be brought into the story of Arctic change once again in order for the obvious to become clear: that the future of the Arctic is in the hands of people. What also becomes clear, however, is that these people will have, as they always have had, different ideas of tomorrow, expressed in explicit and performative projections of what will come. We suggest that even though determinism is strong in the future talk of the region, there is competition between different Arctic futures.

Notes

1. Bitz, “Hot Times in the Arctic”; Meyer et al.,“The Freak Warm Arctic”; Vidal, “‘Extraordinarily Hot’ Arctic” are just a few recent examples of this reporting.
2. Crutzen and Stoermer, “The Anthropocene.”

3. Arbo et al., "Arctic Futures," gives a good review and analysis of more than 50 Arctic future studies, in different forms and with varying methodology. Recent popular books include for example Smith, *The New North*; Emerson, *The Future History of the Arctic*; Anderson, *After the Ice*.
4. Cf. Owens, "From 'Predict and Provide' to 'Predict and Prevent'," for a similar argument.
5. Steinberg, Tasch, and Gerhardt, *Contesting the Arctic*.
6. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," is a position paper detailing and developing this framework, coming out of the research project with the same name and which has formed the basis for this volume. The project was funded by the Swedish Foundation for Strategic Environmental Research with Sverker Sörlin as PI and Nina Wormbs as co-PI.
7. Banerjee, *Arctic Voices*, gives voice to some indigenous speakers as well as a few scientists and writers, with a strong focus on the US and Canadian Arctic.
8. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," 433.
9. For example Bridge, "Resource Geographies."
10. Sörlin and Warde, *Nature's End*, 2.
11. Keskitalo, *Negotiating the Arctic*.
12. Cf. the popular interest in skiing expeditions to the South Pole.
13. Bocking and Martin, *Ice Blink*; Stuhl, *Unfreezing the Arctic*.
14. Sörlin, *Science, Culture and Geopolitics in the Polar Region*; Doel, Harper, and Heymann, *Exploring Greenland Cold War Science*; Nielsen, Nielsen, and Martin-Nielsen, "City Under the Ice"; Martin-Nielsen, *Eismitte*.
15. Jørgensen and Sörlin, *Northscapes*.
16. Launius, Fleming, and DeVorkin, *Globalizing Polar Science*; Hastrup and Skrydstrup, *The Social Life of Climate Change Models*.
17. McCannon, *A History of the Arctic*; Evengard, Nyman Larsen, and Paasche, *The New Arctic*; Körber, MacKenzie, and Stenport, *Arctic Environmental Modernities*.
18. Dodds and Powell, *Polar Geopolitics*.
19. Josephson, *The Conquest of the Russian Arctic*; Grant, *Polar Imperative*; Bruno, *The Nature of Soviet Power* are but a few examples. For a further discussion on Arctic literature, see also Sörlin this volume.
20. Cruikshank, *Do Glaciers Listen*; Taillant, *Glaciers: The Politics of Ice*.
21. Krupnik et al., *SIKU: Knowing Our Ice*; Doel, Wråkberg, and Zeller, *Science, Environment, and the New Arctic*.
22. Andersson and Rindzevičiūtė, *The Struggle for the Long-Term*.
23. Andersson and Rindzevičiūtė, *The Struggle for the Long-Term*.
24. Wormbs and Sörlin, "Arctic Futures."
25. Cf. ongoing work by Oppenheimer et al.

26. Wormbs, "The Assessed Arctic."
27. Nilsson, "A Changing Arctic Climate"; ACIA. The results and the policy report were made public in 2004 whereas the scientific report was only published in 2005.
28. Wormbs and Sörlin, "Arctic Futures."
29. Climate scientist Ralf Döscher interviewed by Swedish public service-television (SVT) 17 February 2017 (http://www.svt.se/nyheter/vetenskap/rekordvarm-vinter-i-arktis-1).
30. Christensen, Nilsson, and Wormbs, *Media and the Politics of Arctic Climate Change*.
31. Steffen, Crutzen, and McNeill, "The Anthropocene."
32. Cf. Arctic Resilience Report; Wormbs and Sörlin, "Arctic Futures."

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CHAPTER 2

Constructing Arctic Energy Resources: The Case of the Canadian North, 1921–1980

Paul Warde

It has been a cliché to describe the Arctic's future in glittering terms. In the twenty-first century, the potential of the far north for resource extraction, and especially the fossil fuel industry, has been a staple of journalistic comment. *The Economist* told us in summer 2012 how melting ice, technological advance and high commodity prices were opening up this frontier for exploitation. Back in October 2005, even before the oil price surge of 2007, the *International Herald Tribune* opined that, "The **Arctic** is undergoing nothing less than a great rush for virgin territory and natural resources worth hundreds of billions of dollars." In October 2012, you could have been at a conference that evoked something all the more mythological, a sense of fates and furies: "The Arctic: Eldorado or Curse?" addressed by Michel Rocard and Charles Emmerson.[1] This was a curious opposition, when one remembers that Eldorado did not exist. It was supposed to be the *denouement* of a

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fabulous story, and it mobilised many men into futile and fatal expeditions into the unknown to seize its riches. Eldorado was fabulous in the literal sense: a fable, but one that had real effects.

The conference organisers had stumbled on a truth, then, in their error. Whatever is to be found in the Arctic and that might interest people who attend international conferences, it cannot but be part of a narrative, although the end of that story remains veiled: wondrous success, grim retribution or indeed: an endless search? The future is uncertain; yet without that narrative about it, neither will it be fabricated. As the introduction to this book makes clear, to describe the future is also to produce it, or at the very least to create the terrain of future possibilities that might be explored.[2] This chapter will explore how the future of Arctic fossil fuels has been narrated, and in turn, the real effects those stories have had on the rocks, inhabitants, hydrocarbon reservoirs, ecologies and so on. On how and why, indeed, a vast area only very roughly defined by latitude can be seen, from a certain perspective, as possessing some kind of unity as an object of expectation, exploration and exploitation.

Mobilising Minds and Material

Hydrocarbons trapped in rock formations are not, by themselves, resources. "Resources are not the same as physical geographical features."[3] A great and complex network of many elements, as well as geological processes, must be in place before fossils become fuels. Of course, if the story of Arctic oil and gas prospecting is to end as the prospectors hope—with oil platforms, pipelines, jobs and profits—hydrocarbons must indeed be found. But there is a lot more to it than that. It was the guru of oil prospecting and petroleum geology, eventually director of exploration and vice-president of Standard Oil of New Jersey, Wallace E. Pratt, who famously declaimed that, "unless men can believe that there is more oil to be discovered, they will not drill for oil… Where oil is first found, in the final analysis, is in the minds of men."[4] Hydrocarbon histories must firstly be histories of aspiration and expectation. But to make development happen, a host of other minds must be mobilised, from financiers in London or Toronto; to the officers of state in ministries; to those who work out how to construct concrete and gravel platforms in the Beaufort Sea; who create measures to get caribou round pipelines, and build pipelines that do not sink into muskeg. Those expectations are

shaped in turn not only by the promise of black gold in the north, but beliefs that drivers at gas stations will be willing to pay a certain price for fuel; that industry will expand at a certain rate; that deals and treaties can transfer resources across international boundaries.

In the middle of World War II, an engineer called R. A. Davies wrote a short book called *Arctic Eldorado*. Davies had toured the oil industry in various parts of the world, including the Soviet Union: a place he saw as a leader in Arctic development. He was especially impressed by the Canol oil pipeline built by the US army from the Arctic's only oil well at Norman Wells on the Mackenzie to Whitehorse in the Yukon in 1943, supplying American forces in Alaska with petroleum. The pipeline was allegedly an idea of explorer, academic and northern visionary Vilhjalmur Stefansson, that Davies described as, "modern magic. It is a tribute to the mind of man. A crushing reply to those who insist that the northwest must remain backward because of distance, cold, water, muskeg… [it]… has proved not only that the Canadian Northwest *can* be brought to life, [with] room for hundreds of thousands of new people…" He scoffed that whose limited horizons led them to raise delicate issues like costs and markets.[5]

Needless to say, nothing much happened after Davies' plan. Wartime imperatives and exigencies did not carry over into the peace. The north was largely unsurveyed and the means to do so did not exist until the expansion of meteorological and military bases partly associated with the Cold War in the 1950s. There was neither a market for Arctic oil, nor an infrastructure on which to found local development. One man's mind could only do very little. Oilmen were not looking for a frontier in the north; only a very few American geologists were beginning to worry about the declining rate of oil discovery, and this before the great finds in the Middle East in 1948. Canada's prospectors would soon be flocking to Alberta with the great gusher at Leduc in 1946. Canol was abandoned and eventually the pipeline shipped south for reuse in the Alberta gas industry. Yet, if Davies' words only presaged a withdrawal from the north in the years after he wrote, a little further ahead an enormous effort would be put into opening up a hydrocarbon frontier in Canada's north. Fifteen years into the future, the mobilisation would begin. Between 1944 and 1977, when for the first time the assessment of the prospects for oil and gas turned negative in the annual reports of Canada's Ministry for Northern Development and Indian Affairs, 842 oil and gas wells were drilled in the Yukon and Northwest Territories (Fig. 2.1).

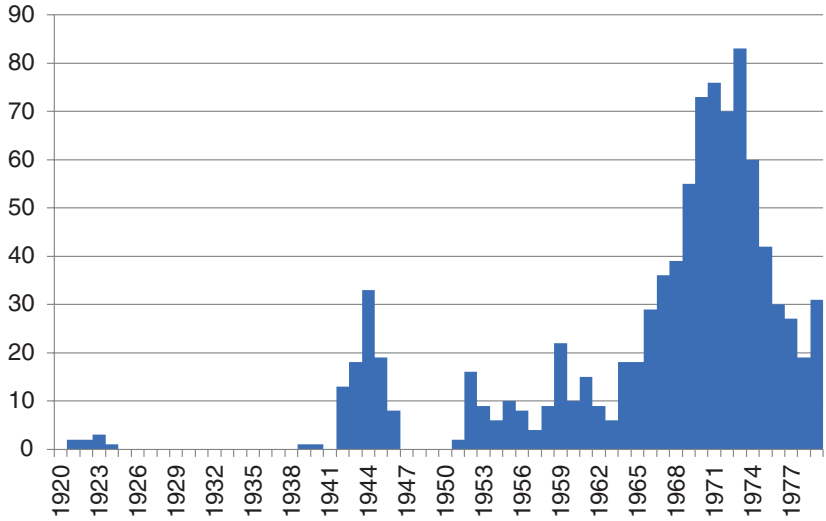

Fig. 2.1 Oil and gas wells drilled in the Yukon and Northwest Territories, 1921–1979 (*Source* Ministry of Indian Affairs and Northern Development, *Schedule of Wells 1920–1979* (Ottawa, 1990))

The upsurge of activity began in the 1960s. A crucial factor was the spectacular find on Alaska's North Slope of what was believed to be North America's largest single oilfield in early 1968. This prompted wild enthusiasm on the part of some prospectors who envisaged similar success on the Canadian side of the border. A major player in the Arctic Islands that we will consider in greater depth was Panarctic, a consortium founded in 1967 that completed (directly or under licence) 182 wells up until 1984.[6] Panarctic relied on 21 initial investors, with by far the greatest stake held by the federal government at 45%.[7] The peak was already reached in the winter of 1972–1973, with 5000 at work on drilling in the far north *before* the rapid advance of the oil price that followed the Yom Kippur war in the autumn of that year.[8] Rather than being a stimulus to frontier expansion, the oil crisis years of the 1970s turned out to be an epoch of slow retreat. Only one new oilfield ever went into operation, at Bent Horn on Cameron Island between 1985 and 1997. Although 18 petroleum fields were discovered on the Arctic Islands and 47 in the Mackenzie Delta and Beaufort Sea area, development has not

occurred on any scale. The total contribution of the north to Canadian oil and gas production between the 1940s and 1980s was never more than a tiny fraction of 1%.[9] "Today it's a different story," reckoned the Geological Association of Canada in 2007.[10] But thus far, it is not.

This chapter addresses the how the triad of information, narrative and actors operated in tandem to mobilise minds towards the possibilities of a hydrocarbon treasure trove in the Arctic, and managed to shift material into exploration and prospecting. We will approach it from the "supply side," where a fundamental question was whether reserves of oil and gas were in fact there at all. By what means could a plausible story be told? Of course actors were differentially receptive to such stories depending on their varying concerns, and as we will see, the kind of sociability by which they were conveyed. This relates to questions of power, both institutional and charismatic. We will also examine the question from the "demand side": how the promise of future markets was framed and evidenced. Above all we will focus on the calculation of hydrocarbon reserves, and predictions about future energy demands. Importantly, many of these were not just issues for the far north; the politics of pipelines had already shaken successive Canadian governments since the 1950s, and narratives had to be set against wider currents of politics, international and domestic.[11]

The Uses and Abuses of Petroleum Geology

How do you know the oil is there? Fossil fuels are found in sedimentary rocks, where they have been trapped by less porous layers above or beneath them, either in reservoirs or infused in the strata. A band of sedimentary rocks runs from south to north across Canada, continuing to the east of the Rockies from the American Plains states right up to the Beaufort Sea. Further to the east, this basin is locked in by the ancient rocks of the Canadian Shield, but to the north of the Shield lands, further sedimentary basins in the Arctic Islands hold further promise of oil.[12]

Aside from the discovery and development of a small well at Norman Wells supplying oil to the radium mine at Eldorado (no less) on the Great Slave Lake, only a tiny amount of the north was subject to detailed geological survey before World War II. The first step towards developing the north was to look at what was there: by no means a cost-free and simple task. The impetus came from a combination of national duty

(technology permitting) to assay the national space, and the interests of engaged and well-placed individuals. The Geological Survey of Canada (GSC) extended this work during the 1950s, with more systematic aerial photography covering the region between 1958 and 1962.[13] Others could follow in the wake of the GSC. Imperial Oil (the Canadian branch of ESSO) began to refer to its northern exploratory operations from its *Annual Report* of 1959.[14] This was certainly a pivotal moment. But one of the key figures in this history had his own particular motivations: Jack Gallagher of Dome Petroleum. Gallagher's interest in the north developed from gruelling fieldwork conducted while a geology student in the 1930s, and a visit to the Mackenzie Delta while working for Standard Oil in the late 1940s. But it was hearing a lecture from the Geological Survey of Canada on their new survey work in 1958 that re-fired his enthusiasm and led him to persuade his more sceptical American financial backers to snap up permits to drill that were issued by the government in 1959. Dome was turned from a rather cautious and austere company building momentum steadily in the familiar territory of Alberta to High Arctic boosters, and later, one of Canada's most reckless corporate raiders.[15]

Most early geological surveys simply relied on visual identification of topography and surface features, that could only provide an extremely crude guide to what might lie beneath. Over time, more direct information was provided by seismic surveys, usually conducted in a more systematic fashion to provide a "grid"-like view of the subterranean world. The detonation of explosive charges on the surface triggered rebounding waves from the strata beneath that could be interpreted, still probabilistically, as evidence of local geology. The geophysical surveying of the north really took off from 1968 and in the mid-1970s made up a very significant share of the total Canadian industry's expenditure on geophysics by the mid-1970s. By 1977, however, as prospects dimmed this total fell off (see Table 2.1).[16] Already by 1973 seismic "lines" tested at sea predominated over terrestrial geophysics as attention turned towards the Beaufort Sea.[17]

When drilling began to expand in the late 1960s, such information was still limited. While the very rough delineations of potentially oil-bearing (but also very possibly barren) rock were well known, there was little more to go on. Yet having a sense of the possible overall scale of finds was essential for making a judgement on what to invest in northern exploration, and to secure political and financial backing.

Table 2.1 Expenditure on geophysical testing in Yukon and NWT as share of total Canadian expenditure

Year	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
%	8	7	16	24	33	40	42	44	36	41	30	16	9	6

Source Dominion Bureau of Statistics, *The crude petroleum and natural gas industries*

The means to generate these kinds of general figures had been developed by American petroleum geologist C. L. Weeks, who during the 1940s had come to an estimate of the ultimate oil and gas reserves to be found in the "lower 48" of the United States by aggregating all of the local geological surveys.[18] Weeks' "volumetric method" made an estimate of the likely oil reserves by applying a multiplier derived from reserves already explored and proven in rocks of the same type in the United States, and applied this to unexplored regions. This approach assumed both basic homogeneity in the relation between rocks and oil reserves, and equally a constant rate of recovery. It would dominate the estimates of the United States Geological Survey under the authority of Vincent McKelvey during the 1960s and until he was finally sacked in 1977 as his optimism about supplies was discredited during the energy crisis—a history recently examined by Tyler Priest.[19] In opposition stood other geologists, especially associated with the renowned and pugnacious Shell analyst M. King Hubbert who pioneered the theory of "peak petroleum," later "peak oil" from 1948 onward.[20] While beginning from the same aggregated data on the volume of extraction and previous rate of discovery used by C. L. Weeks, Hubbert argued (adapting models from population biology) that reserve discovery, extraction and in the end total production tended to follow an S-shaped logistic curve both locally and in the aggregate.

McKelvey would object that Hubbert used patterns of extraction, a human activity, to model basic geological facts. But Hubbert always determinedly argued for basic material limits that economies could not evade, and as he refined his theory in the early 1960s, asserted that the declining rate of extraction and discovery simply reflected such limits being reached. He replied to McKelvey's objection by arguing that if the results of the historic evidence of human activities to date were not taken as the core evidence on which reserve estimates should be made, there was no effective limit to any fantastic but purely theoretical figure geologists might generate. Meanwhile, McKelvey's estimates (and those of

other geological surveys applying a similar approach), while posited as being on the basis of purely geological inferences, proved highly attractive to those who argued for oil "being found… in the minds of men." They interpreted rising costs of extraction as the necessary stimulus for ingenious men to unearth the oil that more "cornucopian" estimates implied should be there.[21]

These debates lay ahead when the major surveys of Canada's north were conducted either side of 1960, but they indicate the subjectivity and elasticity in the methods by which large-scale reserve estimates were conducted. Sympathy, or even allegiance to the views of certain schools, would become the main determinant of what evidence became deployed. Such methods first became significant in Canada through a report of the economist G. David Quirin, commissioned by the Ottawa government in 1960 to investigate the development potential of the north for fossil fuels. Taking what he considered a "conservative" interpretation of Weeks' volumetric method, that each cubic mile of sedimentary basin held on average 50,000 barrels of oil, Quirin estimated that 50 billion barrels might be found in the north, the majority in the Arctic Islands; and 300 trillion cubic feet (tcf) of gas.[22] By way of comparison, the current ultimate reserve of the Alaskan North Slope is generally reckoned to be around 10 billion barrels of crude oil.

Weeks' and Quirin's estimates and their method shaped opinion for more than a decade. J. C. Sproule of Calgary, geological consultants and leading boosters for the exploratory activities of Panarctic posted enormous estimates for Arctic Island oil and gas through their linkage of optimistic volumetric multipliers with interpretations, at first, of surface photographic evidence: 80–120 billion barrels of oil and up to 600 trillion cubic feet (tcf) gas, when Canada held proven reserves of only 13 billion barrels and 65 tcf. The Canadian Petroleum Association stuck closer to Weeks' more cautious interpretation of his volumetric multiplier of reserves per cubic mile for the United States—although they had in fact proven underestimates—and reckoned on a reserve half the size of J. C. Sproule.[23] In 1969, even the National Energy Board (NEB) could state that "conservative" estimates indicated a good probability of "90 billion barrels of recoverable oil," in frontier areas, largely the Arctic.[24]

Yet eventually all of these estimates, based on crude extrapolations of the American data, would be seen as wildly optimistic when the seismic and drilling data was reviewed during the 1970s. By 1973, the GSC was

beginning to downgrade its reserve estimates drastically, so even as the "proven" reserves of the north expanded, great expectations of the final size of the Arctic hydrocarbon fields began to evaporate.[25] In 1977, the "best" estimate (i.e. the amount models predicted there being a 50% chance of finding) of oil reserves "north of 60" was 11.2 billion barrels, mostly in the Mackenzie Delta and Beaufort Sea; and 121 tcf of gas, rather widely spread. Even the most optimistic runs of the model (10% chance) were well below a quarter of the 1969 figures for oil, and the surest published estimate (90% chance) a mere 6.2 billion barrels of oil and 69 tcf of gas.[26] Critics of the development of Arctic reserves for export to the United States argued that companies had deliberately fostered the dissemination of "highly misleading, if not unsound, methods of potential reserve calculations"; some went so far as to suggest, as had been the case in hearings on the oil crisis in Washington, DC, that oil companies had shifted from deliberate over-inflation of reserves to withholding drilling information to give the impression that shortages were imminent, justifying high prices.[27] If there was a conspiracy, however, it was one that embraced governmental bodies and employed what were for the time entirely orthodox techniques, and that had begun long before the crisis of autumn 1973. Nevertheless, Imperial Oil's director J. G. Livingstone seemed to apportion the blame away from the companies' own cornucopian publicity in 1976 when he pleaded that reserve estimates were only ever "outline possibilities."[28]

Eventually, the experience of dry wells and more realistic modelling techniques in petroleum geology brought a new realism to northern prospects. Surface "dome" features that had excited geologists trained in the first half of the century such as Cam Sproule of Panarctic (the titular head of J. C. Sproule) and Jack Gallagher of Dome, who we met above inspired by his fieldwork from the 1930s, turned out to be false promises. Either the oil had long ago drained away or had never been present. Yet variation in reserve estimates and a readiness to accept weakly founded predictions should not be seen as a relic of some quaint and ill-informed past. In 2000, the US Geological Survey claimed in its *World Petroleum Assessment* that as much as a quarter of all the world's undiscovered oil and gas reserves lie north of the Arctic Circle, contributing greatly to the enthusiasm for exploration found in the early twenty-first-century media. The USGS subsequently set up a Circum-Arctic Resource Appraisal committee, which reported on undiscovered reserves in 2008. But

there are two significant caveats to their results. Firstly, they made a judgement about technologically recoverable reserves with no reference to the actual cost of recovery, or indeed hazards from ice or depth. Secondly, as is typical in petroleum geology where direct information is frequently limited, they used probabilistic modelling to estimate them; but tweaks in the model were made for very large differences. For example, the USGS's 2000 assessment estimated that there was a 50% chance of the East Greenland Rift Basin holding 47 billion barrels of oil. The modelling of 2008 produced a most likely estimate of only 9 billion in this region, and 90 undiscovered billion barrels of oil in the Arctic in total; about the figure claimed for "frontier Canada" alone by the NEB in 1969.[29]

Nation and Nous

These considerations of predictive method in geology raise the questions of why particular individuals chose to believe them at any point in time. Doubtless adherence to maintaining standards of rigour remained important to nearly everyone involved, whatever their views. At the same time, such estimates were fitted into narratives about the character and destiny of the nation, and the men (almost entirely men) who were to make the calls about investment and legislation. Back in 1944, R. A. Davies had proposed a Ministry of Northern Development to execute his plans. This "… should consist of a cadre of visionary but practical men, given to the ideal of a Greater Canada, to whom narrow practicalism is anathema, who love to break precedents, who disdain the attitude of those beaten before they begin… These men should first of all be scientists, then educators and administrators." The ministry eventually came into being in 1966. There appears to be a paradox in Davies' prescription: the men opening up the north should be masters of technique and assessment, but determined to reach a goal no matter what; in other words, they should suspend practical judgement in setting out on the endeavour in the first place. But in many ways, this was consistent with Wallace E. Pratt's assertion about what made a good oil prospector. Pratt after averred that geologists should, "presume… an area is favorable until we have really proved it to be unfavourable," and that oil was commonplace.[30] Narrative and technical choices are thus close bedfellows.

As a culture, this made it possible to elide caveats that were well known to petroleum geologists and often clearly stated but that

somehow got lost in the "prospectus": that reserve estimates are "largely conjectural… frequently revised," or that it is "extremely rare for a pre-drilling potential resource estimate to be even in reasonable accord with the amount of oil ultimately found."[31] Cam Sproule, the geologist and driving force behind putting together Panarctic, was similarly a "man of vision" according to later CEO Charles Hetherington, although tellingly, once the consortium was set up, the directors, "didn't want a fellow with so much dreaming to be spending the money."[32]

Such attitudes persisted into the age of greater realism. In 1983, some 23 years after the Canadian government leased its first concessions in the high Arctic and a decade after the peak of exploration, the Director of Canada's Institute of Sedimentary and Petroleum Geology could comment, "An effort requiring the expenditure of many billions of dollars is still necessary to find the other Arctic giants that almost certainly exist."[33] In all this time, no new commercially viable fields had been found. It was also in 1983 that *Business Weekly* published an article on the *Great Arctic Energy Rush*,[34] echoing the excitement of the early 1970s with titles (that might disguise more sceptical content) such as *The Last Frontier*, or *The Arctic Imperative*.[35] They appealed to an audience which already knew what the Arctic was for. J. Lyon, a journalist who had set out to write a celebration of Dome Petroleum but ended up chronicling its demise, could still not escape this sensibility in 1983: "a lasting impression has remained with me after several visits to the Arctic, a feeling of inevitability that oil *will* be extracted from the North."[36]

It was Canada's responsibility to make something of the north; in 1974 Jack Gallagher was heard floating the idea of a "Canada Party… representing the natural resource sector and emphasizing individual initiative."[37] Panarctic, federally underwritten, as well as being part of Canada's longstanding northern mission, was also imagined as a counter to Quebecois separatism, both in demonstrating the resource riches of greater Canada, and offering the prospect of direct pipeline links to the francophone regions.[38] Thus, boosters for the endeavour could blithely proclaim that, "The objective of commencing oil production from the Beaufort Sea is consistent with the national interests and goals of all Canadians." Ironically, Quirin's report to the Ministry of Northern Affairs in 1962, having noted that little was known of the geology of the Arctic and logistics were non-existent, blamed lack of interest in prospecting in the 1950s as being "psychological" because of the excitement

of developments in Alberta.[39] If the north had to be opened up sooner or later, why make it later?

When the Canadian government issued a prospectus for investors in Arctic oil and gas in 1969, there is no doubt that they appealed both to the destiny of the nation, and the self-flattery of those who thought they might shape it as the new Klondike:

> Like the churning waters of an Arctic River released from winter's ice, the natural resources of Canada North of 60 are now being revealed…. the full size of these resources can only be imagined…. Today, the Canadian north is one of the most inviting regions on earth for the daring, for the entrepreneur looking for challenging enterprises… Today, with the new technology, new forms of transportation and communication, and a spirit of adventure and challenge among the Canadian people, these obstacles are being rapidly overcome.[40]

That government also needed persuading to set the legal terms and allow the leases and concessions that permitted exploration to begin. Certainly, at the end of the 1950s, opening up the north meshed with Prime Minister Diefenbaker's northern policy. Canadian attitudes were favourably influenced by impressions of Soviet northern development and the way in which Arctic resources were employed as a political resource to demonstrate power, innovation and will on the part of government. By 1967, this support would take the form of a direct stake in Panarctic (also connected to the enthusiasm of individual ministers for projects, as a means for ambitious Ministers of Northern Development to make a mark). Companies were in turn lured into the north by tax breaks; such incentives had long been a major tool to stimulate exploration and development such that the real costs to companies were considerably lower than those they booked.[41] In Panarctic's case, this was because the structure of the company was such that shareholders who provided the investment were able to set those monies against federal income tax liabilities in other branches of their activities. It was in the end the taxpayer who footed the bill.

Yet just as important were personal narratives and the way they were woven into forms of sociability and action. When interviewed for an oral history project on the Canadian oil industry in 1983, the then head of Panarctic, Charles Hetherington, often wavered from accounts of pipeline construction, down-to-the-wire deals and hair-raising strandings 500

miles from any help, to reminisce about his love of polo, or fishing trips. This might seem like an indulgence during an opportunity to reflect on a long career, which had included chemical engineering, training at MIT and in wartime logistics, a roving career in pipeline engineering, consultancy and drilling. But crucially, for Hetherington, firms were people. When he talked about the board of Panarctic, or negotiations with other businesses, or state officials, he listed the people he dealt with by name. It was men—affable, aggravating, hard-nosed, reserved, gung-ho—who he met in boardrooms, offices (choosing whether or not to put their feet on the desk), conference rooms in airport hotels or jets parked on the apron. Although subterfuge was sometimes involved, generally deals relied on looking people in the eye and believing you were someone who couldn't be fooled. When he eyeballed a geologist, he could think, "I'm not a geologist but a geologist can't fool me, I've been in it long enough that the geology's brushed off on me."[42] Judgements were made by intuition, and on character: including his own sense of worthiness to make the call.

Physically getting these men into the Arctic was an essential part of business, sometimes a mixture of fishing and drill rig visits, invitations that were eagerly taken up by ministers, oilmen and journalists (only once by oilmen's wives). This faith that seeing is believing was exploited most dramatically by Hetherington during the spectacular blowout of well D-18 on King Christian Island, an explosion that fissured the land across hundreds of metres through which ignited gas danced in the polar night like "Hades." With both casualties and the disaster of an oil blowout avoided, Hetherington moved swiftly to pack sixteen gas company directors into a Lockheed Electra heading north from Calgary to feel the heat of the conflagration directly—with the blessing of the Minister for Northern Development. "They said, this is a terrific… there obviously is some real gas here in the Arctic." Four investors stumped up $75 million, far more than Panarctic's original capitalisation.[43]

Market Futures

In 1973, speaking in a conference address on the environmental debates and costs that delayed Alaskan oil production for several years, Robert Belgrave of British Petroleum stated:

> [T]he company is still asking itself how long it will be before the political and legal obstacles to the realisation of these plans will be overcome and the oil and gas from Alaska are allowed to flow to American consumers who are increasingly anxious about the future of the energy supplies which are essential to their standard of living.[44]

Yet again, we see an arc of history invoked, where plans for what appear an almost natural phenomenon—the flow of oil and gas—face irksome obstacles. But equally significantly, another "future" is evoked: that of the essential underpinnings to the standard of living. Supply did not create its own demand. One had to believe in the latter.

At the heart of energy futures, and Arctic futures, are market futures shaped far away from 66° north. At a crucial moment for Panarctic, when its financial fortunes wavered in 1970, it was an agreement with the US firm Tenneco that injected cash to keep the drilling going. Tenneco was a gas retailer aiming to supply customers in Arizona and New Mexico, way beyond even the usual markets for Albertan gas in the Pacific Northwest and Chicago. Similarly, all of Dome's own wells in the Arctic were paid for by investments from American gas companies.[45] Demand also had to be demand from *specific places*, connected to the imagined future infrastructure of the north. Up until 1973, demand was a question about the United States.

Canada's energy reserves lie far from its industry. This meant that oil and gas companies enduringly faced the simultaneous problem that the east of the country imported cheaper oil from overseas, affecting the national balance of payments, when western and northern fuel reserves lacked markets. Until the late 1960s, it remained a net importer. The federal government would soon find itself subsidising Albertan oil in Ontario, and setting a limit to the inroads permitted to Venezuelan or Middle Eastern oil. This was the paradox of Canada's geography; potential markets for Arctic gas in San Francisco lay closer than Montreal to Calgary.[46] Oil might be traded globally, but the marketing prospects for any field are regional and shaped by institutions and infrastructure.

Thus, the key to developing the West and far north seemed to be the growing demand for oil and gas in the vast centre of the United States. Already from the 1950s, this could simply be framed as a matter of destiny. In a famous lecture of 1956, M. King Hubbert developed his model of "peak petroleum" to predict that the United States would reach that moment (when domestic production went into decline, while demand

would continue to increase) imminently. The opening of American markets was posed as one of "when, not if."[47] David Quirin commented in his report of 1962 that, "The development of markets […] is only a matter of time, of waiting until prices elsewhere escalate sufficiently to force the utilization of northern gas." The predicted lifetime of the US gas reserve fell from 29.6 years in 1950 to 21.1 years in 1960, although partly a product of a maximum price policy that encouraged consumption and discouraged exploration.[48]

Of course, investors and policymakers might want a little more precision; or at least the appearance of it. From an early date, government bodies and companies were in the business of predicting future demand, with significant reports for Canada in 1957, 1962, 1969, 1973 and 1976, generally peering 25–30 years ahead. Forecasting was one of the statutory obligations of the NEB, set up in 1959.[49] Future demand estimates related not only to domestic circumstances, but most obviously the situation of their southern neighbour; while Canadians also embraced the estimation of global demand and reserves that was undertaken by a number of analysts in the post-war period.[50] It was anticipated that at these different geographical scales levels of market supply would be related, while demand for oil or gas was also connected to trends in the use of coal, hydro- and nuclear power. Right into the 1970s, estimates of future demand were made that projected the recent take up of fuels and technologies, and did not allow for any price-based substitution between them although it was assumed some fuels would become scarce.[51] Over time the rate of increase that these reports identified in both predicted demand and experienced demand declined, although the range at any one moment could still be large. In the late 1950s, Davis predicted that total energy demand would rise by 179% to 1980, and Quirin a marginally lower figure, but Imperial Oil experts expected a rise of only 110%.[52] Already by 1969, Davis' twelve-year-old prediction of Canadians consuming 3 million barrels of oil per day by 1980 (an eight and a half-fold increase on 1955) was scaled back to just over 2 million. The actual figure would be under 1.9 million barrels.[53] Generally speaking, expectations of total energy demand were persistent overshoots, as was typically found across the Western world. The "low growth scenario" in the major report commissioned by the Ministry of Energy, Mines and Resources in 1973 still overestimated energy consumption in 1990 by around 40%.[54]

Models of future demand required analysis of a range of factors such as population, price and income, sometimes disaggregated into different

sectors of the economy. Population could be modelled most easily; reactions to price changes were incorporated into different "scenarios" to simplify the range of possibilities; while the prospect of technological change resulted in little more than conjecture (partly expressed in the assumption that inter-fuel price relationships would remain stable, although this a matter of scarcity as well as technology). Of course, history is often not kind to such efforts. As late as 1969 the NEB assumed that GNP growth would continue at a rate of 4.5–5% p.a. for the entire period up until 1990.[55] In the early 1960s, Quirin could confidently assert that an event like Arab states doubling oil prices "could be relied upon not to happen."[56] No one was more vulnerable to this effect that John Reed, publishing a report for the Arctic Institute of America with optimistic predictions of Arctic hydrocarbon development, albeit qualified with, "Predictions over 27 years… must be based on the meagre information that is available; on the opinions of informed and experienced people familiar with the problems; and on the experience, perception, and judgment of the predictor." The output might appear to be solid numbers, but which numbers to input remained plausible guesswork. Reed reckoned that oil prices would double by 2000. The Yom Kippur war would send them spiralling upwards the month after his report emerged.[57]

These were febrile years, at precisely the moment that Arctic exploration was reaching a peak in the wake of the Prudhoe bay discovery and demand pressures in the United States, most pressingly on the gas market.[58] As early as 1971, the *New York Times* proclaimed it the third summer of an "energy crisis."[59] The long decline of oil prices in real terms ended in 1970, and the United States was beginning to face up the fact of a greater dependence on imports. Somewhat after the event, this new crisis, which included blackouts in parts of the United States, supplied a newly minted retrospective mandate for the dreaming of Cam Sproule and the federal government's 1967 investment in Panarctic in the Arctic Islands: "the shortages have suddenly made the dream of Arctic gas and oil production a possibility," as proclaimed by financial journalist Judith Maxwell, commissioned by a cross-border think tank to study Arctic energy in 1973.[60] With American firms flirting with getting gas shipped from Algeria or even the Soviet Union, and *some* geologists, as we have seen, supporting extremely high estimates of Arctic reserves, the far north looked like it could buy the American market a little time. This was reinforced by projections from oil majors themselves, who

expected demand to remain inelastic with respect to price despite the evidence to the contrary rapidly emerging during the 1973–1974 crisis. British Petroleum endorsed the "peak oil" of Hubbert and predicted in 1974 that "free world" crude production would peak in the early 1980s, and demand outstrip supply by 1978.[61] Many analysts anticipated that demand would increase at a linear rate similar to the experience of the 1950s and 1960s when real oil prices had been falling. Indeed, there was a paradox in that most assumed more expensive oil and gas would hit economic growth but they continued to project past consumption trends into the more expensive future. British Petroleum expected oil demand to climb by up to 5.5–6% pa. across the 1970s, but the actual rate after 1973 was around 1.5%.[62]

For Canada, crisis was a double-edged sword. It was their opportunity, the dreamed-of moment to prise open the continental market for their isolated reserves. Yet simultaneously, there was a "sudden reluctance of some Canadians to sell oil and gas to US with uncertainty of reserves."[63] Was the situation south of the 49th parallel a presage of what Canada would eventually have to endure? In that case, was it better to keep resources in the ground? Frontier exploration was not proving as lucrative as first thought, but with anxiety about rising demand, the answer could be more frontier exploration. Especially after the oil embargo of late 1973, Canada's opportunity to sell south suddenly became Canada's saviour: Arctic fuel would keep Canada itself running. Through all the twists and turns of prices and geopolitics, what always endured was the alleged Arctic imperative: oil and gas will be extracted from the north. No government or consultant's report argued otherwise.

The new impulse to *retain* production in Canada also reflected a twist in struggles over the ownership of Canadian assets. The hydrocarbon industry as a whole was dominated by American-owned corporations and economic nationalists and left-wing critics became more vociferous in their objections to Canadian resources being exported, and the profits reaped by companies that might repatriate them to the United States. At the same time, domestic retailers of gas had an interest in lowering exports to relieve pressure on their own wholesale prices and capacity to compete for major deals with American companies.[64] Yet contemporaneously, Canadian companies were invested in pipeline syndicates that were purveying the most optimistic reserve estimates to American investors. The reason was simple: possibility of further development of Arctic fields was thus entirely bound up with the readiness of companies to construct

pipelines.[65] To facilitate this, a number of fuel companies signed huge gas supply contracts with American retailers on the basis of still limited drilling in 1970 and 1971, which allowed proposals for construction to be advanced by two major pipeline consortia by the following year.[66] The president of Gulf intimated in April 1973 that as much as 20 tcf of gas already may have been found in the Mackenzie delta, but he could hardly have hinted at a lower figure; this would have undershot already existing contractual obligations, and the threshold needed to make pipes pay.[67] Pipelines were only economical if used at near full capacity and at a large scale, which in turn required both large reserve thresholds to justify their construction, and a guaranteed market. Some of the proposals for a pipeline down the Mackenzie corridor hoped to divert gas or even oil supplies from the North Slope of Alaska to cover costs, but this in turn would have created its own problems, as the gas could not have been exploited immediately for fear of reducing pressure in the reservoir and preventing oil extraction.[68]

At the end of 1972, with Alberta still the only major source of domestic hydrocarbon supplies (as it has remained), the NEB of Canada was advising that the country could not meet demand beyond 1973, this potential shortage itself the consequence of expanding purchases from south of the border where the US government had responded to difficulties by lifting import restrictions. Hence, the realisation of a long-desired opening of the American market turned out to have an unpleasant backlash at home. By December 1973, Prime Minister Trudeau announced radical market reform, maximum crude prices, centralised allocations of oil, and increased support for frontier exploration. It was only 18 months since the Energy Minister Joe Greene had proclaimed that Canada had 390 years of oil reserves and 923 of gas.[69]

The market futures thus proclaimed across the post-war years could provide (with hindsight) neither much accuracy nor realism. Yet the belief of an established *trajectory* in demand was crucial in motivating and legitimising many of the actors in northern hydrocarbon exploration. Shifts in information and perhaps more importantly the eruption of political uncertainty about energy markets only served to vary the moment and population for whom the oil and gas trapped in faraway sedimentary basins would become an important resource. Would or should those Canadian resources be for gas retailers and consumers in the American Southwest, or the heavy industries of lakeside Ontario?

Throughout, Panarctic was winging it; built on a dream, a very few sets of expert-approved numbers, the desire of some government ministers to make their mark on the north. Histories generally now fondly remember it as a technological pioneer, as it indeed was, peppered with heroic endeavour.[70] But the company lived and eventually died by selling possibility, rather than any actual hydrocarbons. Its major shareholders started out as a selection of oil adventurers, and mining companies more used than most to taking a punt on the north and who (once manipulated by those adventurers into believing rivals might been stealing a march on them) wanted to ensure that should there be success, their own northern operations would not be excluded from cheap fuels.[71] Much of the significant finance in the 1970s was provided by American gas companies desperately responding to domestic crisis.[72]

The major oil companies had a different view to Panarctic or Dome. These actors had reserves distributed across a wide range of countries and less need to tap into sentiments of national endeavour. Elf (later Aquitaine) drilled a few holes in the excitement after the Prudhoe bay discoveries in the early 1970s. Gulf, similarly, became engaged from 1970 and drilled a total of 47 wells.[73] British Petroleum, the major player on the Alaskan North Slope, played virtually no role in the Canadian Arctic.

Imperial Oil, in contrast, did not need to be lured north. It enjoyed the largest share of the Canadian market and had dominated exploratory efforts since the 1920s, running the one oil well north of 60° at Norman Wells. From 1964, the company became more active again with seismic tests and a number of wells drilled in the Mackenzie delta, expanding in close geographical proximity its earlier activities.[74] As Canadian demand continued to rise rapidly across the decade, Imperial expanded exploratory operations, quadrupling its landholdings between 1963 and 1971. The company's exploratory well drilling in Canada as a whole peaked in 1968. Nevertheless, real *expenditure* on exploration was falling in these years, drilling occurring on relatively cheap sites and as the costs of geophysical survey fell.[75] Imperial's northern efforts, then still relatively marginal to its overall activities, can be seen as part of a general strategy to increase Canadian reserves at a time of continuing downward price pressures, coupled with government policy encouraging domestic crude production. Imperial cautiously extended its surveying into frontier areas without committing to major costs, and its gross recoverable reserves peaked in 1969.[76]

By the end of 1979 reserves lay lower than they had in 1965. While the company booked higher exploration expenditures the net wells drilled dropped precipitately, a mere 6 in 1975 compared with 90 in 1968. However, as with geophysical surveys, a much higher proportion of activity took place in the expensive Arctic and increasingly offshore.[77] Critics expressed the suspicion that after government restraint of prices below international levels in 1973 oil companies were limiting exploration and even doctoring reserve figures to induce higher government subsidies.[78] Certainly, although the issue would bear much closer investigation, the company appears to have focused exploration on areas with a more favourable tax and royalty regime, meaning *real costs* did not rise nearly so significantly as appeared on the company balance sheet.[79] But overall the lesson is that companies did not respond in a simple way across the board to shifts in the international price. Instead they behaved in a regionally differentiated fashion according to the regulatory regime (especially levels of royalties, tax breaks and depletion allowances), costs and corporate habits, all of which deserve further investigation. There was in reality no Arctic imperative.

Conclusion: Eldorado North of 60

The Arctic remains Canada's energy Eldorado: nobody has found it, and it will exist as long as people want to look for it. There was a brief revival of exploration in the early 1980s as a result of generous subsidies for frontier exploration in the Liberal government's national energy policy.[80] It tailed off rapidly when these were ended in autumn 1984 by the incoming Conservatives, and soon after a combination of the fall in global oil prices and rise in interest rates killed off the remaining adventurers such as Jack Gallagher's Dome Petroleum. Canada's hydrocarbon output remains dominated by Alberta, as it has for most of the last century.

Does Canada have vast northern hydrocarbon resources? One could tot up the large estimated reserves in the Cisco field in the north of the Arctic Islands, or take a punt on the Beaufort Sea still yielding treasure. But this is essentially the answer one could get from a petroleum geologist about the current state of information and modelling. Indeed, the very notion of "the north," or "north of 60" is itself a construct of a certain genre of literature and government branding, as much as climate.

It reflects a search for purpose: in Canada, from a population clustered along its southern extreme, discomforted by the fact they are indeed a frontier people that cling tightly to their balmiest border and the promise of markets to the south. In 2017, the oil and gas companies largely have other immediate prospects. The fabling of the north is in abeyance, perhaps briefly; but the resources to construct the Arctic Eldorado, if not yet the reality of northern hydrocarbon development, surely remain.

Notes

1. http://geopolitique-cecri.org/2012/09/24/invitation-a-la-conference-the-arctic-eldorado-or-curse/.
2. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," 2.
3. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," 10.
4. Pratt, "Toward a Philosophy."
5. Davies, *Arctic Eldorado*, 13, 91. On Canol, see Coates, *Trans-Alaska Pipeline*, 72–76.
6. Panarctic, *17th Annual Report*, 10. On the broader context and government Task Force on Northern Oil Development set up in 1968, see Stabler and Olfert, "Political Economy"; Keith Fischer, "Assessing."
7. Ministry of Northern Development and Indian Affairs, *Prospectus*, Table 2.5. For a vivid account of Panarctic, see Kennedy, *Quest*; see also Hetherington interview on the subterfuges required to get investors involved.
8. Maxwell, *Energy from the Arctic*, 15; on the influence of the Alaskan finds, see Browning, "Mackenzie Delta," 98.
9. Dominion Bureau of Statistics, *Crude Petroleum and Natural Gas Industries.*
10. McCracken et al., "Arctic Oil and Gas."
11. See Gray, *Forty Years*, 2–7.
12. See the assessments in Pitcher, *Arctic Geology.*
13. Edgington, "Petroleum Potential," 117–119.
14. *Imperial Oil Annual Report 1959*, 21 March 1960.
15. Lyon, *Dome*, 32–33, 97–99.
16. Aggregate official data on geophysical testing in the north exists from 1966 as it became possible to claim tax credits for the work.
17. *Oil and Gas North of 60* (1978).
18. Weeks became the most established authority on both American and world oil reserves. See Weeks, "Next Hundred Years"; for earlier applications of Weeks' work, see Pratt, *Oil in the Earth*; Ayres and Scarlott, *Energy Sources*, 31–32.

19. Priest, "Hubbert's Peak."
20. King Hubbert, "Energy from Fossil Fuels."
21. Priest, "Hubbert's Peak."
22. Quirin, *Economics*, 11–12. In fact Quirin's method had already been used in an even rougher way, which did not take any of the northern territories into account, in J. Davis' report to the Royal Commission on Canada's Economic Prospects of 1957. Davis, *Canadian Energy*, 112–113.
23. *Oil and Gas North of 60. A Report of Activities in 1969*, 28–29; Edgington, "Petroleum Potential," 128–129.
24. NEB, *Energy Supply*, 47.
25. Ministry of Energy, Mines and Resources (henceforth EMR), *Energy Policy*, 34–54. This provides a careful explanation of methods and comparison of recent estimates. See also Maxwell, *Energy from the Arctic*, 7.
26. *Oil and Gas North of 60* (1977), 19–20; EMR, *Oil and Natural Gas.*
27. Bregha, "Canada's Natural Gas Industry," 77. A stringent critique of methods of estimation, and an alleged sudden shift in use of estimates between summers of 1973 and 1974 can be found in several essays in this volume, although in fact the Geological Survey of Canada was already substantially lowering its estimates by the winter of 1973.
28. McDougall, "Mackenzie Valley,"147.
29. Bird et al.,"Circum-Arctic Resource Appraisal"; also the *BP Statistical Review of World Energy 2012*, 6.
30. Pratt, "Toward a Philosophy."
31. Garrett, "Conventional Hydrocarbons," 50; Good, "Wealth of the Northlands," 237, 239; Haglund, "Maritime Transport," 234; Nassichuk, "Petroleum Potential," 78.
32. Hetherington, Interview, 21.
33. Nassichuk, "Petroleum Potential," 52.
34. *Business Weekly*, January 4, 1983.
35. Rohmer, *Arctic Imperative*, 8.
36. Lyon, *Dome*, xi–xiii.
37. Lyon, *Dome*, 55.
38. Currie, "Panarctic," 897–898; see also Hoos, "Beaufort Sea," 306.
39. Quirin, *Economics*, 12.
40. Ministry of Northern Development and Indian Affairs. *Prospectus*, 1.
41. Lyon, *Dome*, 40–41, 65; Clark, Hetherington, O'Neil, and Zavitz, *Breaking the Ice*, 206.
42. Hetherington, Interview, 19.
43. Hetherington, Interview, 24.
44. Belgrave, "U.K. Company's Approach," 891. On the Trans-Alaska Pipeline (TAP), see Coates, *Trans-Alaska Pipeline.*
45. Kennedy, *Quest*; Lyon, *Dome*, 101.

46. Quirin, *Economics*, 109. See the discussion in Scott and Pearse, "Political Economy"; Chastko, "Anonymity and Ambivalence."
47. Ayres and Scarlott, *Energy Sources*, 31–44; King Hubbert, *Nuclear Energy*.
48. Quirin, *Economics*, 109–111.
49. Davis, *Canadian Energy*; Quirin, *Economics*; NEB, *Energy Supply*; EMR, *Energy Policy*.
50. Putnam, *Energy in the Future*; Ayres and Scarlott, *Energy Sources*; Netschert, *Future Supply*; Weeks, "The Next Hundred Years."
51. For example, the estimates over several years of the US National Petroleum Council widely cited at the time. Some economists were unsurprisingly critical of such a naïve approach. Bradley, "Energy"; Berndt, "Forecasting," 79.
52. Quirin, *Economics*, 34.
53. Davis, *Canadian Energy*, Table 1; NEB, *Energy Supply*, 54–55; OECD, *International Petroleum Monthly December 2010* (2011).
54. EMR, *Energy Policy*, 24–29; Canadian energy consumption data provided in Unger and Thistle, *Energy Consumption*.
55. NEB, *Energy Supply*, 75.
56. Quirin, *Economics*, 2.
57. Reed, *Oil and Gas*, 1–3.
58. Vietor, *Energy Policy*, 193–344; Grossman, *U.S. Energy Policy*, passim.
59. *New York Times*, July 2, 1971.
60. Maxwell, *Energy from the Arctic*, iii, 1.
61. Hill and Vielvoye, *Energy in Crisis*, 178; King Hubbert, "Energy from Fossil Fuels."
62. Reed, *Oil and Gas*, 45; Odell and Rosing, *Future of Oil*, 84–111; Hill and Vielvoye, *Energy in Crisis*, 199. For wildly high expectations of oil demand and supply in 1990 in discussing the Arctic in 1971, see a BP analyst and a researcher for the US Petroleum Industry research Fund: Ion, "Arctic Oil," 622; Steele, "Supply and Demand," 615.
63. Maxwell, *Energy from the Arctic*, 2. Because of a somewhat arbitrary calculation on maintaining a ratio between reserves and consumption and only permitting export for a "surplus" beyond this, the NEB had already barred exports to the USA in 1971. Bradley, "Energy," 63–65.
64. For nationalist arguments, see Laxer, "Always Look to Imperial."
65. Gray, *Forty Years*, 6–7; Maxwell, *Energy from the Arctic*, 11; Gray, "Why Canada."
66. Kaustinen, "Polar Gas Pipeline," 218–225; Lyon, *Dome*; Maxwell, *Energy in the Arctic*, 23; Kennedy, *Quest*, 47–50; Vietor, *Energy Policy*, 297–299.
67. Maxwell, *Energy in the Arctic*, 23.
68. Maxwell, *Energy in the Arctic*, 23–28; on the Trans-Alaska aspects of the debate, see Coates, *Trans-Alaska Pipeline*, 217–268; and the process

of inquiry and political context, Stabler and Olfert, "Gaslight Follies," 380–388; Berger, *Northern Frontier*.

69. Gray, *Forty Years*, 58.
70. Masterson, "Arctic Islands."
71. Ministry of Northern Development and Indian Affairs, *Prospectus* (1968), Table 2–5; see Note 12.
72. Kennedy, *Quest*, 47–59.
73. Ministry of Indian Affairs and Northern Development, *Schedule of Wells*.
74. Maxwell, *Energy in the Arctic*, 22; see also *Imperial Oil Annual Reports*, and Ministry of Indian Affairs and Northern Development, *Schedule of Wells*: Wells Drilled.
75. Information extracted from *Imperial Oil Annual Reports*, 1963–1979.
76. *Imperial Oil Annual Reports*, 1963–1979.
77. *Imperial Oil Annual Reports*, 1963–1979; Ministry of Indian Affairs and Northern Development, *Schedule of Wells*: Wells Drilled.
78. Laxer, "Always Look," 27–34.
79. Information extracted from *Imperial Oil Annual Reports*, 1963–1979, especially (1975), 6–7, (1976), 8–15, (1977), 12–4, (1978), 9–11, (1979), 9–15.
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CHAPTER 3

Extracting the Future in Svalbard

Dag Avango

Introduction

The circumpolar north has increasingly become portrayed as a future supply area for energy resources and minerals. Among the voices producing these future visions are actors within extractive industries, often in alliance with states and other stakeholders in the region. This development is not new. Economic actors with interests in Arctic natural resources have produced future visions for the region before and built alliances in order to realize them.[1] This chapter will explore their production and use of Arctic future visions in a historical perspective, in order to build an understanding of when, how and why future visions of the Arctic as an arena for resource extraction are produced and realized.

In line with this broader aim, the objective of the book chapter is to explain the role of industry in the construction of the Arctic archipelago Svalbard as a place to extract mineral resources, by focusing on the production of future visions by companies within mining, in interaction with others. The main research questions are: what visions on the future of Svalbard have the actors within those industries produced and why? How did they build influence for their future visions? To what extent did their future visions gain influence?

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Actors in the mining industry in the Arctic have produced future visions on two different arenas—in discourse and by performing various activities on the ground. Company prospects, annual reports, project descriptions, environmental and heritage impact assessments are examples of discourses of future visions. Settlements, technological systems and symbols perform material futures. These physical constructions can serve practical functions and have symbolic functions, expressing cultural values and political ideologies.

These Arctic future visions can be understood as tools which actors use in order achieve their goals. By constructing and communicating Arctic future visions, actors enrol allies such as investors, states and other Arctic stakeholders into actor networks which may be able to realize those future visions. By studying such enrolment processes and their outcomes, it is possible to explain how and why geological and biological elements in the Arctic are defined as resources in different historical contexts.[2]

In this book chapter, I will study some of the main actors behind the Spitsbergen mining industry when it was established from 1898 to 1925. I have chosen this phase because of its formative character—this was the period when the mining industry established Svalbard as a place for resource extraction, an industry which lingered on for more than a century.

Envisioning Industrial Futures in No-Man's Land Spitsbergen

Contexts and Windows of Opportunity

To understand the future visions of the actors who established the mining industry on Svalbard, it is necessary to consider the historical contexts in which they acted. Some of these contexts worked in favour of envisioning Svalbard as a place to mine. To begin with, coal was the most important energy resource in the industrialized world. Industrial companies used it for electricity production (steam engines, steam turbines) and for various processes requiring heat. Coal was also used in the power stations, heating systems and household cooking of the rapidly growing industrial cities. On the expanding railway networks, steam locomotives consumed vast amounts of coal. There was a constant demand for coal.[3]

Another important context was the increasing availability of knowledge about the European Arctic in general and Spitsbergen in particular. Over the course of the nineteenth century, scientists had explored the region, mapped it and produced an increasing amount of scientific knowledge on

its geography and geology. This included information on the presence and character of minerals and fossil fuels. In addition, it included information on sea depths, ice and weather conditions.[4] Other knowledge producers were hunters and skippers from north Norwegian communities who had observed coal seams when visiting Spitsbergen and considered their potential economic value. They were among the first actors who mined coal at Spitsbergen and also acted as advisers to the mining companies which eventually established the first mining settlements there.[5]

The legal status of Spitsbergen was another important context. After conflicts between whaling companies and states supporting them in the seventeenth century, the unpopulated Spitsbergen archipelago had been widely recognized as a no-man's land—a terra nullius. This legal status was specified and confirmed in the 1870s again, as a consequence of an attempt by the Swedish government to claim Spitsbergen as a colony of the Swedish–Norwegian union.[6] No man's land status meant that it was open for anyone who so wished to utilize natural resources there, without applying for concessions, complying with laws or regulations or paying taxes. These conditions were attractive for prospecting companies willing to take a risk. It also created an opportunity for state actors from Sweden and Norway, who wished to establish their countries on the world arena of colonialism, which at the time was dominated by countries such as Britain, France and Germany.

A fourth contributing context was the hype about the Arctic at the time. Scientific and exploration expeditions were immensely popular, both within the ruling elites and broader public in the Western world. Inspired by nationalist and romanticist trends, authors, artists, scientists and explorers produced narratives romanticizing the Arctic region and heroizing activities there. This provided a fertile ideological ground for enroling support for Arctic ventures.[7] At the same time, however, it also disfavoured it. The notion of the Arctic as a place where people battled sea ice, endured isolation and struggled to survive unforgiving environmental circumstances also raised scepticism about the feasibility to mine there. And indeed, it simply was not the same as establishing a mine in southern Sweden. Spitsbergen was located comparatively far away from mineral markets in Europe, 800 km north of the Scandinavian mainland, and was blocked by sea ice and without sun light for months each year and with two thirds of the land covered by a permanent ice sheet. Mining in such a place would be costly, both in terms of investments and production costs and also risky. Therefore, actors who wished to enrol

supporters for mining ventures at Spitsbergen needed to formulate convincing arguments and future visions. In the following sections, I will analyse these arguments and visions grouped thematically.

Resources for Northern Energy Markets

What is today known as the Svalbard coal mining industry started during a price hike for coal in 1898, when a variety of actors—skippers, professional prospectors, scientists—began to prospect for coal and minerals, claim land and open small-scale mines. From 1905, companies with more resources in terms of knowledge and capital started up all-year mining operations, establishing the first mining towns.[8] Some of these actors desired to run the mining operations themselves, but did not have enough capital to start an all year production of scale and therefore needed to enrol investors. Another type of company were exploration companies, who did not intend to mine themselves, but claim, develop and sell coal fields to mining companies. They needed to enrol potential buyers of the areas they claimed.

In order to enrol investors, buyers and customers, these companies produced future visions in which their coal fields at Spitsbergen would become main suppliers of coal for markets in the northernmost parts of mainland Europe. They promoted this vision through company prospects and in articles in newspapers and professional journals. One example is the Norwegian entrepreneur Fredrik Hiort, who in 1912 claimed land for coal mining at Grønfjorden and formed a company to mine it: *Det Norske Spitsbergen Kulkompagni*. To raise the necessary capital, his company invited investors to buy shares. In the invitation, Hiort argued that Norway imported more than two million tons of coal per year, of which 270,000 were used in communities from Narvik and north. Spitsbergen coal could compete on that market, be put to sale further south and to major shipping companies using steamships. In addition the company could sell coal to northern Sweden over the railway connection from Narvik, as well as to north-west Russia through Archangel and to Iceland.[9]

Instructive examples of exploration companies were the British firms *The Northern Exploration Co* (NEC from here on) and the *Scottish Spitsbergen Syndicate*, who claimed vast land areas with coal and other minerals in the opening years of the twentieth century.[10] In order to attract buyers of their claims, NEC produced lavish booklets in which they presented their assets in sugared descriptions, estimates

and photographs. To the NEC, all of its claims contained minerals of immense economic value on north European markets. Just like the above-mentioned Norwegian companies, the NEC presented northern Norway, Sweden and Russia as the main market for the coal on their fields—vast in extent, various types and off course of a quality comparing favourably with the best coals in Britain. The company also controlled marble deposits (Kings Bay), more than 40 varieties which according to assumingly informed and objective assessments by "numerous experts, English, French and American", were of outmost quality, beauty and value.[11] Other resources which the NEC sought investors for was iron ore, graphite, asbestos, gold, phosphates, gypsum and oil—minerals that could easily be sold in industrializing Europe at the time, they claimed.

Through these narratives about the future, the mining companies tried to build actor networks made up of investors and coal users in the north, ascribing economic value to their coal fields and thereby turning them into natural resources which could generate profits.

Resources for Industrial Production Systems

Other actors tried to build their Spitsbergen mining ventures by peddling the idea that the coal deposits on the archipelago could be a component in large industrial production systems based outside of the Arctic, in the iron and steel industry of northern Europe. One example is the US industrialist John Munroe Longyear, who established the coal mining settlement Longyear city in 1906—today Longyearbyen, the provincial capital of Svalbard. He was interested to buy newly discovered iron ore deposits at Varangerfjorden in northern Norway, mine it, concentrate the ore and sell to steel works in Britain and elsewhere in northern Europe. He argued that the coal deposits he knew of at Spitsbergen were the closest supply of energy for his planned concentration plant at Varangerfjorden. That is why Longyear, in 1903, acquired a coal field at Spitsbergen and built Longyear city. Longyear never built the steel making system he envisioned however. Instead, with the intent of selling his Spitsbergen coal mine at a good price, he worked hard to establish his coal on the energy market northernmost Norway and north-western Russia.[12] His efforts payed out. Actors in Sweden, Germany, Norway and Russia were interested and in 1916, the Norwegian mining company *Store Norske Spitsbergen Kul Co A/S* (SNSK), formed for the purpose, bought Longyear city from his *Arctic Coal Co.* SNSK has operated most Norwegian mines at Svalbard up to this day.

There were also others who tried to ascribe value to Spitsbergen coals by connecting them with the steel industry. At the turn of the century 1900, Swedish iron and steel production was still based on blast furnaces fuelled by charcoal. In other major steel producing nations, companies produced steel using coke fired blast furnaces. As industrialization picked up speed in Sweden over the second half of the nineteenth century, an expanding forest industry started to compete for the forest resources which the iron—and steel industry used for producing charcoal. Therefore, leading engineers at the Swedish steel industry branch organization *Jernkontoret* envisioned that parts of the Swedish steel industry could transition to using coke-fired blast furnaces. To avoid dependence on imported cooking coal, Swedish companies should mine it at Spitsbergen.[13]

The engineers at *Jernkontoret* put forward their idea in the journal of their organization, *Jernkontorets annaler*.[14] They also allied themselves with actors in the Swedish polar science community and the Swedish ministry of foreign affairs whom, for reasons I will return to below, also wanted to see a Swedish coal mine at Spitsbergen. They wrote memos and letters to the board of *Jernkontoret* in which they presented the same vision of the Spitsbergen coal fields as a potential resource for a future restructuring of the Swedish steel industry.[15] In this way, they managed to enrol and mobilize leading actors within the Swedish steel sector to fund and send a Swedish expedition to Spitsbergen in the summer of 1910, which claimed vast lands on Spitsbergen as "Swedish occupation" and identified a site for a future coal mine.[16]

Resources for National Energy Security

In Sweden and Norway, some of the proponents for establishing a mining industry at Spitsbergen, defined the coal deposits there as a tool to decrease the need to import energy resources from abroad. Some of those actors represented industrial companies, while some belonged to the polar research communities.

The Swedish energy system was heavily dependent on imported coal in the late eighteen hundreds and the early nineteenth century. The same is true for Norway. Existing coal mines in southern Sweden could not meet the growing demand in the rapidly expanding industrial economy. In Sweden, economic and political actors were concerned about the risks of being dependent on energy imports, which they expressed in debates within industry and the state. The government as well as different

branches of industry took initiatives to develop alternative energy forms that were available domestically.[17] This situation became increasingly aggravated during the First World War, when German and British military actions made it very difficult to import coal, which in turn led to dramatic price increases. This situation provided fertile ground for actors who wanted to enrol investors to their mining projects.

A good example is the above-mentioned actors in the Swedish steel industry. As it turned out, their coal fields at Spitsbergen would not transform into coke and could therefore not be used in blast furnaces as they had intended. In order to save their investments, they produced a new future vision ascribing a new value to their coal fields: a Swedish controlled supply of steam coal for use in other sectors of the Swedish economy. Investors liked the vision and in 1911 bought shares in the company meant to realize it, *AB Isfjorden-Belsund*. In 1916, when the First World War drove up coal prices on the world market, the company saw the time as ripe for enroling investors for opening a mine on its coal fields. In a prospect inviting investors they placed energy security at the heart of the future vision for their mining project. Covering the Swedish needs for coal had turned into one of the most serious problems for the nation they argued and one of the most difficult to solve. Sweden had access to only a fraction of the needed quantities and at extremely high prices. Even if imports would go back to normal once the war was over, they expected the prices to remain high and protectionist policies to endure. The Swedish coal fields in Scania would not suffice they argued. Therefore, *AB Isfjorden-Belsund's* "[…] virtually inexhaustible quantities of good coal" at Spitsbergen would be a way to solve Sweden's dependence on imported coal.[18] This narrative about the future proved to be a successful tool for enrolling investors. The company managed to sell all the available stocks over a few days in 1916 and in the following year it established Sveagruvan (The Svea mine) at Spitsbergen and a new company for mining it: *AB Spetsbergens Svenska Kolfält*.

Another mining company on Spitsbergen using a similar argumentation was the above mentioned Norwegian mining company SNSK. In a call for investors to buy the Longyear city from the *Arctic Coal Co* in 1916, the SNSK leadership alluded to Norway's dependence on imported coal and the coal shortages resulting from the war, by stating: "One considers it superfluous to explain the significance for Norway of acquiring these fields for securing the supply of considerable quantities of coal from

Spitsbergen".[19] Just like in the case of the Swedish company, SNSK managed to sell all of its stocks, which enabled them to take over Longyear city, at the time Spitsbergen's largest and most advanced coal mine.[20]

Over the years that followed, these companies recycled their future vision of Spitsbergen coal as a resource for securing national energy needs, whenever they needed new investors or customers. This strategy proved successful. The Swedish government ordered the Swedish national railways to buy a substantial part of the output from the Svea mine at fixed favourable prices and in 1921 and 1923, had the state invest substantial amounts of capital to expand the capacity of the Svea mine. The political elite in Sweden did so because they shared the future vision of Spitsbergen as a resource for diversifying Sweden's access to energy resources, also after the end of the war.[21] The Norwegian government was in favour of supporting SNSKs mining operations on Spitsbergen, partly because of similar concerns about access to coal, but also for geo-political reasons, to back up the legitimacy of the treaty concerning Spitsbergen, which was signed in 1920.[22]

Taken together, these cases show that the leaders of the Spitsbergen mining industry were quite able to enrol others to believe that the coal seams at this distant Arctic archipelago could have an economic value. They also show that even if the coal could not be used for the purposes they originally envisioned, such as steel making, they were able to re-define its value by connecting it with other sectors of the economy and as a solution to problems of energy security. The result was a growing conviction among economic and political actors in Europe and North America, that mining at Spitsbergen was feasible and even desirable.

Resources for Geo-Politics

Another category of actors who produced futures visions of Spitsbergen as a place to mine were state representatives, who ascribed geo-political values to the coal deposits. From the sixteen hundreds up until the turn of the century 1900, state actors in Europe had generally recognized the archipelago as a no-man's land (terra nullius). However, in 1907, two years after the dissolution of the Swedish-Norwegian Union, the Norwegian government seized an opportunity presented by a labour conflict in a British mining settlement at Spitsbergen, to suggest that some form of governance was needed there and that Norway was ready to take on that task. The governments of Sweden, Russia and the USA

were opposed to this and instead called for a multinational governance arrangement, limited to dealing with matters pertaining to mining and science. The competing governments negotiated the issue over three conferences held in 1910, 1912 and 1914 in the Norwegian capitol Christiania and again in Paris in 1919–1920. The processes ended with the signing of the treaty concerning Spitsbergen in 1920, which granted sovereignty over Spitsbergen to Norway under certain conditions which I will return to.[23]

Roald Berg and others have shown that the Norwegian government's main motive for claiming Spitsbergen was nation building.[24] The government wanted to build the new independent nation by expanding its influence both in the northern parts of mainland Norway and beyond. Claiming Spitsbergen for Norway was a way of doing that. The Swedish and Russian governments opposed the Norwegian governments plan for similar reasons. In Sweden, the ruling elite was upset with the Norwegian move to dissolve the union and saw its subsequent move on Spitsbergen as not only another provocation, but also a threat to Swedish interests. Firstly, the Swedish government wanted to have the leading role in international foreign policy matters among the Scandinavian countries and saw the Norwegian government's initiative on the Spitsbergen issue as a threat to that role. In a letter to a fellow Russian diplomat, Swedish foreign minister Arvid Taube explained the Swedish position on the matter in the following words:

> As things now stand, it is necessary that our program is driven through doute que coûte. Sweden's standing on the Scandinavian Peninsula is dependent on it. I want to cooperate with Norway, but only under the condition that it is we and not Norway, which has the leading place in all aspects of our common relations with the international community. This is the main reason why I so insist on getting through our Spitsbergen Proposal.[25]

Secondly it was because Swedish scientists had dominated the arena of scientific research on Spitsbergen since the mid-nineteenth century, partly financed by the Swedish government. To the Swedish government, it seemed unfair if Norway would gain exclusive rights to coal resources which these scientists had mapped.[26]

Throughout the years leading up to the treaty concerning Spitsbergen, the competing governments and their supporters produced future visions for Spitsbergen in order to further their cause.

They included the mining industry in those visions. One example is the Norwegian governments' first calls for changing the legal status of the archipelago in 1907, which they partly based on the argument that emerging conflicts between mining companies and others needed be controlled.

They also provided diplomatic and financial support for Spitsbergen mining companies originating from their own countries, even initiating such companies, in order to strengthen their position in the negotiations. In Sweden, for example, the Swedish ministry of foreign affairs leaned heavily on *Jernkontoret* to make them claim coal fields at Spitsbergen, clearly contributing to the organization's decision to do just that in 1910. Over the years that followed, the Swedish foreign ministry used the Swedish coal fields as an argument as to why Sweden should have influence over the future legal status of Spitsbergen, and in support of the Swedish position on the future of the archipelago as co-governed by Sweden, Norway and Russia with a limited set of laws regulating property and labour issues.[27] As Julia Lajus has shown, the Russian government pursued a similar strategy by sponsoring a coal claiming expedition to Spitsbergen led by the Russian scientist Vladimir Rusanov in 1912, as well as a Russian company that was later formed to mine the coal. The purpose was partly to bolster the Russian position in the Spitsbergen diplomacy, which was similar to the Swedish one.[28] As Einar Arne Drivenes and Leif Jonny Johannisen have shown, the Norwegian government acted in a similar manner by encouraging Norwegian geo-scientists to claim coal fields at Spitsbergen and by supporting Norwegian coal mining companies there.[29]

All mining companies had to relate to the sovereignty issue in one way or another. Some of them supported their government's position in the negotiations simply for the sake of protecting their claims to resources. One example is the aforementioned Norwegian industrialist Fredrik Hiorth, who in 1908 reported to the Ministry of foreign affairs in Norway that he claimed land for coal mining purposes at Mount Heer, Green Harbour. Apparently well aware of the Norwegian governments recently stated ambition to sort out the legal status of Spitsbergen, he asked the ministry to recognize his claim and asked for protection of his alleged rights at the upcoming negotiations.[30] He did this for a good reason. Hiorth and his companion, the Norwegian Arctic geo-scientist Adolf Hoel, knew that Longyear's *Arctic Coal Co* claimed the same area.

Over the following year, the *Arctic Coal Co* and Hiorth's company acted out a tough conflict on the matter and Hiorth kept approaching the Norwegian foreign ministry, asking for their support. And the ministry gave support by speaking on behalf of Hiorths company with US diplomats.[31] In a personal meeting with Hiorth, the Norwegian foreign minister stated his ambition to support his company in the same way as his ministry would support any Norwegian interests at Spitsbergen.[32] Other Norwegian mining companies asked for and received similar support; *The Green Harbour Coal Co* and *Svalbard A/S* are two examples.

In the case of Sweden, *AB Spetsbergens Svenska Kolfält* acted in a similar manner. The company had the same future vision for Spitsbergen as the Swedish government—a territory co-governed by Sweden, Norway and Russia according to a limited set of regulations that would benefit the mining industry. The company and its allies in the Swedish polar geo-scientific community promoted this future vision in media, journals and in correspondence with the Swedish government. During the negotiations in Paris in 1919, the company advised the government on what demands it should make on the contents of the Spitsbergen treaty—advise which the Swedish negotiators followed.[33] The company benefited by asking for and receiving recognition and protection for its claims at Spitsbergen from the foreign ministry.

Thus, the geopolitical conflict which eventually resulted in the signing of the Spitsbergen treaty in 1920, further strengthened the definition of Svalbard as a place with economically as well as politically valuable natural resources, worth investing in, worth defending and therefore important to regulate. This was thoroughly reflected in several paragraphs of the treaty, which were designed to facilitate resource extraction for companies from states which had signed the treaty. Article 3 stipulated equal rights to nationals of all contracting parties to access the archipelago, with no impediment to maritime, industrial, mining and commercial operations. Other articles stipulated rules pertaining to mining related activities. One example is article 6 which regulated competing land claims for mineral extraction. Another is article 4, which regulated rights to operate telegraph stations mining companies needed to communicate with head offices on the mainland as well as their fleets. Other examples are article 2, giving mining companies exclusive rights to hunting on their lands, and article 8 limiting the rights of Norway to tax mining companies.[34]

Spitsbergen Geologies in a Friendly Arctic

In order to construct geologies at Spitsbergen as natural resources, the mining companies and their supporters also directly addressed the challenges of the Arctic environment, both the environment in itself and the general perception of it. Mining companies dealt with those challenges in two main ways—by designing technological systems and settlements that worked in the local environmental circumstances, and by re-defining Spitsbergen as a friendly place.[35]

They argued that Spitsbergen was closer to northern Scandinavia than the nearest coal fields to the south and the north Atlantic current kept the Spitsbergen west coast clear from ice. They claimed that permafrost would be an asset, keeping water out of the mines and thereby lowering investment costs. Sub-zero temperatures in the mines would provide a comfortable environment for physically hard mine work they argued. Another prominent feature in the future visions the companies presented was the geological conditions on the archipelago. Because of the climate there was no vegetation, so geologists could easily determine the extent and character of the coal seams they claimed, making planning and estimations easier and more reliable. Moreover, most of the coal seams were situated above sea level, which made it possible to access them from the mountain sides. There was no need to sink expensive shafts into the underground and therefore no need for expensive hoisting machineries.[36] With these arguments, the companies tried to transform the widespread perception of the Arctic environment as an inaccessible land of extremes and hardships, into just another place which could be utilized by using proper technologies.

This way of describing Spitsbergen became wider spread over the opening decades of the twentieth century. To the Swedish Geographer Gunnar Andersson, the new accessible Spitsbergen was a result of modernity. In an article published in the scientific journal *Ymer* in 1917, Andersson wrote:

> June 28 1898 was the first time I saw the craggy mountain contour of Västspetsbergen at the entrances of Bellsund and Isfjorden appear out of the clouds as they dispersed with the rising morning sun. Since that time a lot has changed. The desolate land in the high north, which we who were on board of the "Antarctic" saw as the sacred ground of theoretical research, have been pulled into the arena of modern industry and business competition.[37]

In several respects, he argued, Spitsbergen was a much better place to mine than coal fields in more southern lands. There were no major fault zones and in terms of technology, mining was the simplest task a mining engineer could be confronted with. Isolation and harsh environmental circumstances did not pose any social problems either. Electrical lights would help employees overcome the winter night and the climate was not all that bad after all, the winter being not any worse than in northern Sweden and less snow.

Another prominent Arctic researcher envisioning a resource extraction future for Spitsbergen at the time was the Canadian anthropologist Vilhjalmur Stefansson. In one of his most well-known publications, *The Northward Course of Empire* from 1922, Stefansson used Spitsbergen as an argument to support his idea that western civilization had been heading north for most of history and would eventually reach the Arctic.[38] In this case, he was building his narrative on future visions which had already been produced by actors within the Spitsbergen mining industry. When arguing for the feasibility of transforming Spitsbergen into a place for resource extraction, Stefansson clearly referred to and gave voice to representatives of those mining companies—in a near future Spitsbergen coal would drive Newcastle and Wales out of the of the continental coal markets north of their latitudes.[39] Gísli Pálsson has argued that Stefansson, through his writings about the Arctic, contributed to establishing this region as a discursive space similar to the orient and the tropics.[40] It seems clear that he also helped build a general understanding of the Arctic as a region for mining. He had not been alone in this task, however. He built it on future visions which the Spitsbergen mining industry had already produced for decades.

Building Industrial Futures in No-Man's Land Spitsbergen

As I have shown in the above, the early twentieth-century mining companies at Spitsbergen, and their allies within science and diplomacy, enroled investors and political supporters to their actor networks by producing future visions about Spitsbergen as an Eldorado for mining. They did so in company prospects, in media and in professional and scientific journals. These text-based visions of the future were not their only tool for enrolment, however. They also constructed and made use of landscapes, built environments and artefacts to produce and realize their

visions of the future. The companies did so in three different ways, by constructing (a) mining camps, claim signs and representations of work (b) infrastructures and (c) mining settlements.[41]

The mining camps were small in scale but nevertheless important representations of mining futures. They typically consisted of smaller wooden pre-fab buildings for housing and storage purposes. Normally, the companies placed these camps close to natural harbours and in the vicinity of the minerals they wanted to extract.

The claim signs were simple wooden constructions on which the mining companies declared the extent of the land areas they claimed, what minerals they intended to mine and which date they had erected the signboard or renewed its text. Just like the camps, the companies erected these sign boards close to mineral deposits and natural harbours. They also erected signboards along the coast lines of the areas they claimed, in particular at prominent places in the landscapes (capes, hills and bluffs), where others could easily see them.

Another closely related category of artefacts were representations of work, which typically consisted of mine openings or pits in the ground, which the companies dug out at places where coal or different ores were available close to the surface. The companies also left piles of coal or ores—often together with tools—at these pits, or near the mining camps or natural harbours.

The mining companies constructed the camps, signboards and representations of work for three different reasons. The first one was practical; they needed buildings to house employees doing exploratory work in the summertime. They also needed mine openings and pits to investigate minerals and bring back samples to Europe for laboratory tests and evaluation. The second reason was the companies' desire to claim exclusive rights to minerals they had found, using the artefacts as evidence of effective use of these lands and resources. Finally, the companies used the camps, signboards and mine entrances as representations of promising mining futures.

A second category of material representations of mining futures was the mining settlements. In the same way as the camps, the companies designed these settlements not only for productive purposes but also symbolic, to promote themselves towards customers, investors and political supporters. A prominent example is the Swedish Svea mine. *AB Spetsbergens Svenska Kolfält* designed this mining settlement as a state of the art Arctic industrial community. The settlement plan resembled the

spatial layout of traditional Swedish company towns—*brukssamhällen*—with workers housing on one side of the town, offices and housing for engineers and directors on another, and storage houses in a third part of the settlement. All buildings in the settlement were painted in a style typical for Swedish rural settlements—red facades and white corners. All housing units were given a high standard, compared to mining settlements elsewhere. The company did so in order to construct and maintain labour peace, by keeping employees happy, by naturalizing hierarchies and by providing a sense of home. However, another motive was clearly to promote the company.[42] The settlement was a vision of a prosperous future, a way of showing investors that the firm was serious, with facilities that were built to last, and produce profits and resources for a long time to come, safe and attractive to invest in. Similar examples from the same period at Spitsbergen is the Dutch mining town Barentsburg, which was the most advanced coal mining operation at Spitsbergen in the mid-1920s. Just like at the Svea mine the housing units had an extraordinary standard for being an Arctic company town and for the same motives.

The mining companies mediated these physical representations of mining futures to potential investors and political supporters through their company prospects, annual reports and through media. They did so right from the start of the coal mining boom. An early example is the *Trondheim Spitsbergen Kulkompagnie*, which in 1903 presented a coal field they claimed at Advent bay. The company presented a prosperous future for investors, represented not only in text but also in a map depicting buildings and several operating coal mines, connected to a loading facility by the shore by aerial ropeways.[43] It is, however, doubtful if these structures ever came to be. There are no photos of them and a careful survey conducted by the author in the area in 2002 failed to identify any historical remains.

Another example is the prospect of Fredrik Hiorts and Adolf Hoels mining company *Det Norske Kulkompagnie*, which presented the company's assets at Mt Heer, Green harbor, Spitsbergen. Coupled with a text envisioning the site as the location of a future large-scale mining operation, they presented images of the built environment they had established at the site, claim boards promising control over the area, houses for accommodation and food storage suggesting the start of a future settlement, boats on an ice-free fiord, images of a mountainside with black lines indicating coal seams, and mine openings proving that the ground already was paved for starting up mining operations. The mining future

was also distinctively Norwegian, displaying not only the flag but also the Norwegian state controlled radio station at Finneset.[44] The station held a promise of a future under Norwegian sovereignty. The station was built in 1911 on the initiative of the Norwegian government, in order to strengthen Norway's influence over the future of Spitsbergen.

The mining companies and their supporters also used their camps and land claims in newspaper media, to attract investors and to enrol political support. *The Northern Exploration Company* and its supporters excelled in such behaviour. In an article in the British newspaper *The Financial News*, June 1919, a representative of the company reported not only about supposedly enormous mineral resources on the company's lands at Spitsbergen, but also a long list of camps under its control, wireless stations at Recherche bay and Kings bay (Camp Calypso and Camp Mansfield) and huts at various locations on the company's territories "with the capacity to house at least 500 men". The sub headlines of the article made it clear what investors could expect from the future of those camps and mineral resources: "The gate to the northern markets of Europe", "The new Eldorado" and the "The Pittsburg of the north".[45]

In an article in the *Colliery Guardian* from the same year, company representatives argued that the British interests "greatly predominant in Spitsbergen, where the claims of the Northern Exploration Company extend over about 2000 square miles. The coal fields cover a greater area than all those of the non-British companies put together, and upon the property of no other company, so far as is known, has iron been found". In the article, they described one of their mining camps as the "Davis city", producing good quality coal suitable for steam, household and gas production purposes and easy to sell on Scandinavian markets. To further impress the reader, the article claimed that the person in charge at Davis city was the famous Antarctic explorer Frank Wild.[46]

Reality was less impressive. Davis city consisted of little more than a few barracks and some rails for coal transports.[47] The same was true for many of NEC's mining camps, which they named after prominent figures from the history of British Arctic exploration—Camp Parry, Camp Sabine, Camp Franklin and Camp Scoresby—names much grander than the rather moderate level of sophistication of the camps.[48] Other companies did the same, a good example being the Dutch company NESPICO's camp Rijpsburg, named after the captain of Willem Barentz ship on the journey

during which he discovered Spitsbergen in 1596. Rijpsburg consisted of a few barracks, a small coal mine in a small coal seam, at a place with some of the worst conditions for shipping possible.[49]

The coast lines of present-day Svalbard are still dotted with remains of the mining companies material promises of prosperous mining futures, material representations that contributed to the growing perception of Svalbard as a territory meant for large-scale mineral resource extraction.

The Realization of the Future Visions—An Industrialized Archipelago and the Treaty Concerning Spitsbergen

By producing and re-producing narratives about Spitsbergen as a "New Eldorado" for resource extraction, the mining industry and its supporters within polar science and politics built a powerful actor network that firmly established Spitsbergen as a place to extract natural resources.[50] In 1920, this could be seen not only in company rhetoric but also in the Spitsbergen landscape. This year there were seven mining towns in full operation at Spitsbergen: Longyear city, Brandal city (Ny Ålesund), Grumant city, Barentsburg, Sveagruvan, Hiorthamn and Tunheim. Prospecting activities were going on at a large number of mining camps across the archipelago: Bruce city, Gips valley, Camp Calypso, Camp Morton, Iron range Camp to name a few. The First World War had come to an end in 1918, which made it significantly easier for the Spitsbergen mining companies to operate their mines and the prices for coal were still high, which increased their possibilities to make a profit. The industry had been founded and the future was theirs.

That Spitsbergen was as a place for extracting natural resources was further established by the Treaty concerning Spitsbergen, signed the same year by the states participating in the post-WW1 Paris peace conference. The treaty granted sovereignty over Spitsbergen to Norway, but with certain limiting paragraphs, all with content which protected the interests of companies within resource extraction and shipping—in particular mining—with equal treatment of Norwegian and non-Norwegian actors.[51] The mining companies had a major influence on the content of the treaty. The Norwegian delegation to Paris partly consisted of representatives of SNSK, while the Swedish and Dutch delegations consulted closely with the leadership of their mining companies, demanding that their proposals would be reflected in the articles of the treaty.

Thus, in the early 1920s, the leading actors had successfully built actor networks which ascribed economic and geo-political values to the coal seams at Spitsbergen, constructing them as natural resources and thereby enabling the establishment of a mining industry there. Moreover, they had also succeeded to construct a governance system for the archipelago—still in place today—which cemented it as a place to extract resources.[52]

Conclusions

The objective of this chapter has been to explain the role of industry in constructing Svalbard as a place to extract natural resources, with a focus on their production of future visions and strategies to realize those visions.

To begin with, the mining companies acted within the frame of larger historical contexts which created windows of opportunity for mining there: no-man's land conditions and an international diplomatic squabble about the future legal status of the archipelago, encouraging states to support mining companies from their own nations with activities at Svalbard. Another context was the market for coal, the dominating energy resource at the time and the lack of domestic coal resources in the Scandinavian countries. Also, popular images of the Arctic led to an increasing interest in the region, but since these emphasized harsh environments and remoteness they also produced doubt about the feasibility of establishing industries and settlements so far north.

Most of these contexts created windows of opportunity, which some actors tried to utilize for starting up mines. These actors where a mixed lot, ranging from opportunistic prospectors and Arctic Ocean skippers to experienced and financially strong industrialists and state actors. To realize their projects, they needed to build actor networks of investors and political supporters, by convincing them that it would be feasible and profitable to mine even as far north as Spitsbergen. They enroled these actors by producing future visions in text and through material culture. These future visions were of four types—Svalbard coal as the main supplier of the market for energy resources in the Scandinavian and Russian north, as a tool to transform iron and steel production, as a resource to build national energy security and as a geo-political tool for nation building. In order to overcome scepticism about the feasibility of mining in so far to the north, the mining industrialists and their supporters framed their future visions within a larger narrative about the Arctic as a friendly place, in which any challenge could be handled by modern technology.

The establishment of the Svalbard mining industry and the future visions which carried it forward are also examples of broader phenomenona in the history of natural resource exploitation in the Arctic: the resources are usually meant to achieve goals somewhere else, profits, energy needs and political gains for actors in financial and political centres in the south. At present, the coal mining industry at Svalbard is closing down, and the mining companies and their political and financial backers are formulating new future visions with which they hope to inscribe new values on their abandoned mines, for example, as resources for heritage tourism and as platforms for scientific research. There is little reason to doubt that also these future visions are meant to attain goals somewhere else, within the larger context of present-day Arctic geopolitics.

The remains of the now closed mining settlements at Svalbard are also a fruitful point of departure for considering the sustainability of communities built around resource extraction in the Arctic. Over the last 150 years, Arctic mining settlements have been established when demand and prices have been running high and industrialists successful in convincing investors and decision makers that mining is a desirable and sustainable future there. When the booms have turned into busts, mines in the Arctic have usually been among the first to close, chiefly because of higher production—and transport costs. The abandoned mining settlements and prospecting camps dotting the coast lines of Svalbard and elsewhere in the Arctic give ample historic evidence of this, as well as to the challenges of dealing with their legacies. They could help investors, decision makers and the general public maintain a critical eye toward sugared future visions for the Arctic based on mining.

Notes

1. See chapters by Warde, Lajus and Lantto for other examples that feature resource assessment and extraction central to Arctic futures.
2. Avango, Nilsson, and Roberts, “Assessing Arctic Futures”.
3. Avango, *Sveagruvan*.
4. Wråkberg, *Vetenskapens vikingatåg*.
5. Avango, “Knowledge and Legitimacy.”
6. Mathisen, *Svalbard in International Politics*; Berg, “Naturresursene og verdenspolitikken.”
7. Sörlin, “Rituals and Resources of Natural History”; Sörlin, *Framtidslandet*.
8. Kyrre Reymert, “Den förste kulldrift på Svalbard”; Hoel, *Svalbard*; Hacquebord and Avango, “Settlements in an Arctic Resource Frontier Region.”

9. Aktieinbydelse, Det Norske Spitsbergen Kulkompagni, arrived August 8 1912. Sak 4, 08, F Hiort, Utrikesdepartementets arkiv, Riksarkivet, Oslo, Norge.
10. Kruse, *Frozen Assets*; Speak, *William Speirs Bruce*; Mikalsen, *Business eller ishavsimperialisme*.
11. The Northern Exploration Company Ltd. Booklet with contents dated 1911–1913. Norwegian Polar Institute archives, Tromsø, Norway; The Northern Exploration Company, 1918, "Spitsbergens mineral wealth, its vital importance to British trade and industry," Norwegian Polar Institute archives, Tromsø, Norway.
12. Hartnell, "Arctic Network Builders"; Haskell Dole, *America in Spitsbergen*; Berg, "Norway, Spitsbergen, and America, 1905–1920."
13. Avango, *Sveagruvan*.
14. Jernkontoret, *Jernkontorets annaler* 62, 613ff.
15. Letter to the board of Jernkontoret from Gerard De Geer, April 5 1909. Volume 1, Spetsbergenarkivet, Swedish National Archives (RA); "Utdrag af protokollet, erhållet hos Jernkontorets Styrelsei Stockholm den 25 februari 1910". Volume 1, Spetsbergenarkivet, Swedish National Archives (RA); Letter from the Swedish ministry of foreign affairs to Emil Kinnander, Jernkontoret, received January 14 1910. Volume 1, Spetsbergenarkivet, Swedish National Archives (RA).
16. Avango, *Sveagruvan*.
17. Sundin, *Ingenjörsvetenskapens tidevarv*.
18. Johnsson, *Spetsbergens Svenska Kolfält*.
19. Man anser det overflødig at redogjøre for, hvilken Betydning det har for Norge gjennem Erhvervelse af disse Felter at sikre sig Tilførsel af betydelige Kvanta Kul fra Spitsbergen. Aktieinbydelse til tekning af 4000 Preferenceaktier á Kr. 500 tillsamen Kr. 2,000,000. Volym 2, Store Norske Spitsbergen Kulkompanis arkiv, Tromsø Statsarkiv, Norge.
20. Arlov, *Store Norske 75 år*.
21. Avango, *Sveagruvan*.
22. Johannessen, "Den nasjonale selvhevdelses vei."
23. Mathisen, *Svalbard in International Politics*
24. Berg, *Norsk utenrikspolitikks historie*; Berg, "Fornorskning av Arktis"; Johannessen, "Den nasjonale selvhevdelses vei."
25. Så som sakerna nu stå, är det emellertid nödvändigt att vårt program drifves igenom doute que coute. Sveriges ställning på den skandinaviska halfön beror i mycket därpå. Jag vill hålla ihop med Norge, men endast under villkor att det är vi och ej Norge som har den ledande platsen i allt som rör våra gemensamma förhållanden till utlandet. Detta är den innersta grunden hvarför jag så envisas med att få igenom vårt Spetsbergenförslag.Letter to General Brändström, St Petersburg from

Arvid Taube, Swedish Ministry of Foreign affairs, March 26 1910. Spetsbergenfrågan 19 mars 1910 10 April, s 634, vol 310, 1902 års dossiersystem, Utrikesdepartmentets arkiv, Swedish national archives (RA).

26. See for example Letter from Arvid Taube, Kungl Utrikesdepartementet, to Herr Westman, Swedish Chargé d'affairs Kristiania, September 21, 1909. Spetsbergenfrågan, vol 309, 1902 års dossiersystem, Utrikesdepartmentets arkiv, Swedish National Archives (RA).
27. Avango, "Aktanter i ingenmanslandet."
28. Lajus, "From Fishing to Mining."
29. Drivenes, "Adolf Hoel - ishavsimperialist og polarideolog"; "Ishavsimperialisme"; Johannessen, "Den nasjonale selvhevdelses vei."
30. "Da jag ser, at der sandsynligvis skal avholdes en international konference for evt. ordning af forholdene paa Spitsbergen har jeg ikke villet undlade at anmelde vor besiddelsestagen for Det ærede Departement med ærbödigst anmodning om, at der maa blive taget hensyn hertil, idet vor ret forbeholdes." Letter from Fredrik Hjorth, Kristiania October 31, to the Norwegian ministry of foreign affairs. Sak 4 08, vol 5145, Ministry of foreign affairs archives, National archives, Oslo, Norway.
31. See document on the matter in Sak 4 08, vol 5145, Ministry of foreign affairs archives, National archives, Oslo, Norway. Berg. Østreng.
32. Letter from F. Hiorth, Kristiania, to Det Kgl Udenriksdepartement, Kristiania, September 27 1909. Sak 4 08, vol 5145, Ministry of foreign affairs archives, National archives, Oslo, Norway., Exchange of notes between the signature Bl. and the Norwegian foreign minister Wilhelm Christoffersen, attached to a from F. Hiorth, Kristiania, to Det Kgl Udenriksdepartement, Kristiania, September 27 1909. Sak 4 08, vol 5145, Ministry of foreign affairs archives, National archives, Oslo, Norway.
33. Bil E, minutes of board meeting, AB Spetsbergens svenska kolfält, Stockholm, February 17, 1919. Volume 36, Spetsbergenarkivet, Swedish National Archives (RA); Bil D, minutes of board meeting, AB Spetsbergens svenska kolfält, Stockholm, March 12 1919. Volume 36, Spetsbergenarkivet, Swedish National Archives (RA); Berg, *Norsk utenrikspolitikks historie*, 277.
34. Svalbardtraktaten, Lov 1920-02-09 (https://lovdata.no/dokument/NL/lov/1920-02-09).
35. Avango and Högselius, "Under the Ice."
36. Avango and Högselius, "Under the Ice," 138–41.
37. Andersson, "Spetsbergens koltillgångar och Sveriges kolbehov."
38. Stefánsson, *The Northward Course of Empire*, 17–18.
39. Ibid., 18.
40. Pálson, "Arcticality," 275.

41. The following is built on archaeological field work at Svalbard, published in the following reports: Avango, De Haas, and Kruse, "Lashipa 9"; Avango et al., "Lashipa 5"; Avango et al., "Lashipa 4"; Hacquebord et al., "Lashipa 2"; Martin et al., "Industrial Heritage in the Arctic."
42. Avango, "Industriminnesforskning på Svalbard".
43. "Vaste deposits of coals on the Spitzberg island secured for Drontheim account," vol 5146, Ministry of foreign affairs archives, National Archives, Oslo, Norway.
44. 1908–1924 AS Kulspids mfl AS Norsk Spitsbergen Kulkompani, vol 455, SNSK archives, Tromsø State Archives, Tromsø, Norway.
45. nn, "Spitsbergen—the Northern Exploration Company Limited."
46. "Coal in 'No Mans Land'. British Interests in Spitsbergen."
47. Avango et al., "Lashipa 3."
48. Avango, De Haas, and Kruse, "Lashipa 9."
49. Avango et al., "Lashipa 2"; Bolhuis et al., "Lashipa 7."
50. On the use of the term Eldorado see Chapter 2 by Warde this volume.
51. Treaty between Norway, The United States of America, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Ireland and the British overseas Dominions and Sweden concerning Spitsbergen signed in Paris 9 February 1920.
52. For a discussion of how the treaty is discussed today, see Chapter 7 by van der Watt and Roberts.

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CHAPTER 4

"Red Herring": The Unpredictable Soviet Fish and Soviet Power in the 1930s

Julia Lajus

Introduction

An enormous number of herring suddenly appeared near the Soviet coast of the Barents Sea (known as the Murman coast) in 1932. A contemporary witness depicted that "Herring moved as a solid mass. […] The sea had turned into a thick porridge of herring. It was said that a stick stuck in the water, remained in that position."[1]

It looked like a wonderful present of nature to the Soviet leaders who needed new and easy access to sources of food, especially protein, for the hungry country. But the fish turned to be a mixed blessing as it was very difficult to organize proper fishing because neither fishers nor the local authorities responsible for the overall infrastructure were prepared for such an amount of fish. It was possible to take fish by baskets, sieves, even to catch by hands, but there were no fishing gear and no salt. Thus, a valuable resource was almost lost: after a period of gathering in the bays, most of the herring went back into the sea.

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The appearance of these large shoals of herring so close to the shore was at first considered as occasional, so the lesson was not learned.

> A year later, the invasion was repeated. And again, people were not prepared. They tried to hold up the fish, blocking her way from the bay by nets. But these locking nets could not withstand the enormous pressure, and again it went away.[2]

The capacity to catch fish that was demonstrated in some places did not help much, as there was no possibility to preserve, transport and transform it into a product: "But in some places, people adapted and caught thousands of tons. They threw away fish right on the shore, as the piles of dead fish grew, they threw them back into the water."[3] (Fig. 4.1).

Fig. 4.1 Taking herring out of coastal trapnet, Tiuva Inlet, 1930. Courtesy of the Department of Ichthyology and Hydrobiology, St. Petersburg State University (collection of Professor Evgenii Suvorov)

The sudden appearance of fish caused difficulties not only for the local authorities and fishers but for the scientists who were obliged to predict future catches. They not only needed to understand the behavioural patterns of fish but on the base of this knowledge to predict the herring stock status for the future to give advice for development of fisheries and thus to participate in the construction of the resource. The herring raised high expectations for the future development of fisheries in the North. It coincided in time with the intention of the authorities and leaders of the fishing industry to increase fish catches at any cost because of the difficult situation facing food production in the country. This coincidence served as a source of increased interest, illusions and later to disappointments associated with the Barents Sea herring fishery. The appearance of herring led to a large campaign with good media coverage that legitimized the authorities' plans to build the largest "herring base" in the country—with a fishing fleet, processing factory and transportation infrastructure. However, just a single appearance of fish, even in such a large amount, could not be considered as a proved "resource basis" for the development of an industry. Sudden appearance of herring did not provide a reliable justification for all these plans because it was difficult to reject the possibility that herring could suddenly disappear. By that time, the country already lived in the "planned economy" with the first Five-Year Plan launched in 1929 being considered in 1932 as "successfully fulfilled." The second one would begin in 1933, thus in 1932 it was important to predict the amount of fish catches that could be declared in the plan. For that the authorities needed the assistance of experts who would help to construct the new resource.

This chapter will show once more that resources are constructed, not given.[4] And, moreover, the process of their construction is dependent on many factors and the positions of different stakeholders. The process of resource construction is tightly connected with prediction of the availability of the resources in the future; themes also discussed by Avango and Warde in this volume. This prediction is made by experts, but practitioners and authorities can trust or not trust these experts and develop their politics of resource use accordingly.[5] Taking this into account and in order to gain a more detailed picture of these processes, it is still important to analyse a more diverse set of historical cases of the construction of resources under different political regimes. Soviet history could provide many such examples.

Soviet authorities were very much inspired by the appearance of herring and wanted to know the reasons for that and if this event meant any promises for the future. Voices of the local people pointing to the known fluctuations of the herring stocks in the past—and thus to the possibility of its disappearance in just a few years—were silenced, as were the scientists who articulated those voices. It is also necessary to take into account that the 1930s was a period when Soviet fishery managers followed the authorities in opposing the hypothesis of the influence of climatic changes upon fish stocks, because it put serious limitations on the notion that nature could be successfully ruled and even constructed by human will. As is shown below, the adherents of the "promethean" vision of human–nature relations believed that the arrival of the communist era had invalidated all natural limitations of human action.[6] This kind of belief was well matched with the metaphorical consciousness of the "new Soviet people" who, on the one hand, fought against Christianity as outdated ideology not compatible with Marxist thinking, but, on the other hand, unconsciously kept archaic beliefs in the ability of the charismatic heroes to govern not only humans but natural objects as well.

Environmental history of Soviet power has recently moved from considering nature as solely an object of conquest to understanding it as "a participant in the communist project."[7] The dual character of the relations of Soviet power with nature—conquest but also a search for harmony—was convincingly shown in the examples from the same region.[8]

This chapter is based on the accounts of relations between political power, expertise and economical practice in northern fisheries,[9] by enriching them with a deeper understanding of the role of nature's agency in the peculiarities of the Soviet governance and vision of the future. Significant discussions in environmental history about entangled connections between "nature and power" have influenced the understanding of this particular case.[10] This chapter offers a revised narrative, drawing on a better theoretical understanding of the process behind the social construction of resources and the role of nonhuman actors, as well as consulting new source material, particularly Soviet newspapers. In addition, the role of climate variability in changing migration patterns of commercial fish and thus in constant changing of their agency became better justified.

This chapter addresses a number of questions. How could a natural resource be constructed by political will in a situation constrained by a of lack of knowledge and the basic unpredictability of both nature and Soviet power that profoundly influenced the fate of experts, who had to adapt to both kind of unpredictability? What was the role of scientists

in the construction of a resource and in projecting its sustainability for future use? Finally, how could fish be conceptualized simultaneously as a resource, an actor and the object of governance?

Fish as an Agent and Object of Governance

The irregularity of herring approaches to the fjords of Murman has long been known to the local population, and because of this irregularity herring fishing there remained occasional and never made a significant contribution to the livelihood of the locals, which used to be based on cod fisheries.[11] The annual size of herring catches ranged from a few dozen to several hundred tons only.[12] However, some evidence of occasional unusually large appearances existed; for instance, an enormous one that was depicted at the end of the eighteenth century by one of the very first naturalist who visited these remote shores.[13] In the beginning of the twentieth century, members of the Murman Scientific-Fishery Expedition collected some data on the appearance of herring in the Kola and Motovsky bays trying to understand its periodicity, but the data revealed no regularity and remained unpublished. In 1931, the catch of herring by inshore fisheries had grown to seven hundred tons, many times more than ever known before. But in 1932 it had grown even more to twenty thousand tons, and in 1933 to almost fifty thousand tons.[14]

At the same time, scientific knowledge of herring biology was extremely scarce. It was not well understood where it comes from and where it goes, where it spawns and most importantly, what caused such sharp fluctuations in its numbers. It was not clear even to what species it belongs. In 1923, the most knowledgeable Russian ichthyologist Lev Berg allegedly simply described it as a Norwegian spring herring.[15] Attributing Murman herring to the Norwegian ones led to the obvious conclusion that the cause of its fluctuations should be searched for in the patterns of its dynamics and migrations across a vast territory of both the Norwegian and the Barents seas. But an understanding of these patterns was only at the very beginning at that time even among Scandinavian scientists, in spite of the fact that the puzzle of herring fluctuations in the fjords of Norway and the Bohuslän shores of Sweden had been a driven factor for the development of oceanography and fisheries science since the late nineteenth century at least.[16] The discovery of year classes by Johan Hjort provided an important methodology for studying the dynamics of herring populations, but by the 1930s the fluctuation mechanisms still remained unclear.[17]

The main herring spawning grounds in the region known by that time were located along the southwest coast of Norway, which as estimated by scientists was too far away for juvenile herring to be able to spread by the Gulf Stream to the Murman coast. In addition, sometimes in the western part of the Murman waters, larvae and fries of herring were sporadically found. These findings caused speculations about the presence of herring spawning areas in the eastern part of the Norwegian Sea, if not in the Barents Sea itself. Lack of knowledge was worsened by the growing isolation of the Soviet scientists in the 1930s. One of the last meetings of Soviet ichthyologists with Norwegian colleagues before the revival of contacts in the late 1950s took place in 1930, when Oscar Sund, a best specialist in herring biology, visited the Murman biological station.[18]

Thus, even though most scientists by 1932 already shared the view of the Norwegian origin of the Murman herring, insufficient knowledge of its life cycle led to this issue being raised again and again. In the late 1920s, the Norwegian scientist Einar Lea concluded that the young herring must have an oceanic stage, based on studies of fish scales, but he did not know that even the youngest age groups could migrate as far as the Barents Sea.[19] Reliable knowledge of the migration patterns of Arcto-Scandinavian herring was reached only in the 1950s. By that time, herring spawning grounds were found along the eastern coasts of Norway, and it was proved that the Murman herring is just a young herring that migrates to the Barents Sea for feeding.[20]

The Murman herring's unpredictable behaviour was reported even in the central Soviet newspapers. For instance, in November 1932, an article under the emblematic title "The herring proved to be smarter…" was published in *Pravda*. It had an epigraph—a citation from a popular love song—"I get up in the morning and wonder should I wait today or not…," but here the object of desire was not a beloved person but fish. The article criticized fishery managers in Murmansk who, in the absence of reliable information, tried to guess how much herring could be caught and to plan accordingly. But they "critically miscalculated" the number of herring: they put catching 30 thousand tons into the plan for 1937. This figure (and even more) could easily be achieved already in 1932. Moreover, it was promised that by the end of 1932 the fishers would get that amount of herring. The article emphasized that the attention to herring by local managers arose only after intervention by high-level party officials, and that herring therefore began to be considered as a

"desirable and not at all occasional guest" of the Murman waters. Then the article described the unpreparedness of fishery organizations for fishing, salting and transporting herring, and moreover, the uncertainty that existed for at least a month over the time when the herring would come into the fjords. The article noted that after a month of waiting it became clear that there were a lot of herring offshore but for some mysterious reason it did not want to come into fjords as it did the previous year. It was therefore concluded that herring "cheated fishers" who did not expect that kind of perfidious behaviour of fish stocks, and that they needed to stop waiting and to begin to send fishing vessels with drifting nets to catch herring offshore.[21]

As it is clearly seen from documents such as newspaper articles and administrative and scientific reports of the time, the herring was described as having its own agency. That agency, on the one hand, was understood as natural. As scientists already partially knew at that time (as they know now in much more detail), herring could appear and disappear in a particular region where fishery took place, following the plankton on which it feeds, which in turn depends on currents, temperature gradients and other environmental factors. The patterns of its movements and the numbers of juvenile herring are very changeable and very difficult to predict in advance. On the other hand, the agency of herring was described in a metaphorical way, as a fish that was "cheating" the fishers.

Anyway, the task presented to fishery managers and scientists was to understand patterns of herring migrations and, under the leadership of authorities with the help of local managers and fishers, to overcome the fluctuations with the aim to build a reliable fishery on this newly discovered and constructed resource.

Construction of a New Resource by Authorities and Media

Herring was crucially important in the Russian Empire and even more so in the Soviet Union as a cheap source of protein, with the added advantage that salted herring was very easy to transport over long distances. Salted herring was introduced into Russian culture rather late, steadily in the eighteenth century, except for in traditional regions of herring fisheries such as the White Sea coasts where it was already established. By the mid-nineteenth century, salted herring had spread over the country to

become a part of the every-day consumption for many people, especially the poor city dwellers, due to development of Caspian fisheries, railway transportation and rapid growing of Norwegian export. Before the revolution, more than half of all consumed herring had been imported from abroad, mainly from Norway and the UK. But with the advent of Soviet power, herring imports virtually ceased and the subsequent lack of herring was broadly noticed and discussed. Thus, when the ichthyologist Evgenii Suvorov in 1923 published a plan for the increase of herring catches under the title "When will we be able to eat a real herring?" he articulated the opinion of a large proportion of Russian population. He indicated that "we have a constant urge to eat a good herring which, unfortunately, for a long time since the beginning of the war, has not been satisfied."[22]

In the fall of 1929, in the near absence of free trade of food products in the country, food was distributed among the citizens: there were monthly rations for the most essential products, and herring was among them. For instance, it was prescribed that citizens of Moscow and Leningrad be given from 250 to 800 grams of herring per month depending on which of the so-called *groups*—industrial or white-collar workers, members of their families and children, among others—they belonged to. In this distribution list, herring was fourth after bread, grain and meat.[23] The sort of herring was not specified, thus it embraced very different products made from different fish species: from the tiny "salakka" (the Baltic Sea herring of the most common Atlantic genus of herring *Clupea*), to the large (up to 1 kg) and fat Caspian Sea anadromous herring from the genus *Alosa* that constituted more than 90% of domestically caught herring in the Russian Empire. But in the beginning of the 1930s, the growing demand for herring coincided with a period of decline of catches of *Alosa* in the Caspian Sea and this worsened the situation.

Thus, the famine in the country, the chaos with organization of fishing caused by collectivization of fishers and the decline of the Caspian herring fisheries forced the authorities to look for new ways to increase fish catches. And they turned their attention to the north, to the Barents Sea, already known for the successful and rapid development of trawling fisheries for cod and other demersal species.[24] In the spring of 1932, a special commission supervised by the head of Commissariat (Ministry) of Supply Anastas Mikoyan and one of the Leningrad communist party leaders Petr Irklis visited Murmansk, the main fishing port on the Soviet

Barents Sea coast.[25] Although they fully supported the major efforts for further development of the trawling fleet, as was demanded by the first Five-Year Plan, they agreed on prioritizing the herring fisheries that required less investment and could be developed more rapidly. The same year Sergey Kirov, a leader of the communist party organization for the Leningrad region (to which Murmansk and the Kola peninsula in general belonged at that time), also visited Murmansk. In his speech at the regional party conference, Kirov said:

> It took us, citizens of Leningrad, 14 years to become confident that there is herring near the Murman coasts …. and we are not so poor with that herring … but we still failed to send enough number of energetic people to engage this herring in good neighbourly relations.[26]

The "energetic people" for whom Kirov called in his speech had been found, and by the summer of 1932 the number of herring fishing stations operating in the fjords had grown from two to seven. To help the herring fishing, even the trawling fleet was mobilized: trawlers were diverted from cod fisheries to become cargo vessels to bring herring caught in fjords to processing facilities in Murmansk.[27] Most of the fishers who recently were forcedly consolidated into kolkhozes (collective enterprises that were organized not only in agriculture but also in fisheries all over the country) were asked by the authorities to switch from cod to herring fishing. However, the results were exactly the same as described in the very beginning of this paper—a lot of fish were caught but rotted in the absence of salt and barrels. The sudden appearance of herring created high expectations for future development of fisheries in the North. Authorities and the media began to emphasize that herring fisheries had a brilliant future that would fully transform the poor life in that remote region. Thus, through rhetoric and action the new resource was created by the authorities.

The newspapers declared that it was a merit of Soviet authorities, and especially Comrade Kirov, that they paid attention to herring and secure this valuable resource for the future. The basis for this was not "laws of nature", but exclusively political leadership: "leader of the Leningrad Bolsheviks Sergey M. Kirov and the People's Commissar Mikoyan provided unprecedented growth of herring production over the period of 1930–1935 […] and have created a solid basis for the further increase in production."[28]

The statement of the possibility of "good neighbourly relations" with fish shows intentions of "friendship" or "dreams of harmony with nature", which Andy Bruno considers to be characteristic for Soviet power of that period.[29] This search for harmony, as seen from this case, might have some archaic roots, as texts of many such documents not only echoed with the discourse on the organized victorious Bolshevik struggle with unpredictable and self-willed nature, but also reflected a vestige of magical worldviews in which fish could and should obey a human will when the will is strong enough. Moreover, the expectancy that the fish would obey such a will was based not on knowledge of natural laws but on political will and the "right direction of progress" legitimized by Marxism. Under this will fish was transformed into an object of direct governance. Party leaders like Kirov might have felt that neither scientific nor traditional knowledge of fish behaviour confined them from developing these magical contacts with the fish. However, the authorities still needed experts as mediators between the political will and the unpredictable fish.

A picture of the great success of herring fishing was presented as even brighter in the document "On the development of herring fishery" found in the Central State Archive of St. Petersburg:

> As a result of the Bolshevik struggle for fish, as a result of an appetite and perseverance of the class that is building socialism, as a result of Bolshevik practice in the fishing industry at Murman, the new object of fisheries – Murman herring – was discovered.[30]

Reference to the "practice" is very important in this context as it follows the Marxist postulation of practice as "a criteria of truth."[31] One of the articles in *Pravda* asserted its readers that

> practice, and only then the scientific research, had shown that the Barents Sea has the richest stocks of herring and that its fishery might well have an industrial significance. Now no one is arguing about whether the herring approach is accidental or not accidental. Life had taken this issue off the agenda.[32]

Despite the magic vision of human–nature relations and references to the power of practice in its Marxist meaning, the challenge of organizing stable fishing required, in the first place, a clarification of the question of the fluctuations of herring appearance near the coasts.

Sudden appearances of herring in unpredictable numbers did not provide a reliable basis for all the plans made by the authorities because this phenomenon might lead to the conclusion that the herring could suddenly disappear.

Scientists' Role in Legitimization, Resource Construction and Future Forecasting

Since the beginning of the 1930s, the only scientific institution in Murmansk that conducted research aimed at the needs of the fisheries had been the State Oceanographic Institute. It was founded in 1929 by merging the Murman Biological Station (established in 1899) with the Floating Maritime Institute (founded in 1921).[33] Thus, the responsibility to understand herring migratory patterns and to make a reliable prediction for the future of the resource was laid on the staff of this institute. But the scientists of this institute did not have enough scientific evidence for expressing their views on the issue. Therefore, quite naturally, they tried to evade the need to give any forecast, and explained that such massive visits of herring are a random phenomenon, and that it is impossible to predict them on the current level of fisheries science. It was assumed that this "random event" would end soon and that the large catches of 1930 and 1931 would not be repeated in the coming years. But a rare combination of the emergence of a particularly strong year class of herring in 1930 and an unprecedented influx of warm waters from the Atlantic Ocean into the Barents Sea, led to a situation in which herring catches not only did not fall but continued to grow. Thus, the institute was blamed for a lack of attention to the study of herring. In the central Soviet newspaper *Pravda*, the herring fisheries were named "a huge political and economic problem that demanded constant attention".[34]

Having not much assistance in solving this *problem* from the State Oceanographic Institute, the central authorities decided to organize a focused Northern Herring Expedition under the Commissariat (Ministry) of Supply in 1933.[35] Two years earlier, the Ministry had subordinated fisheries under its power, in addition to other food industries. Nikolai Knipowitsch,[36] one of the leading Soviet marine biologists and oceanographers, and a former leader of the Murman scientific-fisheries expedition in 1898–1902,[37] was appointed by the Commissariat to lead all scientific research related to northern fisheries. In 1932, he moved from

Leningrad to Moscow to work in the All-Union Scientific Research Institute of Marine Fisheries (VNIMORH). Since Knipowitsch (born in 1862) was already too old, he could not himself lead the herring expedition in the Barents Sea. He was appointed as its scientific consultant, but the actual leadership was entrusted to another "old specialist," Sergei Averintsev.[38]

Averintsev, who had recently returned to Moscow after three years of work in Yakutia, had some hesitation but finally accepted the offer to head the Northern Herring Expedition. Soon he published the programmatic article under the title "The problem with herring in the Barents Sea should be resolved" in the major Soviet journal on fisheries. Outlining objectives and a work plan for the expedition, he indicated that there were no reference points to identify the best opportunities for herring fishery in the North, as well as the way to implement them.[39] He called for ensuring that research and practical work would represent "a single complex," referring to the experience of foreign fisheries, where in his opinion "practice usually goes ahead of the research and this is exactly why all the achievements [were made] in a very slow way."[40]

When the catches grew enormously in 1932, researchers of the State Oceanographic Institute could no longer stay away from solving the "herring problem." To uphold the Institute in the face of fierce competition with the Moscow-based Northern Herring Expedition, it was necessary to obtain important scientific results that could promise some new perspective on the biology of the Murman herring. Despite the fact that "the Norwegian theory" of the origin of Murman herring had a large number of supporters, in order to explain some of the data in the absence of a clear understanding of where the fish was coming from, it was necessary to postulate the existence of herring spawning grounds off the coast of northern Norway, which were not confirmed at that time. Because the biology of herring was so poorly known, scientists could quite freely "move" the hypothetical spawning grounds much closer, first to the southwest corner of the Barents Sea, and then directly to bays of the Murman coast. Thus, the "Murman theory" of origin of herring arose: according to that theory the Murman herring was considered a special race that has its own area of distribution different from the Norwegian herring.

It was suggested that Murman herring could not be considered as a part of Norwegian stock but that it spawned in the Soviet part of the Barents Sea. They argued that it had always come to the inlets in a large

amount, but neither local inhabitants nor outside observers, including scientists, could pay attention to this herring because the region was too remote and very poorly populated before the Soviet times, and the methods of fishing were so primitive that the herring remained nonvisible. This notion of the novelty of the resource matched the Bolshevik ideology of the construction of a "new world" rich with resources and knowledge that would fully contrast with the old ones that had been "poor and dark," that meant ignorant and not at all looking to the future. Thus, the scientific controversy about herring resources gained a political dimension.

In mid-1932, a leading ichthyologist of the Murmansk branch of the State Oceanographic Institute Nikolai Tanasiichuk published a scientific article in which he in a rather mild form, with reservations based on the lack of clear evidence, proposed to recognize the Murman herring as a permanent inhabitant of the Barents Sea. This hypothesis cast doubt on the irregularities of herring approaching the Murman coast, suggesting that "paltry figure catches … likely indicate that herring was not given the attention that it deserved by fishers in the absence of scientific research, rather than the actual fluctuations in its approaches."[41]

To confirm these new views another paper was published in the Institute's proceedings that summarized all rather few observations, known from the literature, on larvae, juvenile and adult herring ready for spawning near the Murmansk coast. Based on this quite scattered information, the author of the paper claimed that "herring in the waters of our Murman Sea is not only usual or common, but it even spawns there at certain areas of shallow coastal waters."[42] Moreover, he argued that his theory was much better than then theory on the Norwegian origin of the Murman herring because "it promises… the powerful resource basis with broad perspectives."[43] However, the evidence provided in that paper looked unconvincing to the supporters of the Norwegian theory. As Averintsev summarized it: "It is not sufficient to believe in herring spawning near the Murman coast, there is a necessity to prove it not by reasoning, but by facts."[44]

Averintsev himself tried to explain that the unpredictable behaviour of herring was the rapid warming of the Arctic waters.[45] This warming began in the 1920s and became more pronounced in the early 1930s. This provided a great deal of new evidence about the influence of climate on fish distribution. But the possibility of dependence on herring approaches even from such long-term climate fluctuations did not suit

the authorities who searched for a constant availability of fish resources for Soviet power. Thus, the hypothesis of the dependence of herring migration and amount on climate fluctuations was sharply criticized. For instance, it was stated that:

> the question of randomness or non-randomness of inshore migrations of fish from various fluctuations of the regime of the sea is not indifferent […]. The economic and political results of the development of the herring industry will be different depending [on] what view would be accepted and therefore setting the question of randomness or non-randomness of approaches is itself of a dramatically political nature.[46]

Finally, in early 1933, an enthusiastic article on herring was published by the director of the Institute, Ivan Mesiatsev. He categorically stated that the Murman herring never leave the Barents Sea.[47] Based on this ungrounded statement, he set up a detailed plan for herring research in the northern waters to intensify their fishery. One of the key points in this plan was the search for the spawning grounds of this herring. However, the situation in Murmansk at that time was not favourable for serious research. Administrative changes and a constant lack of funds in the scientific institutes as well as less interest to subsidize research from the fishing industry, itself overloaded with the fulfilment of enormous plans of catches, restrained Mesiatsev's ambitious plans.

Moreover, it was already too late. In March 1933, the accusations against the Institute were announced: it was said that the institute has absorbed a lot of money but still not answered a number of Murmansk fishing industry's extremely important questions. All listed questions were related to the herring fishery: the failure to forecast herring approaches as well as the lack of expertise for its offshore fishing. It was stated that Murmansk fishing industry had received no benefit from the research of the Institute. On a wave of this critique, the Narkomat of Supply organized the Northern Herring Expedition, that arrived from Moscow to Murmansk. Thus, it is not surprising that the leader of the Ministry of Supply, Mikoyan argued for the concentration of all the work on herring in the expedition "in order to avoid inappropriate duplication" of research.[48] In addition, in the spring of 1933 Knipowitsch, the main scientific authority in the fisheries science, was called for the inspection of the research activities of the Institute. As a result of this inspection he also expressed dissatisfaction with the lack of activity at the Institute in the study of herring.

The scientists of the institute were accused of not being able to make predictions for herring fisheries. For instance, the editorial article of the August 1933 issue of the leading regional fisheries journal referred to the "wrecking theory of the so-called scientific workers of the oceanographic institute."[49] Repression of institute staff had already begun in March 1933 when 16 people were arrested, and continued to the end of the year when its biological station was closed and remaining staff was relocated to Moscow. Most probably, the rapid militarization of the region played a major role in that relocation, as the bay where the biological station had been located and neighbouring bays were occupied by submarine bases. But the "herring problem" undoubtedly added fuel to the fire.[50]

Thus, summing up, scientists who were asked to find an answer to the questions about unpredictability of herring appearances took two different positions. The first position was to insist that this herring was just a juvenile Norwegian herring coming to the Soviet coasts because of an exceptional richness of particular year classes, which most probably coincided with the process of the warming of the Arctic. Based on these arguments, it was not possible to confirm the richness of the resource for future exploitation. Moreover, supporters of this view pointed out that historically the large fluctuations of herring along the coast were known among the local fishers and from some, although very scarce, scientific observations. The other scientists tried to construct a new theory according to which the Murman herring always occurred in the Barents Sea. This controversy around one object could be understood very much in line with "multiplicities of nature," which involves seeing knowledge of an object in practice as producing multiple versions of that object. Experts are able to know the object of nature only through the versions of it that they produce.[51] And power relations play a transformative role in creation of knowledge.

Coming back to the report written by Knipowitsch, it is necessary to stress that being an experienced scientist, a high-ranking administrator and a member of the Communist Party, he spoke about the prospects of developing the herring fishery with extreme caution. On the other hand, in a memorandum on herring stocks in the northern seas, written at the request of the Leningrad Communist Party authorities, he argued that the herring fishery at Murman was not something new, it had existed for a long time, and it could not be unnoticed by the local population.[52] He emphasized that fluctuations of the catches used to be quite a natural phenomenon only partly dependent on human activities. Knipowitsch urged the authorities "to look at the case with open eyes and foresee

that the abundance of herring in the Barents Sea … could and even should undergo more or less significant fluctuations in the future."[53] He assumed only (adding "in all probability" in brackets) that the reduction of the amount of herring would not be catastrophic.

The main emphasis of his report was a request for systematic long-term studies of oceanography and fish biology of the northern seas. Throughout his long life in science, he consistently used every opportunity to remind the authorities that "we must once and for all understand that we need not only a few fragmentary short-term researches but continuous and regular studies."[54] On the other hand, Knipowitsch, who clearly understood the complexity and danger of his time, was trying to protect himself by making such statements as:

> But all these constraints cannot form the basis for the unhealthy scepticism. You just have to reckon with the possibility of a temporary reduction of catch and to take measures in advance towards possible fluctuations in the number of fish.[55]

He advised the authorities and the industry to be ready to change the form of fishing, when needed. The need, however, appeared much sooner than he imagined.

The whim of nature that so timely brought in the large amount of herring in the spring of 1935 was the last season of successful herring fishing on the Murman coast. When fishers had finished spring fishing in April 1935, they prepared for another productive fall, but their expectations were not met. Herring did not appear in the following years either.[56] All appeals to the leaders were powerless in the face of the "mystery of nature." Such enormous approaches of herring have not been repeated so far.[57]

Instead of fresh herring, many inlets were polluted by dead fish that were not able to escape the nets in previous years but were not utilized because of lack of labour, barrels and salt. Thus, in some places, the bottom one and a half to two meters was full of decaying fish, so that these inlets became completely inappropriate for human activity.[58] The Northern Herring Expedition had shown the possibility of catching herring offshore, but only in the late 1930s did the offshore herring fisheries that were less dependent on herring migrations begin to develop in the Barents Sea. In parallel to the development of offshore fisheries, better knowledge of herring biology had been obtained.

Conclusion

The position of the Soviet authorities, with ignorance and suppression of local knowledge and the neglect of environmental variations, is already well described as a "seeing like a state" position with its high-modernist blindness that leads to practical failures.[59] Simplifications and a demand for optimistic prognoses led to the absence of informed dialogue about possible futures in that society and then, when the only promised optimistic future failed to be realized, those who were asked to make these prognoses were blamed, their scenario was fully forgotten and the production of futures began again almost from scratch.

In the example of the Barents Sea herring fisheries in the Soviet Union, we see how the resource was constructed by the political will with scientists as mediators between the authorities and the object of nature. The planning and necessary actions for its exploitation were implemented. Voices of the local people and scientists who articulated these voices about fluctuations of herring stocks in the region were silenced. New voices appeared, which supported official expectations. When herring suddenly disappeared after four years of good catches, experts were blamed for not having been able to predict this.

Thus, scientists found themselves in a very difficult situation between two unpredictable forces—environmental and political. The first one is of a natural character: at that time nobody really knew the biology of herring, where it spawns and how changes of climate might affect its distribution. This unpredictability is of fundamental character—the growth of knowledge about herring did not prevent its collapse in the 1960s, and even now the dynamics of fish populations under the effect of climate variability remains a hot topic of fisheries science, despite access to large amounts of data including data generated from acoustic surveys.[60]

Another source of unpredictability related to the nature of Soviet power which changed its demands, and held experts responsible for the economic failures. Soviet officials tended to have a simplistic and naive understanding of nature that was often combined with its *magical* perceptions that had been amalgamated with the Marxist ideology that gave legitimization to their power. Definitely, the "natural world contributed to the regime's mobilization of resources but also placed limits on the extension of state authorities."[61] Continuous attempts for subordination of the power of the material world by the political power were much

more complicated than just a conquest of nature. This subordination combined a strange amalgam of modernistic Marxist world views with archaic magical ones. When it was successful, the wisdom of the political power was celebrated, but when it failed, it was not so much nature itself that was to blame, but the scientists.

Notes

1. Ostrovskii, 14.
2. Ostrovskii, *Itogi*, 15.
3. Ostrovskii, *Itogi*, 15.
4. Bridge, "Material Worlds"; Avango, Nilsson, and Roberts, "Assessing Arctic Futures."
5. See Lajus, "Experts on Unknown Waters" for other case related to Barents Sea fisheries.
6. See Brain, "The Great Stalin Plan", on Prometheanism in the Soviet context.
7. Bruno, *The Nature of Soviet Power*, 7.
8. Bruno, *The Nature of Soviet Power*, 7–10.
9. Lajus, "Vzaimootnosheniia nauki"; Lajus, "Sel'dianaia problema Barentseva moria."
10. Radkau, *Nature and Power*; Weiner, "A Death-Defying Attempt"; Bruno, *The Nature of Soviet Power.*
11. Lajus, Kraikovski, and Yurchenko, "Sea Fisheries in the Russian North."
12. Tikhonov, *Biologiia i promysel murmanskoi seldi.*
13. Ozeretskovsky, *Opisanie Koly i Astrakhani.*
14. Ukhanov, "Murmansk."
15. Berg, *Ryby presnykh vod Rossii.* See also Rabinerson, "Materialy po izucheniiu murmanskoi sel'di."
16. Mills, *Biological Oceanography.*
17. Hjort, "Fluctuations on the Great Fisheries of Northern Europe."
18. Lajus, "Linking People Through Fish."
19. Lea, "The Oceanic Stage in the Life History of the Norwegian Herring."
20. Dragesund, Østvedt and Toresen, "Norwegian Spring-Spawning Herring."
21. *Pravda*, "Seledka okazalas' umnee."
22. Suvorov, "Kogda zhe vy nachnete lovit' sel'd'."
23. Transchel and Osokina, "*Our Daily Bread.*"
24. Finstad and Lajus, "The Fisheries in Norwegian and Russian Waters."
25. Kiselev and Krasnobaev, *Istoriia Murmanskogo tralovogo flota*, 82–83.
26. According to Khlynovskii, "O podkhodakh sel'di k beregam Murmana," 21.

27. Kiselev, Krasnobaev, *Istoriia*, 84.
28. Khlynovskii, "O podkhodakh sel'di," 18.
29. Bruno, *Nature of Soviet Power*, 11.
30. Central State Archives of St. Petersburg, coll. 9386, inv. 1, file 329, ll. 15–16.
31. Roll-Hansen, "The Practice Criterion and the Rise of Lysenkoism," on this principle in connection with Soviet biology.
32. *Pravda*, "O murmanskoi seledke i kul'turnykh metodakh raboty."
33. Lajus, "Field Stations on the Coast of the Arctic Ocean."
34. *Pravda*, "Tegeranskie torzhestva … i murmanskaia seledka."
35. Russian State Archives of Economics, coll. 9296, inv. 1, f. 829, l. 114.
36. This is the spelling that he used, the modern spelling is Knipovich.
37. Lajus, "Foreign Science in Russian Context."
38. Lajus, "S.V. Averintsev (1875–1957)."
39. Averintsev, "Sel'dianaia problema."
40. Averintsev, "Sel'dianaia problema," 17.
41. Tanasiichuk, "Murmanskaia seld'."
42. Makushok, "K voprosu ob areale obitaniia murmanskoi sel'di i o tsentre etogo areala."
43. Markel E. Makushok, "Murmanskaia sel'd'," *Za rybnuiu industriiu Severa* 4 (1933): 19.
44. Averintsev, "Po povodu odnoi stat'i o murmanskikh seldiakh," 17.
45. Averintsev, "O poteplenii Arktiki i sviazannykh s etim iavleniiakh," 15–17.
46. Khlynovskii, "O podkhodakh sel'di," 18.
47. Mesiatsev, "K organizatsii glub'evogo lova sel'di na Murmane i v Belom more, Karelo-Murmanskii krai."
48. Russian State Archives for Economics, coll. 9296, inv. 1, f. 829, l. 69.
49. Mamonov, "Ocherednye zadachi po osvoeniiu murmanskoi seldi."
50. Lajus, "Field Stations," 130–131.
51. Jørgensen, "Environmentalists on Both Sides," 53.
52. Central State Archives of St. Petersburg, coll. 9386, inv. 1, f. 399, l. 52.
53. Ibid.
54. Ibid., l. 53.
55. Ibid., l. 53.
56. Marti, "V otkrytoe more za sel'diu!"
57. Alekseev, Ponomarenko, Krysov, and Seliverstova, *K rossiskoi istorii izucheniia i osvoeniia promyshlennogo lova sel'di v Severo-Evropeiskom basseine Severnogo Ledovitogo okeana*.
58. Manteifel', "Zhizn' morskikh glubin."
59. Scott, *Seeing Like a State*.
60. Dragesund, Østvedt and Toresen, "Norwegian Spring-Spawning Herring."
61. Bruno, *The Nature of Soviet power*, 9.

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CHAPTER 5

A Reindeer Herding People? Political Visions of Sami Futures

Patrik Lantto

The focus in this chapter is on the interaction between the Sami and the state authorities governing them, on voice and governance, during the period 1900–1970. In this interaction, a specific resource is always central—the grazing land of the reindeer. Other forms of resource extraction in the area did take place during the examined period, forestry was expanding, mines opened, roads and railroads built, and hydroelectric power developed. Northern Sweden was in many ways viewed as "the land of the future" to quote Sverker Sörlin.[1] But even though these different activities were discussed, it was not until the end of the examined period that they became more central topics in the field of Sami policy, and for this reason, they will not be focused in this chapter. At the same time, the area was regarded as pristine and untouched wilderness, despite the presence of the Sami for untold centuries. The establishment of several large national parks in Sápmi in 1909, underscored this view, with the Sami depicted as a part of this great and untouched northern landscape.[2]

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The Arctic as a term was not used in the context studied in this chapter, neither by the Sami nor the state authorities. The northern aspect was nevertheless very prominent, as the Sami homeland, Sápmi, included the northernmost part of Sweden. It was, and still is, in this geographical context that a part of the Sami population in Sweden herded reindeer. As I will discuss, from the perspective of the state, reindeer herding was synonymous with the Sami people and culture, even though reindeer herding was never something that all Sami engaged in. This image, however, of the Sami as reindeer herders, has been pervasive and continues to be strong today. To understand this, it is necessary to understand the history of this image in Sami policy in Sweden, as well as how leading Sami actors and organizations, what I term the Sami movement, has engaged with this image.

Background

Images are, Jan Kooiman states, "the main frame of reference" in a governing process, and "the way in which they are formed have an important, even decisive, influence on the unfolding of" these processes.[3] This frame of reference determines the choice of instruments and strategies to reach certain goals.[4] In other words, the official categorization of a group and normative statements about its character defines policy; only certain solutions are possible within the framework created by a specific image.[5] In the case of indigenous peoples, these externally constructed images have not only determined the frame of the policy area, they have also played an important role in defining the group itself as well as how individuals within the group view themselves. External images have certainly had a major impact on the Sami, or Lapps,[6] as they historically were called in Sweden, an indigenous people living in four countries: Norway, Sweden, Finland and Russia. This article will focus on the Sami in Sweden, and more specifically on the political Sami movement in this country. To understand the context in which the Sami movement in Sweden developed, and some of the main factors forming it, it is necessary to first describe Swedish Sami policy; how the Sami were viewed, and which political solutions the state sought based on this official image.

During the end of the nineteenth century, the Sami were viewed as the original inhabitants of northern Sweden.[7] This, however, did not mean that they were perceived as owners of the land. During previous centuries, their rights to land had been equal to that of farmers—who later would be acknowledged as owners of the land they used—but

during the nineteenth century a new view became dominant.[8] The nomadic Sami were only considered to *use* the land for themselves and the reindeer, a usage that did not exclude the development of true ownership by other actors—such as farmers, companies or the state—in a modern society.[9] During the last decades of the nineteenth century, the Swedish Sami policy became more structured and focused on certain images. The policy was based on a view of cultural hierarchies, where a nomadic people like the Sami were considered inferior to the Swedish agricultural and industrial society. The Sami were regarded as nomadic reindeer herders, even endowed with a physique uniquely adapted to this livelihood and to this specific animal, which Olof Bergqvist, bishop of Luleå Diocese and Member of Parliament, argued in a well-known statement from 1907: "the reindeer is created for the Lapp and the Lapp for the reindeer."[10] If the Sami would leave reindeer husbandry it would mean the end of them as a people, a development the Sami policy was aimed at preventing. This was an idealized Swedish view of what Sami culture was, and how the Sami should live, incorporating lifestyle, profession, clothing, gender roles and other aspects.

However, reindeer herding and the Sami were viewed as threatened; the expansion of agriculture limited the grazing areas and led to conflicts, and increasing contacts with the more developed Swedish culture was considered to undermine the nomadic character of the Sami and thus threatening their future. To protect the Sami from the detrimental influences of Swedish society, they should be segregated to preserve reindeer husbandry. The clearest example of an attempt to implement these goals, was the establishment of a separate Sami school system in 1913, the Nomadic School. Both school buildings and educational content were adapted to the overarching goal of preserving the Sami children as nomadic herders, resulting in poor buildings and a short school year.[11] This "*Lapp shall remain Lapp*" view created a dualistic Swedish Sami policy. The focus on the Sami as reindeer herders meant that other aspects of Sami culture and livelihoods were marginalized; the group was considered homogenous. The reindeer herders were included in the official definition of the Sami, they were considered "genuine" and through segregation they were to be protected from the threats of modern society and the more developed Swedish culture. The policy excluded Sami who were not reindeer herders; they were expected to become assimilated. The "Lapp shall remain Lapp" view remained dominant for a long period, and has only slowly diminished after World War II, but the policy area is still centred around reindeer husbandry today.[12]

The two most important tools of the Swedish Sami policy were the Reindeer Grazing Acts and the Lapp Administration. To protect the reindeer grazing lands from further encroachment, and thus protect and preserve the Sami, the first Reindeer Grazing Act was enacted in 1886.[13] It regulated the relationship between reindeer husbandry and agriculture, but also became an instrument for control of the Sami. According to Robin Jarvis Brownlie, control became a more realistic and attainable goal in Canadian Indian policy than the official but distant aim of assimilating the First Nations.[14] This was also true in the Swedish context, as a complete segregation of the Sami was impossible, but through close control of their actions and of reindeer husbandry, the idea was to lead them safely past the threats that loomed around them. Two new Reindeer Grazing Acts were enacted in 1898 and 1928, respectively, further strengthening the control aspects of the legislation.[15]

The Reindeer Grazing Act thus created the framework for achieving control over the Sami, but was in itself not enough. Knowledge concerning the situation and conditions of the Sami was limited within the regional authorities, the County Administrative Boards, in the three northernmost counties, Norrbotten, Västerbotten and Jämtland, where a majority of the Sami lived and where reindeer husbandry was conducted. To be able to exert control, it was necessary for the state to gather information and gain knowledge of the situation.[16] This could only be achieved through a physical presence, through a governmental body in the north focused solely on the Sami, a task that was given to the Lapp Administration. So-called Lapp Bailiffs led the work of the authority in each of the three counties. A first Bailiff position was established in 1885, and during the following decades, the authority grew and found its structure through the creation of four more Bailiff positions as well as the addition of subordinate positions within the authority. The structure and position of the Lapp Administration remained remarkably unchanged until 1971, when it was officially closed down. The authority was created as a part of the ongoing structuring process of the Sami policy during the end of the nineteenth century, but would come to have a major influence on the development and continuation of this policy.[17] As Sawchuk discusses, a position as expert is gained through certain culturally specific methods, and there are different kinds of experts, depending on which arenas and to what audiences they want to establish themselves

in their role.[18] The Lapp Bailiffs were not Sami, and were thus perceived to have a much greater ability to objectively assess the situation, as well as a greater intellectual capacity. At the same time, their knowledge was seen as practical and direct, as their presence in the north on a daily basis gave their opinion a great weight when Sami issues were discussed.

Framing the Issue

The use of certain objects and aspects of Sami reindeer husbandry—such as a nomadic lifestyle, the Sami cot, the *gákti* (traditional clothing), etc.—in the creation of a Swedish idealized and romanticized image of Sami culture, also constructed a specific Sami identity which had political ramifications.[19] Instead of being internal markers of Sami identity, these symbols became externally imposed necessary preconditions to be considered a genuine Sami; they became producers of an ethnic identity that had to be adhered to by individuals in order for them to achieve official recognition and have indigenous rights. The image in official policy of the Sami as reindeer herders, thus not only decided which solutions that were possible within the policy field, it also placed limitations on the developing Sami movement, on which actions it could take and demands it could make without risking their credibility as representatives of the Sami. The early Sami leaders and later Sami organizations had to respond to this image; they could either accept it and adjust their actions and demands in accordance with it, or challenge it and present an alternative image. Since the goal was to be acknowledged as representatives of the Sami, the latter strategy was risky; to successfully challenge the dominant image there had to be openness for change within the policy field.

From an international perspective, this has historically not been the case within indigenous policy. Linda Tuhiwai Smith argues that the knowledge and opinions of indigenous peoples often were marginalized; they lacked value in the political context created in and by the majority society. To challenge a dominant image of the group from such a weak position was generally futile. Furthermore, authorities repeatedly questioned the legitimacy of the ethnic identity of leaders of indigenous peoples, in an effort to marginalize them; they did not conform to norms for how a person belonging to an indigenous people should act, to criteria of "authenticity."[20]

It is, of course, easier to challenge and question the representativeness of individuals speaking on behalf of a group, than organizations with a clear and broad support. This was the situation during the first half of the twentieth century, but even after the establishment in 1950 of the first national Sami organization, the Swedish Sami Association (*Svenska Samernas Riksförbund, SSR*), the issue of legitimacy was central. Only when recognized as a representative of the Sami could the organization truly act with any authority. Sally Weaver argues that legitimacy is not something objective; it is a political resource that authorities can provide for or remove from an organization. She also argues that it is likely that an organization will adjust to the governmental structure it will interact with, that it will become a part of the political system it wants to influence.[21]

The focus of this chapter is to analyze the strategies and visions of four early leaders of the Sami movement in Sweden, Elsa Laula, Torkel Tomasson, Gustav Park and Israel Ruong. They were the most central leaders during the period, and even though they shared some common views, they differed markedly in their visions and strategies. What were their visions for the future of their people, and which strategies did they use to try to reach their goals? In the attempts by Sami leaders and the later national Sami organization to achieve legitimacy as representatives of the group and to enter into and influence processes in the Sami policy field, the official image of the Sami as reindeer herders became central. How did the Sami leader view this image and which strategies did they use in dealing with it? The article will focus on the earlier decades of the movement's development, during the period 1900–1970. The chosen starting point of the examination period is predicated on the appearance of the Sami movement as a political force at the turn of the century. The examination ends at a point when the Sami movement is both becoming internally more heterogeneous as well as nearing its first steps out into a larger arena, becoming part of both an Arctic and a global indigenous context.

The decision to focus on Sami leaders in this article, and not so much on Sami organizations, is both an effect of history and an active choice. The attempts to establish national organizations before 1950 all failed, and the history of the movement during the first half of the twentieth century is therefore largely centred on key actors.[22] Even after the formation of SSR in 1950, some individuals were very influential on the direction of the organization during the first decades of its history. To understand the motives of the leaders is thus to take an important step towards understanding the choices made and the actions taken.

The importance of a focus on leaders in historical studies of indigenous peoples' political movements is clear from an international perspective. Murray Dobbin e.g. explains his focus on the experiences of two Métis leaders with that they "were an intimate part" of the history of the Métis movement in Canada.[23] He argues that the role of leadership or the lack thereof, is central to understand the development of movements among subordinate peoples in Canada. E. Palmer Patterson II has a similar perspective in his focus on Andrew Paull, when analysing the political mobilization of the First Nations in British Columbia.[24] Early organizations were often dependent on certain individual leaders to maintain a level of activity. The focus on specific leaders can also highlight continuity in native movements where unifying organizations come and go without stability or where such organizations are lacking. The role of early indigenous leaders in the development of their movements has also often been under-communicated. In an examination of the role and influence of the early political activism among the First Nations on the later mobilization and organization, Peter Kulchyski discusses what he calls "the myth of the outside agitator" in earlier research.[25] He argues that many accounts of the resurgence of political mobilization in the 1960s ignore the struggles during the previous decades, and often imply that the driving force for this resurgence came from outside the native communities.

The Sami Leaders and Their Visions for the Future

The Sami movement in Sweden has struggled for more than a century to strengthen the position of the Sami in society as well as their land rights. The structure and reality of the movement today, with a multitude of Sami organizations and a Sami Parliament to name but a few more obvious aspects, is very different from what the leading Sami activists faced at the beginning of the 1900s, but it was their work that laid the foundation for the current position of the Sami movement.

In a more organized form, the ethnopolitical mobilization among the Sami began around the year 1900. The activities began as protests against the 1898 Reindeer Grazing Act and the Sami policy, but shortly developed into a vision of an alternative political view on and solution to the Sami situation as well as demands for Sami ownership of the reindeer grazing lands. This vision was based on the view of the Sami as a people, and not solely as reindeer herders, and Elsa Laula (29 November 1877–22 July 1931) was its main champion. Laula came from Dikanäs in

Västerbotten, where her father had been a reindeer herder. Laula studied to become a midwife, but made a name for herself through her leading role in this first wave of political mobilization among the Sami in Sweden. In her political vision, described in the pamphlet *Inför lif eller död?*, Laula attacked prejudices about the Sami and wanted to change how they were viewed, and she also demanded political equality and a recognition of Sami land rights. Laula argued that the Sami were the original inhabitants of the land in northern Sweden, and that the Swedish state had to acknowledge their longer usage by granting them ownership of all land above the so-called Cultivation Line.[26] Laula also disputed the image of the Sami as reindeer herders, and was doubtful as to the future of the industry; instead, she demanded that the Sami should have full freedom to use the land as they saw fit, whether for reindeer husbandry or other livelihoods such as agriculture. She was thus actively challenging the established official view of the Sami. To achieve the goals Laula expressed, it was necessary for the Sami to create an organized Sami segment in Swedish society, which from a position of strength could work to realize her vision. The creation of a Sami organizational network would also serve a second purpose, to unite the people, to bring the reindeer herding and non-reindeer herding Sami together, bridging the widening divide within the Sami community created by the Sami policy. The challenge to the Sami policy, and the image of the Sami, that Laula presented, was very radical for its time, and was met with strong criticism. She was ridiculed and attacked in the local press, and both the County Administrative Board and the Lapp Bailiff in Västerbotten accused her of stirring up unrest and creating conflicts between the Sami and the rest of the population. Due to this more radical shift in rhetoric, the authorities were less inclined to listen to Sami complaints about the Reindeer Grazing Act, and instead actively worked against the Sami movement.[27]

Torkel Tomasson (10 April 1881–7 December 1940) worked closely together with Laula during this early phase of the Sami movement, but would take on a more prominent role in the movement from the 1910s. He came from a reindeer herding family in Vilhelmina, Västerbotten, and worked as a herder during his youth. At the age of 25, Tomasson decided to pursue an education; first he completed upper secondary school before he in 1915 could achieve a university degree in law and politics. The choice to study was a conscious one by Tomasson, who wanted to improve his ability to work for his people, with the final

goal of attaining a position in the state administration where he could work on Sami issues. Tomasson did not succeed, however, and in 1922 had to accept a position as a clerk at the County Administrative Board in Dalarna, south of the Sami area.[28] Tomasson was one of the leaders behind the first national Sami meeting in Sweden, in Östersund, Jämtland, in 1918. It was organized to counter a proposed amendment to the 1898 Reindeer Grazing Act—which among other issues included a ban for reindeer herders to live in permanent houses—and was inspired by a national Sami meeting in Trondheim the previous year. The discussions centred on the Swedish Sami policy as well as Sami organization.[29] The national meeting had great significance for the Sami movement, as it brought a national spotlight on the movement and on Sami issues, and several Sami organizations were formed around the time of the meeting. Later that year Tomasson launched the Sami Peoples' Own Newspaper (*Samefolkets Egen Tidning, SET*).

The ambition of Tomasson to organize the Sami and to establish a newspaper where they could discuss both important and more mundane matters were defining aspects of his leadership. He perceived a need to change how the Sami worked politically and how they presented their demands. Tomasson considered organizations similar in form to those active in Swedish society as necessary, if the Sami movement was to be taken seriously and listened to. The Sami had to change if they were to have any chance of influencing the Sami policy. Like Laula, Tomasson had a vision of the Sami movement as a grassroots movement, where the Sami were active and formed local Sami societies in all parts of the Sami area, societies that then would form the base for a national Sami organization. The Sami societies, however, were too few and too weak, not least economically, to form the base for a national organization. Tomasson was also a very careful leader, focused on achieving changes through dialogue; to influence the situation you had to work on a long-term basis, to affect and convince through arguments and patience. The experiences he carried from the early years of the movement, when it had failed based on the more aggressive approach of Laula and her active challenge of the official image of the Sami, seems to have influenced his strategies. In contrast to Laula, Tomasson placed great emphasis on reindeer husbandry; all demands he put forward—even concerning non-reindeer herding Sami—were based on the needs of the industry. This seems to have been a conscious choice by Tomasson, and was even more noteworthy considering that Tomasson, like Laula, had concerns for the future of reindeer

herding. Despite his more careful approach, the regional authorities still questioned his rights to speak on behalf of the Sami, and portrayed him as someone so long and far removed from reindeer husbandry that he had no legitimacy as a representative of Sami interests.[30]

Tomasson would remain editor of SET until his death in 1940, but during the 1920s and 1930s, Gustav Park (9 March 1886–9 March 1968) would assume an increasingly prominent role within the Sami movement, replacing Tomasson as the most dominating Sami leader. Park was born in Arjeplog, Norrbotten, in a reindeer herding family, and worked as a herder in his youth. In 1904, he obtained a teacher degree, and worked a few years as an itinerant teacher for Sami children, before resuming his studies. This time he studied theology, and was ordained as a priest in 1920. He worked as assistant vicar in Glommersträsk, Norrbotten, for a few years, before receiving a position as vicar in Stensele, Västerbotten, in 1927, where he would remain until his retirement. Park had from time to time appeared on the fringes of the early Sami movement, but was deeply committed to his studies and later work within the church, and did not actively involve himself in the political activities.[31] This, however, would change during the 1920s, due to problems for the reindeer herders in his home municipality Arjeplog, which led Park to assume a more active role.[32] This time, his involvement in Sami issues and the Sami movement would last for life. Park assumed the role of editor of SET after Tomassons' death, he led highly publicized Sami deputations to Stockholm in 1933 and 1945, and was the driving force behind the organization of new national Sami meetings in 1937 and 1948.[33]

Park had an agenda that clearly differed from that of Tomasson. Where his predecessor had been an idealist, Park was a political realist with both feet firmly on the ground. He did not see any immediate potential for a national Sami organization based on local Sami societies; in his opinion, the Sami were not yet ready for that kind of organization, not least because of their low level of education. This could be a future aspiration, but for the here and now, it was an unattainable goal. Initially, Park did not even seem to see a need for Sami organizations. Direct action was his preferred method of trying to attack problems or influence developments. He regarded the rallying of support for certain issues—locally, regionally or nationally if necessary—and then bringing demands forward, as a more realistic and effective method to improve the situation of the Sami, than trying to duplicate Swedish organizational structures. When Park saw a need for change or reforms, he wanted to act quickly and see results shortly. This strategy can also be deduced from his early relation to the

Sami newspaper SET. For a long time, Park only wrote sparingly in the newspaper, because when he did write in the press he wanted to reach a wider audience and make a bigger impact, something articles in SET could not achieve. Even though he saw its value as an organ where the Sami could discuss matters, it was with great reluctance and trepidation that Park shouldered the responsibility as editor for SET—the life work of Tomasson and his greatest legacy—and then only because there were no other possible candidates.[34] The final point where Tomasson and Park differed, which perhaps was where they differed most profoundly, was in their rhetoric. Where Tomasson saw dialogue and negotiations as the way forward, Park often sought conflict; he even seemed to thrive in the often very harsh climate created by the conflicts between him and the County Administrative Board and the Lapp Administration.

The very sharp criticism Park delivered, made him the obvious target for reprimands and attacks from the regional authorities, who questioned his right to represent the Sami due to his many years of working in Swedish society and his attitude towards the authorities. These attacks did not deter him, however, and it is plausible that even though some Sami disagreed with his tactics, his disrespectful manner towards the regional authorities helped to break down the subservient attitude towards the authorities many Sami had held for so long. Like Tomasson, Park primarily based his demands on the needs of reindeer husbandry, and he did thus not challenge the official view of the Sami, a strategy that would become even more outspoken through the creation of the first national Sami organization in 1950. Park also expressed reservations concerning the future of the industry during the 1930s, but this would soon change. From the 1940s, he started to actively promote reindeer herding, as a way of safeguarding the rights, even though limited, the herders had, which were the only recognized Sami rights.

In 1950, the Sami, after several previous attempts, finally succeeded in establishing a national organization, SSR. Ironically, it was Park—who as late as 1943 had advocated patience concerning Sami organizations, to let an improved education have necessary effects on the consciousness of the people—who was the architect. Towards the end of the 1940s, Park had come to the realization that a national organization not only was needed, but necessary. It was, in the end, untenable to gather Sami deputations or call national meetings every time issues of importance to the Sami arose and had to be addressed; a national organization could no longer remain a future goal but was necessary now. Such an organization would function as a continuous representative of the Sami;

it could look after their interests, negotiate with the authorities and generally make it harder to neglect the opinions of the people and work to ensure Sami representation when government committees on Sami issues were appointed. As an indication of his continued leading position in the Sami movement, Park was elected the first chairperson of the organization when SSR was established in 1950. To give the organization greater stability, it was decided to base it on both local Sami societies and the reindeer herding districts, the so-called Lapp Villages.[35] The latter were administrative units created as a part of the regulation of the industry through the first Reindeer Grazing Act in 1886, but in contrast to the local Sami societies, they were permanent and stable with a relatively strong economic base.[36] The decision to base SSR on the Lapp Villages as well as local Sami societies also led to a choice of strategy; the organization, despite claiming to represent all Sami, placed the interest of reindeer herding at the forefront, in a sense mimicking the official view of the industry as the centre of Sami culture.

SSR quickly became an established actor in the policy area, and was given a role as a consultative body already from the start. The political changes that World War II had brought meant that subordination of the Sami no longer could be upheld as a base for the Sami policy, which created opportunities for the organization to establish itself as an actor in the Sami policy field. The speed with which SSR assumed this role indicated that the organization was accepted and viewed as a representative of Sami opinion by the state authorities. It did not, however, mean that SSR necessarily was successful in achieving results based on its demands. The organization could initially only point to few and small clear successes, but the fact that it became established as an actor in the policy area nevertheless meant that the authorities to a larger extent had to take the opinion of the Sami into consideration, and motivate the direction of the Sami policy more thoroughly than before.[37] Through the establishment and work of SSR, Park had thus achieved one of his goals, to make the Sami relevant in political debate. One further effect of the establishment of the organization was that the County Administrative Board and the Lapp Administration no longer could challenge or question his role as a representative of the Sami, at least not openly.

In 1960, Israel Ruong (26 May 1903–6 April 1986) replaced Park as both chairperson of SSR and editor of SET. This change in leadership would mark a major shift in the Sami movement. Ruong grew up in a small settlement in the mountain area in Arjeplog, Norrbotten, but also worked periodically as a reindeer herder in his youth. He obtained

a teachers' degree in 1927, and worked as a teacher in the Nomadic School during the 1920s and 1930s. In 1945, Ruong was appointed to Superintendent for the Nomadic School, which was a milestone as no Sami had been considered for the position before. He would hold it until his retirement in 1967. Parallel with his work as a teacher, he began university studies in 1936, and in 1943, Ruong defended a thesis on the Pite Sami language, becoming the first Sami in Sweden to achieve a Ph.D. He would go on to publish several important studies on Sami history, culture and language, but his academic work was also a factor in his decision to avoid involvement in the Sami movement for a long period. Ruong feared that such work would endanger his standing as an academic, and it was only reluctantly that he accepted to become a member of the working group that formulated the original statutes for SSR. Apart from his work in SSR and as editor of SET, Ruong was also very active in the political cooperation of the Sami on a Nordic base, a work that in 1957 led to the formation of the Nordic Sami Council, today—with the inclusion of the Sami in Russia in 1992—the Sami Council.[38]

Ruong differed from Park in several key aspects. He regarded the divide within Sami society in Sweden, between reindeer herders and non-reindeer herders, with great concern. In his position as chairperson of SSR, Ruong strived for a more inclusive view of who belonged to the group, where he wanted to accentuate the situation of the non-reindeer herding Sami and also make them more involved in the work of the organization.[39] He argued that the division within the group had been created by the Reindeer Grazing Act, separating "those who belong together and should form a social unity" and weakening the Sami as a people in the process.[40] To counter these effects, Ruong proposed that the Sami rights should include other natural resources in the Sami area besides reindeer pasture, and that the determination of who should be allowed to exercise these rights not only should be based on who herded reindeer, but on language as well. Culture and not profession should be the determining factor.[41] This was a clear challenge of the ideological foundation of the Sami policy, and a break with the views held by Park. However, the structure of SSR, with the dominance of reindeer herders in the organization, meant that Ruong could not find sufficient support for a changed course and reindeer herding maintained its central position. Ruong was also more diplomatic and careful in his rhetoric than his predecessor, and created a more open climate for debate both within SSR and in the Sami newspaper SET, which changed its name to the Sami People (*Samefolket*) with Ruong as the editor.

During Ruongs' leadership, an increased fragmentation within the Sami movement became visible. The choice to make the Lapp Villages the primary building blocks of the national organization had a major long-term impact on the Sami movement and on the ambition of SSR to represent all Sami in Sweden. It meant that the strategy that Tomasson and Park had initiated during the previous decades, to make reindeer husbandry the central focus of the movement, now became even more pronounced, as well as divisive. This had been a conscious choice by the Sami leaders in order for them to try to be acknowledged in the debate concerning Sami issues, but with an organization where the herders would form a majority this was no longer a choice but a fact. Reindeer husbandry was the focus of SSR, and this would, in the long run, lead to tensions within the organization and criticism from non-reindeer herding Sami. For ethnic groups, which consist of many different political, social and economic interests, it is difficult to unite behind one organization and to formulate a common agenda. This became more and more evident within the Sami movement from the 1960s, despite the ambition of Ruong to unite the Sami behind SSR. What initially seemed to start as discontent among non-reindeer herding Sami with the strong focus on the interests of reindeer husbandry and the rights of the reindeer herding Sami within the organization, soon developed into an opposition movement, which not only protested against the Swedish Sami policy but also actively opposed SSR as the representative of the Sami people. Several new Sami organizations were formed from the end of the 1960s, representing these groups, and in 1980 they would form a national organization of their own, the Swedish Sami National Union (*Landsförbundet Svenska Samer, LSS*).[42] However, much of this later development took place after Ruong had stepped down as a leader. He left the position as chairperson of SSR in 1967 and as editor of *Samefolket* in 1973.

Despite an increasingly homogenous Sami movement, the Swedish Sami policy continued in similar tracks. In 1971, the Reindeer Farming Act replaced the old Reindeer Grazing Act from 1928.[43] The new act contained some improvements, such as a larger degree of self-determination for the Lapp Villages, now named Sami Villages, and the dismantling and replacement of the Lapp Administration by a more modern and, at least on the surface, less repressive and controlling authority. At the same time, reindeer herding remained the centre of the Sami policy; now based on the argument that the industry was as a prerequisite of Sami culture, and as such in need of protection, and only those Sami who were members of a Sami Village had any indigenous rights.

Discussion

The image established in Swedish Sami policy during the last decades of the nineteenth century, of the Sami as reindeer herders, has been and still is a central element in the policy area. Even though the goal of the Sami policy has changed during the last century, from preservation of the Sami as reindeer herders to protection of the group as an indigenous people, the focus on reindeer herding is a defining aspect. The central position of this livelihood in historical and contemporary Sami policy has also affected the development of the Sami movement in Sweden; the Sami leaders had to consider this factor in their work. How the leaders studied in this article regarded this view, and how they chose to incorporate or oppose it in their visions for the Sami, differed, however, as did their strategies to realize their visions. The earliest attempts to mobilize and organize the Sami at the beginning of the twentieth century, centred on the vision of the Sami as an ethnic group, a people, irrespective of profession or lifestyle. Laula combined this image with demands for ownership of the reindeer grazing areas and freedom for the Sami to pursue any livelihood in that area. She based her ambitious programme on the vision of a broad political mobilization among the Sami population, and the forming of organizations, to create a strong base for these demands. It was a clear challenge of the foundation of the Sami policy, of the established image of the Sami and of the expectations on how they should act. This first wave of political activism, however, became relatively short-lived and ultimately a failure. Laula failed to expand the base of the movement as well as to maintain the initial support. Her challenge of the official Sami policy at the time was also too great to create any opportunity for a dialogue with the authorities due to their rigid view of Sami identity, culture and livelihood.

The following decades, with Tomasson and Park as the leaders of the Sami movement, showed that they had learned a lesson from this early experience. Even though both expressed doubts concerning the future of reindeer herding in Sweden, they still placed it at the forefront of their political activism and based their demands on the needs of the herders. Apart from this shared starting point, however, the two leaders differed greatly in their political strategies. Tomasson shared Laulas' view that organization was a key for the Sami to be recognized and achieve a position within the policy area, if they would be able influence their situation. He saw the establishment of a national Sami organization, based on local societies throughout Sápmi that could represent the group and

watch over their interests, as a necessary development for the movement, to be able to communicate and have a continuous dialogue with the authorities. He based this ambition on an overly optimistic belief in the political activity among the Sami, which during the interwar years never became as widespread and strong as he hoped. The political idealism of Tomasson could never be realized. The action strategy preferred and adopted by Park was, during the interwar period, a more realistic way to gain attention for important issues, and to rally the Sami behind them. His appraisal of the Sami movement, that the Sami not yet were ready to form a national organization, was a more pragmatic approach than Tomasson's. To establish and uphold local societies was difficult enough, and to expect these to form a stable base for a national organization was, in Parks view, simply unrealistic. The downside with his strategy, however, was that there was no continuous Sami presence in the policy area and it was difficult to maintain a momentum within the movement and to uphold activity. After World War II, when development began to speed up and Sami issues were discussed more frequently, these problems became evident. This led Park to reconsider his position; he realized that a national organization was necessary, whether the Sami were ready or not, and the ensuing result was the establishment of SSR in 1950.

Despite some obvious differences to his predecessors, Ruong in a sense followed in the footsteps of both Laula, Tomasson and Park. Like Laula, he had a vision and ambition to create a Sami unity based on ethnic identity, on belonging to a culture, and not on a specific profession, but like Park, Ruong tried to discuss this issue and reach this goal by promoting reindeer herding as the centrepiece of the work of SSR. But where Park often used confrontation, Ruong was a diplomat, and thus had more in common with the approach of Tomasson, who favoured reasoning over confrontation.

To place reindeer herding at the forefront of the movement was a strategically sound decision when made by Tomasson and Park. Through their avoidance of openly challenging the foundation of the Sami policy, they improved the possibilities of receiving a voice in the policy area, to having their demands considered. In the long run, however, this decision created internal tensions and problems. The "reindeer herding first" approach meant that the official image of the Sami became internalized in the movement and that divisions created by the Sami policy was cemented. This choice, to abstain from seriously challenging the image of the Sami as reindeer herders and to protect the rights that at least a

minority of the group had, made it easier for the movement to achieve legitimacy. For Tomasson and Park, there really was not a choice to be made; despite adopting this position they were continually attacked by the Lapp Administration and the County Administrative Boards, and if they would have based their arguments outside reindeer herding they would have had even less chance of conveying their views. With the creation of SSR, this became more of an option, and even though the choice to focus on reindeer herding made it easier to establish and consolidate the organization, this choice has in the long run made it easier to maintain the Swedish Sami policy relatively unchanged. The lack of a strong alternative, and a more united Sami front questioning the foundation of the Sami policy, has made it easier for the state to maintain business as usual. The strategic decision to base the organization on the Lapp Villages as well as the local Sami societies was thus successful in the sense that it created a stable foundation for the organization. In the long term, however, this created problems within the movement since the strong focus on reindeer husbandry led to a widening rift between the reindeer herding Sami and those outside the livelihood, between those who had Sami rights and those who had been excluded. The political visions of Laula and Ruong, of the Sami as a people, were thus the only that seriously could challenge the base of the Sami policy. However, where the former was unable to find a common foundation for dialogue with the authorities, the latter tried to realize his vision within the "reindeer herding first" framework of SSR, and both were thus unable to achieve their goals.

Conclusion

In the end, it all boils down to two very different perspectives on the Sami and reindeer herding. These perspectives were historically formed and changed in relation to both the actors involved and to the perceived possibilities related to the respective perspectives. From the formation of a more structured Sami policy, most politicians, civil servants and leading experts on Sami issues, viewed the Sami and reindeer herding as part of nature, a culture and livelihood fixed in a historical past and part of the allure of the North. This was also in line with the idea of the North and subsequently its inhabitants as containing resources to be used. Even though this changed during the post World War II period, where the reindeer herders were depicted as the main carriers of Sami culture, it was still based on a limited view of the Sami people and without considering what reindeer

husbandry meant to the herders and which role it played in Sami culture. The Sami leaders, on the other hand, experienced reindeer herding as a living industry and an important part of the culture, but only *a* part, that had to change and develop through the contacts with Swedish society and the changing circumstances surrounding the industry. Even though both sides could share a view of the importance of reindeer husbandry, the reasons for this perceived importance were fundamentally different.

At the start of the period, the Sami were considered a natural part of the North, of this resource rich and, as it was perceived, untouched part of Sweden. Due to the remoteness of these resources, the Sami were also initially considered to be the only group that could create economic profit from large parts of northern Sweden. The image of the North, in Sweden, was connected to the Sami; the future of the area lay in the hands of the Sami, and their future lay in the North, in the traditional use of the lands. Piece by piece, this has changed, where new techniques, improved infrastructures and communications has made all the resources of the North readily available, while the Sami has gained a place at the table to negotiate for the future. This process, however, has not led to a true empowerment of the Sami, as they are still in a weaker position in decision-making processes, despite the efforts of the Sami leaders and the Sami movement.

Notes

1. Sörlin, *Framtidslandet*.
2. Lantto, *Att göra sin stämma hörd*, 130–131.
3. Kooiman, *Governing as Governance*, 29.
4. Kooiman, *Governing as Governance*, 37–38.
5. Mörkenstam, *Om "Lapparnes privilegier"*.
6. Up until the 1960s, the Sami in Sweden were officially referred to as Lapps, an originally Finnish term that they themselves perceived as derogatory, but this has been changed to the endonym Sami. The term Sami will be used consistently throughout the article, except for some quotations and expressions in which the old term Lapp occurs.
7. Lantto, *Lappväsendet*, 14–15.
8. Lundmark, *Samernas skatteland*, 20–118.
9. *Riksdagstryck* 1886, 18.
10. *Riksdagstryck* 1908, 41.
11. Lantto, *Tiden börjar på nytt*, 39–45.

12. Lantto, *Tiden börjar på nytt*; Mörkenstam, *Om "Lapparnes privilegier"*.
13. *SFS 1886: 38*.
14. Brownlie, *Fatherly Eye*, xii–xvii, 32.
15. *SFS 1898: 66*; *SFS 1928: 309*.
16. Cf. Sawchuk, "Auktoritet och expertis," 110.
17. Lantto, *Lappväsendet*.
18. Sawchuk, "Auktoritet och expertis," 114–116.
19. Ruong, *Om en helhetssyn*, 15; Ruong, "Samerna," 20–24; *Samefolket* 1980: 3, 15; Thuen, *Quest for Equity*, 82–98.
20. Smith, *Decolonizing Methodologies*, 68–72.
21. Weaver, "Political Representivity," 113–145.
22. Lantto, *Tiden börjar på nytt*.
23. Dobbin, *One-And-A-Half Men*, 9.
24. Pattersson II, "Andrew Paull," 43–44.
25. Kulchyski, "Considerable Unrest," 96–98.
26. A border established in the counties of Norrbotten and Västerbotten during the nineteenth century to separate areas primarily used by reindeer herding and agriculture respectively.
27. Kungl. Jordbruksdepartementet, *Handlingar angående*; Kungl. Jordbruksdepartementet, *Handlingar angående. Ny följd*; Laula, *Inför lif eller död?*; Lantto, *Tiden börjar på nytt*, 57–61.
28. Lantto, *Tiden börjar på nytt*, 29, 56.
29. *Svenska lapparnas landsmöte*.
30. Lantto, *Tiden börjar på nytt*, 75–173.
31. Lantto, *Tiden börjar på nytt*, 29, 69, 81–83, 327.
32. The problems Park reacted to stemmed from the effects of forced relocations of reindeer herders during the 1920s and 1930s from Karesuando in northern Norrbotten to several more southern municipalities, including Arjeplog. For more on this issue, see: Lantto, *Tiden börjar på nytt*, 131–145, 174–190; Lantto, "Att det för lapparne"; Lantto, "Gränsstängningar"; Lantto, "Borders," 544–550; Lantto, *Lappväsendet*, 234–243.
33. Lantto, *Tiden börjar på nytt*, 169–212, 233–257; Lantto, *Lappväsendet*, 254–258.
34. Lantto, *Tiden börjar på nytt*, 212–213.
35. Since 1971, these reindeer herding districts are named Sami villages.
36. Lantto and Mörkenstam, "Samernas etnopolitiska mobilisering," 161.
37. Lantto, *Tiden börjar på nytt*, 264–266; Lantto, *Att göra sin stämma hörd*, 50–56, 201, 219–224.
38. Lantto, *Att göra sin stämma hörd*; Thomasson, "Ruong"; Thomasson, "Israel Ruongs motto."
39. Svenska Samernas Riksförbund, *Protokoll från svenska samernas*, 7–8, 48, Appendix 9a–9b; *Samefolket* 1961: 1, 10–14; *Samefolket* 1962: 4–5, 43–44.

40. *Samefolket* 1961: 1, 13.
41. *Spörsmål av samiskt intresse*, 31–33, 105–106; *Samefolkets Egen Tidning* 1959: 5, 35–36; *Samefolket* 1961: 1, 13–14.
42. Lantto, *Att göra sin stämma hörd*, 187–203, 215–218.
43. *SFS 1971: 437*.

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CHAPTER 6

Creating a Safe Operating Space for Business: The Changing Role of Arctic Governance

Annika E. Nilsson

In May 2013, high-level representatives of the member states of the Arctic Council descended on Kiruna in northern Sweden together with Arctic indigenous peoples, formally represented by the Permanent Participants to the Council, observers from across the world, and a large number of journalists wanting to follow the latest development in Arctic politics. Much of the media interest was focused on the many new countries wanting to join as formal observers to this forum for circumpolar international cooperation, but even more significant for shaping the future of Arctic governance may have been the signing of a document called *Vision for the Arctic*.[1] Two statements from this vision stand out. The first asserts that: "The further development of the Arctic region as a zone of peace and stability is at the heart of our efforts. We are confident that there is no problem that we cannot solve together through our

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cooperative relationships on the basis of existing international law and good will." The second asserts that "Transparent and predictable rules and continued cooperation between Arctic States will spur economic development, trade and investments." They appear in the document as intentions—the Arctic as a zone of peace and stability is at the heart of efforts—but also as facts—predictable rules will spur economic development—suggesting a strong link between international cooperation and prosperity.

Why is this document significant? In this chapter I argue that *Vision for the Arctic* (henceforth referred to as the Kiruna Vision) is one in a series of speech acts aimed at shaping the future of the Arctic region in a specific direction in a context of a range of discourses that have waxed and waned over time. It signalled a changing role of international regional cooperation towards stronger emphasis on economic development compared to the focus on the environment and its relationships to human well-being that had dominated during the previous quarter century. Moreover, it highlighted control of the rules of the game as a means towards peace and economic development in the region.

Starting with the unexpected Arctic Ocean sea-ice minimum in 2007, the impacts of climate change and hype about rich natural resources brought the Arctic into political and media limelight, with a range of new actors taking an interests in the region's future.[2] In the midst was the Arctic Council as a soft-law body of international cooperation, which had come to occupy a "cognitive niche" in circumpolar international relations due to its machinery for scientific assessments on issues ranging from pollution to climate change.[3] With the increasing political interests in the region, the Arctic Council was facing a different set of challenges compared to the early 1990s when the circumpolar cooperation was initiated. The key issue then was to address transborder environmental problems, which were conveniently seen as "low politics" and thus relatively easy to cooperate on, in spite of remaining Cold War tensions.[4] In the Barents Regional cooperation, launched by the 1993 Kirkenes Declaration,[5] the mandate was broader under the rubric of sustainable development but the basic premise similar—that increased cooperation would lead to reduced political and military tensions (see also Gnatenko and Vlakhov this volume).[6] By 2013, a much larger range of actors had claimed stakes in the Arctic future, at the same time as new commercial opportunities had raised the stakes also for those actors that had been involved for a long time.

This chapter discusses the Kiruna Vision in relation to national interests among the Arctic countries with the aim of better understanding some of the underlying discourses that shaped the Arctic Council at the time of the Kiruna Vision. It takes its starting point in the concept "safe operating space." The concept was developed in discussions about planetary boundaries to refer to a future with low likelihood of harming the life support systems on Earth to such an extent that they no longer are able to support economic growth and human development.[7] However, in this chapter I use it to highlight a discursive shift in discussions about the Arctic: away from an environmental focus to one in which "a safe Arctic" became increasingly linked to supporting economic development. The focus is on the two statements in the Kiruna Vision that were highlighted in the beginning of this chapter: peace, stability and cooperation, and how this is assumed to spur economic development. The first statement relates closely to traditional notions of security, while the second is one aspect of sustainable development, with a specific focus on economic development. Both security and sustainable development are loose terms that actors can fill with their own particular meaning. Lack of security and non-sustainable development are obviously not desirable and hardly something an actor would argue for. A more likely development would be that the terms become redefined or that they become more or less prominent in the discourse.

The empirical foundation of the chapter is the national Arctic strategies that were being developed slightly before or around the same time as the Kiruna Vision.[8] The rationale is that Arctic Council is a consensus organization and thus only likely to change if potential new priorities do not clash with the interests of the core member states. These documents provide a window into the discourse within the core policy communities concerned with the Arctic at the time that the Council had to grapple with and find its niche in the new geopolitical context that started to emerge after the 2007 sea-ice minimum. In order to place these policies into the context of how the Arctic Council has evolved, formal statements from the Arctic Council since its inception in 1996 were also analysed, with a focus on Ministerial declarations.[9] Before discussing the details of the analyses, the following section elaborates on the rationale for focusing on policy statement and also provides some background about the Arctic Council.

Background: The Role of Soft Power in International Cooperation

In classic realist thinking, there are no rules of the game in international relations—only the pursuit of self-interests in an anarchical world.[10] However, in practice all transnational actors—state and non-state—have to relate to the growing bricolage of global governance. Since the end of World War II, the number of international treaties and other cooperative arrangements has grown immensely and play an increasing role in setting up rules and norms for behaviour for a range of international issues, such as trade, environment, property rights, and even military activities. Even if a country chooses not to sign or ratify a specific agreement, many international conventions and other governance arrangements nevertheless become guiding because they create expectations of moral responsibility related to certain standards. This growing role of international norms also applies to the Arctic.[11] Moreover, the incorporation of the Arctic in global discourses has increased the importance of shaping these rules and norms.

How is the work of shaping norms carried out? With a constructivist approach to international relations that builds on Foucault's attention to the historical emergence, bounding, conquest, and administration of social spaces,[12] the Kiruna Vision can be seen as one of several statements about the Arctic that have the dual function of asserting facts and using these to assert a certain future, and by doing so serving as an attempt to mobilize power towards making that future real.

The role of imaginaries in shaping the Arctic has come into increasing limelight in recent years, with studies of both historical and contemporary efforts to shape the region according to the interests of different actors.[13] Focusing specifically on imaginaries in relation to circumpolar governance, Keskitalo even calls the Arctic, as an internationally recognized region, a negotiated social construction.[14] While a number of political processes were at play in the mid-1980s when ideas about circumpolar cooperation were starting to emerge, including increasing scientific interest in polar research and a growing indigenous political movement in response to exploitation of Arctic oil and gas,[15] the region-building gained considerable momentum as the result of a specific speech act: Soviet President Michael Gorbachev's Murmansk speech in 1987, where he proclaimed the Arctic as a zone of peace.[16] In this speech, Gorbachev argued that solving the security problems of the

Arctic once and for all was a necessary step for developing the economic potential of the region, including both resource extraction and shipping. Moreover, international cooperation around environmental concerns and science were highlighted as means towards this end.[17] The context of the speech was the on-going nuclear disarmament talks and the speech itself came to mark the beginning of the end of the Cold War in the Arctic.

A more recent speech act, which has influenced both popular conceptions of the Arctic and the contemporary debate, was the planting of the Russian flag at the sea floor of the North Pole in the summer of 2007.[18] It provoked reactions such as Scott Borgerson's article "Arctic Meltdown" in *Foreign Affairs*.[19] Written as a statement of facts—"Global warming has given birth to a new scramble for territory and resources among the five Arctic powers"—Borgerson's text aimed at raising attention about the Arctic in the United States by reasserting a realist discourse. The picture he painted and other similar rhetoric have been questioned on account of the de facto friendly atmosphere in the on-going international cooperation. Nevertheless, it set the tone of the discourse and has forced others to relate. Reactions included calls for an Arctic Treaty,[20] which in turn generated substantial academic and political debate (for details, see chapter by van der Watt and Robergs in this volume). A prominent voice on the other side of the debate was Oran Young, who has written prolifically about Arctic governance in ways that highlight the importance of existing governance arrangements, with a view that their shortcomings should be addressed my mending rather than radical reform.[21] Meanwhile, the realist discourse continued to make inroads in popular media and among mainstream journalists, i.e. in arenas outside the circle of security analyst with primary interests in military operations. An example is the discussion about of "ownership" of the North Pole, with Russia and Canada often described as the main contenders, but where Denmark has also voiced claims, and where military power and capacities have been foregrounded as important issues to address.[22]

Another speech act that played an important role in the discourse about Arctic futures following the 2007 sea-ice minimum was the 2008 Ilulissat Declaration by the five Arctic coastal states, which reasserted the importance of the Law of the Seas as *the* preeminent legal framework for resolving potential conflicts in the Arctic.[23] Incidentally, the Ilulissat Declaration also placed focus on sovereignty, rights to resources, and the special role of the coastal states in handling Arctic affairs.[24]

In the midst of the discursive struggle over the future of the Arctic was the Arctic Council. When the Kiruna Vision was issued in 2013, this international regional governance regime had completed its first round of rotating chairmanships among the eight Arctic countries (in the order of Canada, United States, Finland, Iceland, Russia, Norway, Denmark and Sweden), and the goal was to set an agenda for the forthcoming chairmanship round. At the time, the Arctic Council was becoming an organization with a secretariat rather than a loosely organized high-level policy forum and had also played a central role in negotiating two legal agreements, one about search and rescue and one about preventing oil pollution. Moreover, the Arctic Council had become attractive to a range of new actors wanting to become observers (see Paglia this volume for further discussion about the new observers).[25]

While governance structures can appear as stable over a certain period of time, they are constantly under pressure from different actors and interests, whose influence is likely to vary over time. In the following, I focus on the political pressures from member states that may have influenced the Kiruna Vision and thus the future role of this circumpolar regime. The focus is of two fields of discourse that have played important roles in Arctic politics with varying intensity over time: security and sustainability. They have traditionally often represented different political priorities, with security discourses often being linked to national interest and sustainability discourses placing more emphasis on common interests. However, these concepts are both broad and can encompass wide interpretations, which different actors can attempt to fill with their preferred emphasis.

The Security Discourse

While security traditionally refers to national security and the role of the military in controlling a specified geographical region, a more comprehensive framing of security was introduced in the 1980s in the work of the United Nations, including attention to civil and human security with focus on the well-being of individuals. In the Arctic political discourse, human security concerns generally appear as the "human dimension" of the impacts of environmental change,[26] and under the broader umbrella of human development in the Arctic, often with focus on indigenous peoples.[27] Human security perspectives also come across in assessments of vulnerability,[28] and recently also in relation to resilience.[29]

However, Hoogensen-Gjørv argues that invoking human security rather than other ways of framing is a way of drawing attention to issues that should be valued above all other things.[30]

Another focus has been on environmental security. While the term sometimes refers to the environment, or some strategic aspects of it within a traditional security conception,[31] it has also been applied more broadly to the role of the ecosystems in providing livelihoods and basic necessities and to protecting the environment for its inherent values. While Heininen argues that the environmental threats from pollution became one aspect of the comprehensive security agendas that developed in the European Union's Northern Dimensions Programme in the early 2000s,[32] and Exner-Pirot calls the Arctic a regional environmental security complex,[33] the Arctic environment was in the early years of circumpolar cooperation not "securitized" in the sense of making it a matter of prime national interest.[34] With climate change and receding sea ice, a focus on traditional hard security resurfaced and became an issue both in relation to military activities and in connection with access to resources and other economic assets.[35]

For the Arctic Council, a footnote in the Ottawa Declaration explicitly excludes military security from the cooperation.[36] Except for this disclaimer, the term security does not appear at all in the ministerial declarations until 2011, when the Nuuk Declaration mentions food safety and security in relation to impacts of climate change.[37] While issues related to civil security have appeared in several of the ministerial declarations, starting in 2006 and relating mainly to emergency response concerns, the term security is not used. Since Arctic Council texts have avoided explicit security framings, it is interesting to note that the Kiruna Vision statement includes the term security, with a focus not only on environmental but also civil security. Under the rubric "A safe Arctic" it states: "To meet the needs of an ever-changing Arctic we will further strengthen our cooperation in the fields of environmental and civil security." From where comes the vision of the Arctic Council playing a role in relation to civil security? At least part of the answer can be found in the national Arctic strategies, many of which emphasize issues related to broader notions of security.

One concern is the increasing risks for climate-related emergencies. Sweden's Arctic strategy does not shy away from the word security in this context and highlights that "security may well become more of a question of public crisis management in extreme weather situations."[38]

Another concern relates more generally to the environment where the 2008 Russian strategy uses the term "ecological security" to emphasize the "low level of stability of ecological systems",[39] and where the 2013 Russian strategy links environmental concerns to major risk and threat to achieving social and economic development.[40]

Finland's 2013 Arctic strategy goes one step further and explicitly connects climate change to regional security and stability, thereby linking an environmental and sustainable development discourse to a more traditional security discourse: "Combating climate change and mitigating its impact are vital for the stability and security of the Arctic region and serve as the central point of departure for the activities being carried out there."[41] The Finnish strategy also emphasizes that "security and stability of the Arctic region is crucial to efforts to develop the Arctic economy" and goes on to describe a number of technical and knowledge-based solutions to the need for a safe operating environment for extractive industries, shipping and tourism and to suggest international collaboration as the major means towards achieving comprehensive security.[42] A similar link between international cooperation and the needs connected with increasing economic activities in the Arctic is also apparent in Norway's strategy, here with explicit reference to development of knowledge regarding the environment and security.[43] Based on a long list of common security interests, Iceland takes the argument all the way and suggests that "[t]he Arctic region should… be regarded as a single vast area in an ecological, political, economic and security-related sense."[44]

While international cooperation features as one means towards providing increased safety and security, the need for safety is also used as argument for increased national regulation. The Canadian strategy is most explicit and frames the need for policing and rule of law in terms stewardship through sovereignty.[45] Denmark's take on the same issue is more conditional, with international cooperation as the first choice but leaving the option open for unilateral actions.[46]

Most of the explicit mentions of security in the Arctic strategies relate either to traditional notions of national and military security or to resource and energy security. For example, the US strategy states that "[t]he Arctic region's energy resources factor into a core component of our national security strategy: energy security."[47] Military security is most prominent in the US, Russian, Norwegian, and Canadian strategies that specifically discuss military capabilities. However, the main emphasis

overall is a strong commitment to peace and stability in the Arctic region and an expectation that any conflicts will be solved by peaceful means.

Human security, where human well-being is framed specifically as a security issue as suggested by Hoogensen-Gjørv et al., plays less of a role in the national Arctic strategies. One might conclude that human security is still considered mainly of internal national concern and therefore not a "security" issue in a foreign policy context, while the increasing need to protect opportunities for commercial development is seen as critical enough to warrant further international cooperation for some and an increasing emphasis on sovereignty for others.

Overall, the national Arctic strategies indicate that safety and comprehensive security had become increasingly important at the time the Kiruna Vision was negotiated, after two decades of being less visible in the public discussions. While military security remained an issue for the member states of the Arctic Council and protection of environment and human well-being were visible as important goals, a major concern was to provide secure conditions for the commercial development of the Arctic. I call this an effort to create "a safe operating space for business." An important means to that end was to uphold peace and stability. In many ways, this renewed focus on supporting commercial activities in the region echoes some of the visions in Gorbachev's Murmansk speech 1987.

The Sustainable Development Discourse

The notion of sustainable development—made popular in the late 1980s by the Brundtland Report *Our Common Future*—highlights that concerns about the environment and development are inexorably linked.[48] It also places human needs at the forefront, including the needs of both present and future generations. While sustainable development was becoming central to international environmental political discourse in the early 1990s and early beginning of international cooperation in the Arctic, it was not a prominent concept in the 1991 Rovaniemi Declaration that established the forerunner to the Arctic Council, Arctic Environmental Protection Strategy (AEPS).[49] Many of the central ideas were present during the negotiations, but in the end the focus was placed on pollution control and human health.[50]

The political discussion about sustainable development nevertheless continued, with focus on issues such as economic development, the need to balance industrial and traditional activities,

equitable development, and ecological limits.[51] In 1993, a Task Force on Sustainable Development and Utilization of Resources was established, and the 1996 Ottawa Declaration that marked the foundation of the Arctic Council affirmed a commitment to "sustainable development in the Arctic Region, including social and economic development, improved health conditions and cultural well being."[52] According to Keskitalo, the sustainable development terminology was reintroduced mainly by Canada and the Inuit Circumpolar Conference (ICC) as a way of emphasizing utilization of resources, in contrast to conservation as a major goal.[53] The shift from environmental to broader concerns in the Arctic cooperation was thus closely connected to the increasing involvement of indigenous peoples in Arctic politics. In 1998, the Arctic Council established a Sustainable Development Program with the goal to "propose and adopt steps to be taken by the Arctic States to advance sustainable development in the Arctic, including opportunities to protect and enhance the environment, and the economies, cultures and health of indigenous communities and of other inhabitants of the Arctic, as well as to improve the environmental, economic and social conditions of Arctic communities as a whole."[54]

Arctic Council ministerial declarations generally do not describe environmental protection as an integral part of sustainable development, but treat it as a separate concern: "sustainable development *and* environmental protection." An exception is the 2002 Inari Declaration which was issued shortly after the Arctic Council had successfully voiced Arctic concerns at the World Summit on Sustainable Development in Johannesburg. The Inari Declaration also emphasized promoting "sustainable development in the Arctic as a basis for enhanced prosperity and welfare" and the need to eradicate poverty.[55] However, in spite of this reference in 2002 to "enhanced prosperity" and in spite of economic development being discussed in the negotiation for both the AEPS and in the Ottawa declaration, it had not been in focus for Arctic Council activities until the Kiruna Ministerial meeting when the Kiruna Vision signalled a shift. Under the heading "A prosperous Arctic", it states: "The economic potential of the Arctic is enormous and its sustainable development is key to the region's resilience and prosperity." After claiming that "[t]ransparent and predictable rules and continued cooperation between Arctic States will spur economic development, trade and investments" and reaffirming a commitment to continued cooperation, the

paragraph concludes: "Economic cooperation will be on the top of our agenda."[56]

In the Kiruna Ministerial Declaration,[57] issued the same day as the Kiruna Vision, the goal of economic development is also explicit. Moreover, in Kiruna the ministers decided to establish a task force to facilitate the creation of a circumpolar business forum.[58] This decision followed on initial work with the corporate sector on Corporate Social Responsibility during the Swedish chairmanship 2011–2013 and has since been followed by the creation of the Arctic Economic Council.[59] It thus appears that the Arctic circumpolar cooperation, which was initially focused on environmental protection, pollution control and human health and expanded into broader concerns for human well-being, in Kiruna shifted emphasis towards becoming a forum to facilitate economic cooperation development.

The environment and human well-being are still concerns in the Kiruna Vision. For example, the document refers to a need for "healthy environments and sustainable communities" and action to "reduce emissions of greenhouse gases and short-lived climate pollutants, and support action that enables adaptation." The environment is also important for providing "A safe Arctic" where the signatories commit to further strengthen the cooperation "in the fields of environmental and civil security" with an emphasis on developing "best practices and other measures for the Arctic region."[60] The latter presumably refers to best practices for the growing industrial activities that could potentially lead to accidents and environmental damage. However, in this vision for the future, the environment—aside from the impacts of climate change—appears to have become an industry-related security concern.

The Kiruna Vision is a short document and its negotiated language reflects only the common interests among the eight Arctic countries. The national strategies are a useful window into where its messages and framing of sustainability come from.

Overall, sustainable development appears as a relatively less important way of framing goals and challenges in the national strategies than in Arctic Council documents. This is especially noticeable in relation to the attention placed on "security." In fact, looking at the sum of documents from all eight Arctic countries, references to "security" are almost as common as references to "sustainable" or "sustainability" in the national strategies. The use of the term "sustainable" varies in the

national strategies ranging from an explicit mention of the role of healthy ecosystems for human well-being to focusing on sustainable communities and "sustainable value creation."

A broad sustainable development perspective is most prominent in the Danish and Finnish strategies, followed by Sweden. An example of an integrative perspective that emphasized the role of ecosystems is Denmark's discussion of natural resources from marine ecosystems spells out that "[t]he structure, function, diversity and integrity of the ecosystem in the Arctic are crucial to the productivity."[61] The Finnish strategy uses the term "nature assets" to highlight the importance the environment for wellbeing, tourism and for natural resource-based industries. However, it is not always clear whether healthy ecosystems are fundamental for development or if they are a separate concern against which economic development needs to be balanced. An example is how Finland's strategy discusses the goals of sustainable development versus exploiting economic opportunities: "These two goals are not mutually contradictory or exclusive, as long as the economic development in the vulnerable Arctic regions takes into account the limitations imposed by the natural environment and is sustainable in terms of the local communities."[62]

In other cases, the economic perspective is more prominent. For example, the Danish strategy talks about sustainable growth in the shipping industry, where the word sustainable appears as a substitute for environmental considerations.[63] Norway uses the term "sustainable value creation" (in relation to marine bioprospecting), which follows the same logic of sustainable being a synonym or prefix indicating concern for the environment in a discourse that is mainly about economic growth. The economic theme also appears in relation to community sustainability. Most explicit is the Canadian strategy that places the focus on economic and social development as essential for the well-being of inhabitants and communities of the North.[64]

In conclusion, a review of the Arctic strategies does not suggest a disinterest in environmental aspects of sustainable development but that economic concerns and business opportunities were central to the discussion around the time of the Kiruna Vision, more so than suggested by earlier Arctic Council documents. This emphasis on economic development in national Arctic strategies is further supported by an analysis of the networks that are mentioned, where corporate actors are often in focus. When discussing economic development, the term "sustainable"

is often limited to suggesting that economic development needs to take potentially conflicting interests relating to the environment and local community well-being into consideration, which can be placed in contrasts to an understanding of economic, environmental and social developed being interdependent.

A study of the Swedish chairmanship of the Arctic Council sheds further light on this emerging emphasis on economic development. Douglas Nord writes that it was an explicit ambition of the chairmanship to use a focus on economic development as part of an expanded "human dimensions" program and to work for a greater involvement of the private sector.[65] It was most likely the alignment of this ambition with the economic discourses in the Arctic strategies that paved the way for the priority on economic development that was articulated in the Kiruna Vision.

Conclusions

At the time that the Kiruna Vision was negotiated, the Arctic countries in their strategies focused more often on security than on sustainable development. While their notions of security are multifaceted, they especially highlight stability and civil security as preconditions for economic development. Compared to the discourse that shaped circumpolar cooperation in the early 1990s, there was an increasing focus on economic development as a precondition for social development and less emphasis on the environment.

Industrial development and other economic activities in the Arctic face a range of challenges, including lack of infrastructure, legal uncertainties, competing uses of land, and a need for financial investment. An important precondition for addressing these challenges is peace and stability, which may be one reason that the concept of security plays such a prominent role in the Arctic strategies and why the Kiruna Vision emphasizes "A safe Arctic." Security in this context is related to trust, which is necessary for building various networks and partnerships. A similar theme is apparent in Michael Gorbachev's 1987 speech, which placed priority of making the Arctic a zone of peace and cooperation in order to ensure that the region's economic potential could be fulfilled.[66]

An emphasis on the rule of law in various forms should also be seen in this context, as predictability and established ways to solve conflicts are essential element for building the trust that is necessary for

attracting investments. A historical parallel could be made here with the Spitsbergen Treaty, which was partly the result of a need for the rule of law during the industrialization of this northern archipelago in the early 1900s.[67]

The notion of safe operating space comes from the discussion about planetary boundaries, where focus is on safeguarding the global biogeophysical systems as a precondition for human well-being and economic development.[68] The Arctic strategies and the Kiruna Vision acknowledge protecting the environment as a high priority. However, it is not in relation to the Arctic environment that security rhetoric is invoked. Rather it is connected to creating "A safe Arctic" where the role of international cooperation is to ensure a predictability and support for commercial activities and a governance framework that is trustworthy enough to calm environmental concerns—a safe operating space for business.

Notes

1. "Vision for the Arctic."
2. Christensen, Nilsson, and Wormbs, eds., *Media and the Politics of Arctic Climate Change*.
3. Stokke, "International Institutions"; Molenaar, "Current and Prospective Roles of the Arctic Council System."
4. Young, *Creating Regimes*; Nilsson, "The Arctic Environment."
5. Kirkenes Declaration.
6. Hønneland, "Identity Formation in the Barents Euro-Arctic Region."
7. Rockström et al., "A Safe Operating Space for Humanity."
8. "Statement on Canada's Arctic Foreign Policy"; "Kingdom of Denmark Strategy for the Arctic 2011–2020"; "Finland's Strategy for the Arctic Region 2013"; "A Parliamentary Resolution on Iceland's Arctic Policy"; Norwegian Ministry of Foreign Affairs, "The High North—Visions and Strategies"; "The Foundations of Russian Federation Policy in the Arctic"; "Development Strategy of the Arctic Zone of the Russian Federation"; "Sweden's Strategy for the Arctic Region"; United States Federal Government, "National Strategy for the Arctic Region."
9. "Declaration on the Establishment of the Arctic Council"; "The Iqaluit Declaration"; "Barrow Declaration"; "The Inari Declaration"; "The Reykjavik Declaration"; "Tromsø Declaration"; "Nuuk Declaration"; "Kiruna Declaration."
10. Waltz, *Theory of International Politics*.
11. Nilsson and Koivurova, "Shared Decision-Making."

12. Ashley, "The Geopolitics of Geopolitical Space"; Smith, "Reflectivist and Constructivist Approaches"; see also Schmidt, "Taking Ideas and Discourse Seriously."
13. e.g. Bravo and Sörlin, *Narrating the Arctic*; Dodds and Nuttall, *The Scramble for the Poles*; Steinberg, Tasch, and Gerhardt, *Contesting the Arctic*; Stuhl, *Unfreezing the Arctic*.
14. Keskitalo, *Negotiating the Arctic*.
15. Shadian, *The Politics of Arctic Sovereignty*; Stuhl, *Unfreezing the Arctic*.
16. Åtland, "Mikhail Gorbachev."
17. Gorbachev, "Speech in Murmansk at the Ceremonial Meeting."
18. Steinberg, Tasch, and Gerhardt, *Contesting the Arctic*.
19. Borgerson, "Arctic Meltdown."
20. Koivurova, "Alternatives for an Arctic Treaty"; see also European Parliament resolution.
21. Young, "Whither the Arctic?"; Young, "If an Arctic Ocean Treaty Is Not the Solution"; Young, "Arctic Politics in an Era of Global Change"; Arctic Governance Project, "Arctic Governance in an Era of Transformative Change."
22. E.g. Breum, *Når Isen Forsvinder*. Huebert, "Is Canada Ready for Russia's Hardball Approach to the North Pole?"
23. "The Ilulissat Declaration"; Carpenter, "Warm Is the New Cold"; Koivurova, Molenaar, and VanderZwaag, "Canada, the EU, and Arctic Ocean Governance."
24. Steinberg, Tasch, and Gerhardt, *Contesting the Arctic*.
25. Nord, *The Changing Arctic*.
26. ACIA, ed., *ACIA—Arctic Climate Impact Assessment 2005*; AMAP, "AMAP Assessment 2009."
27. AHDR, *Arctic Human Development Report*; Nymand Larsen et al., *Arctic Social Indicators*.
28. Hovelsrud and Smit, eds., *Community Adaptation*.
29. McCarthy and Long Martello, "Climate Change in the Context of Multiple Stressors and Resilience"; Arctic Council, *Arctic Resilience Interim Report 2013*; Arctic Council, *Arctic Resilience Report*.
30. Hoogensen Gjørv and Goloviznina, "Introduction."
31. Buzan, Wæver, and De Wilde, *Security*.
32. Heininen, "A New Northern Security."
33. Exner-Pirot, "What Is the Arctic a Case of?"
34. Buzan, Wæver, and Wilde, *Security*.
35. Kraska, *Arctic Security*; Huebert et al., "Climate Change & International Security"; Berkman, *Environmental Security in the Arctic Ocean*.
36. Arctic Council, "Declaration on the Establishment of the Arctic Council."
37. "Nuuk Declaration."

38. "Sweden's Strategy for the Arctic Region," 14.
39. "The Foundations of Russian Federation Policy in the Arctic until 2020 and Beyond."
40. "Development Strategy of the Arctic Zone of the Russian Federation and National Security until 2020."
41. "Finland's Strategy for the Arctic Region 2013," 7.
42. "Finland's Strategy for the Arctic Region 2013," 40.
43. "The High North—Visions and Strategies," 18.
44. "A Parliamentary Resolution on Iceland's Arctic Policy," Items 3 and 9.
45. "Canada exercises its sovereignty daily through good governance and responsible stewardship. It does so through the broad range of actions it undertakes as a government—whether related to social and economic development, Arctic science and research, environmental protection, the operations of the Canadian Forces or the activities of the Canadian Coast Guard and Royal Canadian Mounted Police. We exercise our sovereignty in the Arctic through our laws and regulations, as we do throughout Canada." Government of Canada, "Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad," Item Exercising sovereignty.
46. "Kingdom of Denmark Strategy for the Arctic 2011–2020," 18.
47. United States Federal Government, "National Strategy for the Arctic Region," 7.
48. World Commission on Environment and Development, "Our Common Future" (Oxford: Oxford University Press, 1987).
49. "Declaration on the Protection of the Arctic Environment. Arctic Environmental Protection Strategy. Rovaniemi, June 1991."
50. Tennberg, *Arctic Environmental Cooperation*.
51. Tennberg, 87–119.
52. "Declaration on the Establishment of the Arctic Council."
53. Keskitalo, *Negotiating the Arctic*. ICC was later renamed Inuit Circumpolar Council.
54. Arctic Council, "Arctic Council Terms of Reference for a Sustainable Development Program."
55. "The Inari Declaration."
56. "Vision for the Arctic."
57. Ministerial declarations are issued every two years in connecting with the Ministerial meeting that marks the shift in chairmanship, while vision statements, such as the Kiruna Vision had not been issues before 2013.
58. "Kiruna Declaration."
59. http://www.arctic-council.org/index.php/en/arctic-economic-council. Accessed 11 February 2014.
60. "Vision for the Arctic."

61. "Kingdom of Denmark Strategy for the Arctic 2011–2020," 31.
62. "Finland's Strategy for the Arctic Region 2013," 8.
63. "The increasing maritime activity is closely linked with economic development in the Arctic. For the sake of the fragile environment in the Arctic, it is important to build sustainable growth.", "Kingdom of Denmark Strategy for the Arctic 2011–2020," 16.
64. "Statement on Canada's Arctic Foreign Policy."
65. Nord, *The Changing Arctic*, 65, 118.
66. Gorbachev, "Speech in Murmansk at the Ceremonial Meeting; Åtland, "Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate Relations in the Arctic."
67. Wråkberg, "Nature Conservationism."
68. Rockström et al., "A Safe Operating Space for Humanity."

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CHAPTER 7

Voicing Bipolar Futures: The Antarctic Treaty System and Arctic Governance in Historical Perspective

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In August 2007, only days after the Russian explorer Artur Chilingarov planted his nation's flag on the seabed beneath the geographic North Pole, the international affairs commentator Scott Borgerson penned an opinion piece for the *New York Times* warning of a race for Arctic sovereignty with potentially dire consequences for both the environment and global security.[1] Referring to an "Arctic arms race" between claimant states, Borgerson drew a parallel with the situation nearly 50 years prior in Antarctica, when similar competition over territory (and the resources it might contain) was resolved through an international treaty. Were such an approach to be translated to the Arctic, claimant states could cooperate to resolve their disputes and collectively enhance the opportunities for environmental protection, sustainable development, and much else besides. Could a successful political structure from one pole of the earth not be imported to the other?

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Borgerson was not alone. The European Parliament called for a form of Arctic Treaty in 2008,[2] and in 2009 Prince Albert of Monaco lamented that, unlike the Antarctic, the Arctic "does not benefit from true protection from any treaty."[3] Yet the Antarctic is fundamentally different to the Arctic. In terms of physical geography, Antarctica is a continent with no indigenous human population surrounded by oceans whereas the Arctic is an ocean surrounded by land—much of it inhabited by humans for millennia. The differences in political geography are just as important. The Antarctic Treaty, which froze all territorial claims in 1959 (though it did not extinguish them) and established science as the dominant activity on the continent, was the result of negotiations that did not have to account for local or indigenous residents.[4] Nor did the Antarctic have the same importance as the Arctic as a potential theatre of Cold War military conflict.

The Antarctic Treaty's mandate is defined as all marine and terrestrial areas below 60 degrees south. Within this zone, the UN Convention on the Law of the Sea (UNCLOS) has uncertain power: states with Antarctic territorial claims have collected data for claims under this convention, but have used different strategies for indicating that they do not wish the UN's Commission on the Limits of the Continental Shelf (CLCS) to consider Antarctic submissions.[5] By contrast, the five Arctic coastal states (Canada, Denmark/Greenland, Norway, Russia and the United States) have cited UNCLOS as a central plank of the existing legal architecture for the region. They declared this architecture to be foundational in the 2008 Ilulissat Declaration, a statement that effectively defused all talk at government level of a fundamentally new Arctic governance regime.[6] The difference is revealing. The Antarctic Treaty System (ATS) is the primary administrative structure for a sharply defined area: south of 60°S.[7] The Arctic is an ambiguous area in terms of political delimitation. The geographical area of the Arctic Council's administrative and diplomatic mandate shifts greatly between the various circumpolar agreements negotiated at this forum.[8] By and large, the Arctic is governed by the same legal and administrative systems that apply to the respective nation states with Arctic coastlines or territory.[9] Most scholars and policy makers, including the commentators cited above, would readily agree that the differences between the polar regions are at least as great as their similarities, even though this does not preclude comparative studies.[10]

With these differences in mind, the aim of this chapter is to ask how and why the ATS has regularly been presented as an inspiration, or even a model, for the Arctic during the past half century. We argue that to invoke the Antarctic Treaty when discussing the Arctic in this manner is to mobilise a rhetorical resource laden with morality and values that go far beyond the pragmatic functions that many have rightly lauded in the ATS. This also involves constructing a particular mythology of the Antarctic Treaty's origins that inscribes concerns from the present upon a document created in the past, locating it within a narrative of enlightened political exceptionalism. Central to this narrative is a conflation of science with internationalism and, more recently, environmentalism. Like science in the Antarctic itself, the ATS becomes a more powerful political resource precisely when its political nature is downplayed or even denied. It is these moral values ascribed to the ATS that are evoked most often when discussions about resource regimes, demilitarisation, environmental protection and science in the Arctic heat up. Take for example Borgerson's 2007 description of the Antarctic Treaty's virtues:

> …in a spirit of cooperation rare during the cold war, fostered by the International Geophysical Year, 12 countries signed onto a treaty that established a legal framework to govern the southernmost continent. They prohibited nuclear explosions, radioactive waste disposal and military deployments on Antarctica. And it encouraged continued international cooperation in scientific research.[11]

Similar rhetoric can be found in James Stavridis' 2015 reflection in *Foreign Affairs* on "why does peace and goodwill bloom at the South Pole, when the Arctic is so tense and frosty?"

> Antarctica has been "governed" (the correct expression might be "managed through international benign neglect") under the Antarctic Treaty… There are no weapons, no sovereign territories (although some claims have been staked), no conflict, and broad international agreement about its future.[12]

Michael T. Klare, writing in the *New York Times* in 2015, added environmental protection to sovereignty and limits on military activities as reasons for an Arctic Treaty modelled on the Antarctic Treaty, concluding that: "In the end, no extra measure of oil and gas is worth the

destruction of pristine wilderness or the onset of an Arctic arms race."[13] Comments of this kind reinforce the status of the ATS in contemporary discussions about Arctic futures—and might also invite reflection on how the Treaty has been used in similar discussions in the past.

We begin by examining how the origins of the ATS have been systematically described as exceptional to rather than exemplary of the dimensions of late 1950s Cold War geopolitics. While there is of course a large grain of truth in this observation, it should be realised that this characterisation also served to naturalise the dominant position held by science within the ATS, establishing an implicit binary between scientists and the political realm that they ostensibly transcend. We then consider how and why the ATS was invoked in discussions of multilateral Arctic governance through the 1970s and 1980s, and for what reasons, with a focus on why particular actors thought such a move useful within specific contexts. The emergence of the Arctic Environmental Protection Strategy (AEPS) in 1991 is juxtaposed with the often-tense negotiations that led to the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) in 1988 and eventually the Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol), which famously described Antarctica as a "continent for science and peace." We ask how environmental values from the 1980s were inscribed upon the ATS rather than being an inevitable outcome of its founding principles.

Finally, we discuss how the recent global burst of interest in Arctic governance—and climate change visiting significant changes upon the region—has provided a narrative of crisis to which the ATS can be proposed as a solution. We show how the ATS has served (and continue to serve) as a repository of desirable values—a "beacon to humanity," in the words of oceanographer Paul Berkman, an energetic advocate of the Antarctic Treaty's moral value.[14] This status as beacon lends itself to utopian visions that rely upon a characterisation of the ATS as exceptional. It does not, however, preclude more prosaic arguments that invoke specific elements of the system as potentially useful—nor calls to regard the Arctic as a potential source of lessons for the future of the Antarctic.

The Antarctic Treaty as a Political Artefact

The Cold War has recently become a hot topic for historians, not least for historians of science. A raft of recent scholarship has emphasised the geopolitical function of science both as a vehicle for establishing cultural

hegemony—as John Krige has argued in the case of United States support for science in post-war Western Europe—and as a source of data with increasing relevance for statecraft.[15] Scientists have long functioned as geopolitical actors in both polar regions, articulating state power through their presence. The International Geophysical Year (IGY) was the classic example of this latter phenomenon. Born out of a desire among scientists for an ambitious programme of data collection utilising the promising new generation of instruments and theories, the IGY was a dramatically scaled-up and globalised successor to the International Polar Years of 1882–1883 and 1932–1933.[16] The United States government quickly embraced the IGY, not least because it offered the chance to assemble a global geophysical data set. As Jacob Hamblin, Ronald Doel, and others have argued, the geophysical sciences were rapidly becoming instruments for the United States and its Cold War allies to know the environments (marine, terrestrial, and atmospheric) in which coming wars would be fought.[17] Such investigations also burnished the prestige of their patrons on the global stage at a time when the contest for global leadership between East and West increasingly used science and technology as means of demonstrating ideological supremacy.

The IGY accorded neatly with the geopolitical vision endorsed by the superpowers, in which the territory-based logic of late European empires was replaced by a bipolar world where geopolitical power was exercised more subtly. Disputes over territorial boundaries on Antarctica—especially that between Chile, Argentina, and Britain (which even led to warning shots being fired in 1952)—were easy to portray as anachronistic relics, to be replaced by a new arrangement in which references to territorial claims were set aside for the duration of the IGY in order to ensure freedom of movement for scientists.[18] The practical effect was to ensure that the superpowers could establish superiority on the continent through science, with greater expenditure equating to greater prestige while inevitably belittling the programmes of the original claimant states.[19] Refusal to acknowledge or make territorial claims was a means of avoiding conflict, but it was also a means of constructing Antarctica as a space where science would reign supreme—the primary instrument for, rather than the antithesis of, the practice of politics. Henceforth, geopolitics would be performed through science.[20]

While the IGY was still underway in Antarctica the United States and the USSR began pushing for a continuation that would entrench the temporary order as a permanent state of affairs. As legal scholar

Marie Jacobsson has shown, the idea of an international agreement on Antarctic governance was already being floated from numerous parts of the world, though none met wide acceptance.[21] But by 1958 states such as Britain and Norway realised that they lacked the capacity (and appetite) for continued large-scale geophysical research in the Antarctic. The United States-convened negotiations in Washington DC in late 1959 that led to the Antarctic Treaty succeeded in part because declaring scientific activity to be irrelevant in a legal sense for establishing sovereignty claims—and allowing the claimant states to keep their rights in abeyance—proved an attractive compromise for all parties. Cash-strapped claimant states no longer felt as pressured to maintain expensive programs as a matter of political urgency.[22] Establishing a regime in which scientific activity provided the right of access and activity, coupled with a right to observe the activity of others, reflected a broader United States quest to place the earth as a whole under surveillance. The formal bans on militarisation, nuclear explosions, or the dumping of radioactive waste were hardly enormous concessions. For the Soviet Union, which trumpeted opposition to colonialism and depicted itself as a force for peace in distinction to the warlike Cold War West, this regime achieved both symbolic and practical goals by ensuring the USSR a central place at the Antarctic decision-making table, and turning the continent into a space where its claims to leadership in science and technology could be showcased.

Although the Antarctic Treaty can easily be viewed as an enlightened exception to the tensions of the Cold War. Coming well before the era of détente, the Treaty was at its heart an artefact that reflected the geopolitical priorities and anxieties of the late 1950s.[23] Establishing a demilitarised space for science transformed a theatre of European imperial ambition into an arena more suited to the Cold War superpowers. The IGY exemplified a trend toward large-scale geophysical surveillance that embodied many of the same values, notably the freedom of the skies for satellites and the exchange of data through the three World Data Centres established as part of the IGY.[24] International collaboration in science was an increasingly important means of projecting soft power, of demonstrating ideological supremacy through both symbolic achievements and practical achievements from fisheries research to long-distance communications. Rather than presenting a departure from the militarised world of Cold War science, environmental monitoring—including much of the technoscientific infrastructure that led to the discovery of anthropogenic climate change—was a direct extension of it.

The IGY and the Antarctic Treaty is a similar story, a classic episode of Cold War science that produced an artefact with considerable political utility that reflected as much as it resisted the political zeitgeist. One can be glad that Antarctica has remained a peaceful space for the past sixty years, and admire the evolution of the ATS to meet the challenges that have arisen during that time, without ascribing to the Treaty and its founders the kind of almost mystical reverence associated more often with the constitution of the United States and its authors.

Bipolar Governance Encounters 1961–1992

References to the Antarctic as a source of inspiration for Arctic governance began not long after the Treaty was negotiated. Initially that inspiration focused on the role of scientific research, understandably perhaps given the tremendous success of the IGY. One of the ATS's more important components was the Special (now Scientific) Committee for Antarctic Research (SCAR), a body composed of national representatives from all states signed up to the ATS that was charged with coordinating post-IGY science in Antarctica (although actually planning scientific work remained a national responsibility). The financial and political imperative to participate in the Antarctic leg of the IGY had led many Arctic research organisations—including for instance the Arctic Research Institute in Leningrad and the Arctic Institute of North America—to expand their organisational horizons toward both poles.[25] Understandably, some individual scientists also saw much to like in a governance system that privileged them as actors and included an international scientific committee with considerable prestige, if little actual power. Research by Stian Bones has pointed to the interest of Tore Gjelsvik, longtime head of the Norwegian Polar Institute (NPI), in bringing an analogue to SCAR to the Arctic.[26] The Norwegian government pushed a political line of "bridge-building" in the two decades after 1945, preferring to act within larger coalitions (ideally with global reach, such as the UN) rather than acting bilaterally. Combined with the reality that pre-North Sea oil Norway simply could not invest in research at the same level as other states with polar interests, Gjelsvik saw value in an international body that could enshrine Norway's place at the polar scientific table and allow it to exercise leadership through a larger organisation that covered both poles. In dialogue with ICSU, the idea to establish a Scientific Committee on Arctic and Antarctic Research modelled

on SCAR surfaced again at meetings in the later 1960s and early 1970s, but was quashed by fears expanding SCAR would bring elements of the more complex situation in the Arctic to the Antarctic.

Gjelsvik's enthusiasm for a form of Arctic scientific cooperation did however resonate elsewhere in the Cold War world. In the United States, the Bureau of International Scientific and Technical Affairs under the State Department also looked into possibilities for an Arctic Treaty, building on overlapping areas of national interest, especially in technological advancement and scientific cooperation. Nevertheless, they reported in 1964 that they considered the US to be "ill-prepared to participate with other Arctic nations… in peacefully shaping the future of the Arctic region," both in terms of its diplomatic position as well as in lagging behind the USSR in Arctic development.[27] Moreover, the Soviet Union insisted on bilateral rather than international institutional cooperation in the Arctic, pointing out that cooperation was not possible in projects that involved fieldwork in Soviet territory.[28]

If Gjelsvik looked to the Antarctic and found inspiration in its structures for scientific cooperation, others looked to the Arctic and saw a geopolitical landscape in which scientific cooperation across national borders was hardly a top priority. The Arctic had clear relevance to Cold War military strategy as the space that bombers and later Intercontinental Ballistic Missiles (ICBMs) would traverse in a nuclear conflagration. In stark contrast to the Antarctic, where commercial whaling had declined precipitously by the early 1960s and mining remained a largely irrelevant issue—for reasons of logistical difficulty rather than any great moral or environmental concern—Arctic areas from Svalbard to Siberia and Alaska were becoming natural resource bases with both strategic and economic significance. Southern members of SCAR were sceptical about expanding the geographical area under its remit, arguing that it could destabilise the existing successful cooperation.[29] Indigenous rights became an ever more important issue in the 1970s, with the Inuit Circumpolar Council (founded in 1977) a manifestation of an imagined circumpolar community of indigenous peoples.[30] These issues combined to ensure that the Arctic could not be defined as a theatre for scientific competition in which economic, military and social issues could be comfortably regarded as secondary.

None of this dampened the enthusiasm of natural scientists for whom the Antarctic had become both a valuable source of data and an emblematic example of how the earth's surface could be administered in order to

privilege scientific research. Research fields such as sea ice dynamics, glacier physics and ice core analyses drew productively upon a range of polar research sites. As mentioned earlier, many of these scientists worked in both polar regions, often under the aegis of overtly bipolar institutions such as the Scott Polar Research Institute (UK), the Arctic and Antarctic Research Institute (USSR), and the NPI. The infrastructures that these institutions developed to support polar research reinforced a sense that expertise—both intellectual and logistical—could be transferred from one polar region to the other, and that the poles could be regarded as a natural unit.

As détente made interactions between East and West easier in the 1960s and early 1970s, Arctic specialists in both the natural and the social sciences began to meet, fostering a sense of scholarly community alongside a sense that *all* Arctic regions ought to be considered within its purview. The Canadian geographer Trevor Lloyd was a particularly strong advocate of this view, arguing that the Cold War divide ought not to preclude the Soviet Arctic being considered a radically separate entity from other northern regions, eventually helping to push Graham Rowley, Terence Armstrong, and the American economist George Rogers to collaborate on the 1978 monograph *The Circumpolar North*.[31] But while this interest did indeed help to break down barriers between East and West—and to create a circumpolar scholarly community—the continued importance of north–south connections for economic and social development precluded any serious consideration of a political-administrative unit that cut across those boundaries. Describing the Arctic as a geographic unit for multidisciplinary studies was a far cry from establishing an administrative structure that would erase national barriers to research, let alone management.

Individuals from outside this world of Arctic science and research administration also found the existing state of affairs most in need of remediation—especially those for whom the Arctic remained a space where considerations such as grand military strategy remained dominant over engagement with local communities or development issues. In 1981, Lincoln Bloomfield, a political scientist who also served in the National Security Council of the United States, jocularly mused in *Foreign Affairs*, "Maybe excessive attention to the Arctic would just get in the way of science and exploration, agitate the military planners and in general stir up the frozen mud, as it were."[32] Beginning his essay with the Sputnik launch, Bloomfield approvingly noted the "rush of

international rule-making" that followed (covering Antarctica as well as outer space) and posited the Arctic as an exception to this enlightened rule. The argument thus immediately depicted the Arctic as an unmanaged frontier—reinforced by the accompanying map, which excluded the names of any towns or settlements. Problematically, he almost completely sidelined indigenous people when discussing the non-management of the Arctic—a neglect that was not uncommon in 1980s literature on Arctic governance.[33] Bloomfield's conclusion that the mechanisms of the present were broadly adequate was moderated by an appeal to the "dangerously deteriorated" state of US-Soviet relations, depicting the Arctic as an unstable geopolitical entity that demanded management in order to ensure stability.[34]

Bloomfield's argument touched on another important point, namely the depiction of scientists as benevolent and comparatively benign political actors, their privileged status in Antarctica linked to the absence of more serious conflict. Expressing rivalry through science—most prominently through the Space Race, but also the burst of Antarctic research that began with the IGY, implicitly became a mark of enlightened governance. This was not the case in the Arctic, especially given the increasing recognition accorded to the rights of indigenous peoples—as much through the push of northern aboriginal peoples as the moral pull upon states to respect their marginalised citizens. Bloomfield briefly acknowledged these voices in the context of their scepticism about militarisation, resource exploitation, and environmental damage. Yet the larger question of overarching agreements to limit political tensions remained premised on negotiation between states, with indigenous peoples restricted to the role of passive observers. Bloomfield's thoughtful conclusion that cooperation in the Arctic could be a positive step within the broader context of international political relations at a tense moment in the Cold War ultimately relied upon a similar logic to the Antarctic Treaty negotiations. A polar space could be used to make a point about the viability of good international relations in the face of tensions and rivalries, but that outcome was necessarily tied to the space being clear of messy local complications that could prevent a grand political narrative being inscribed upon it from above. A space where natural scientists could thrive as the dominant class of actors almost necessarily spoke to an absence of political tensions—and was difficult to reconcile with a space where indigenous residents sought to assert political rights.

The one body that brought significant international coordination to Arctic science in the 1980s did so by using personal and institutional connections—some of them forged through SCAR—that adjusted to the geopolitical context of the time. Narrations of the history of the International Arctic Science Committee (IASC) established in 1990 often begin with an informal meeting held in San Diego, California during SCAR's annual conference in 1986.[35] The IASC origin story relates how James Zumberge, then chairman of the US Arctic Research Committee, initiated contact with Fred Roots (from Canada) and Odd Rogne (Tore Gjelsvik's successor at NPI). Together with scientists from Poland, the USSR, Sweden, Finland, Norway, the U.S., Japan, West Germany and France they concluded that an IASC was a realistic possibility. The negotiators made use of the thaw in the relations between the Soviet Union and the West, and drew on personal ties with Soviet polar scientists and bureaucrats (especially through Norway). Personal connections were necessary as the USSR at the time had a strict policy of only conducting bilateral negotiations in the Arctic, meaning that the IASC negotiations were channelled through the science advisor at the USSR embassy in Oslo. Rogne, who headed the Norwegian delegation discussing Norwegian-Soviet scientific cooperation, set up a series of meetings to establish a collaborative Arctic research network based on the SCAR example, with a specific focus on collaboration between Soviet and western scientists. It is notable that although official Soviet channels were closed, the contents of the negotiation were far from alien to Soviet policy: phrases from early draft founding articles of (IASC) on research cooperation even found their way to Mikhail Gorbachev's famous 1987 Murmansk speech on the "Arctic Zone of Peace."[36]

While it is impossible to know if IASC would have been established without SCAR as reference point or inspiration for polar scientific cooperation, utilising SCAR networks undoubtedly aided the process of forming it. The pragmatic infrastructure of networks and personal contacts established through SCAR proved far more important than the moral value of the ATS as a call to political action. Indeed, pretensions to the latter would likely have doomed the chances of achieving a functional scientific body. The scientist-diplomats involved drew on specific elements of SCAR—such as scientific coordination—to establish an Arctic-specific structure with no pretensions to freezing sovereignty claims. While IASC sought to address "sustainable development" and "impacts

of global changes on the Arctic region and its peoples," like SCAR, it initially focused on natural sciences, which in the Arctic meant conveniently avoiding more obvious linkages with indigenous peoples and politics.[37] Rather than remaking the political landscape in the image of Antarctica, IASC located and settled a niche within the political landscape of the 1980s Arctic.

Environmental Concerns, Resource Exploitation and Polar Internationalism, 1980s–1992

During the 1980s, a number of states raised challenges to the moral legitimacy of the ATS, a process that ultimately strengthened the Treaty system and its moral authority, but only after substantial and often highly contentious disagreement. Adrian Howkins and others have highlighted the disputes between members of the ATS—which continued to function as an exclusive club barred to states without scientific programmes in Antarctica—and states from the Global South (notably Malaysia and Pakistan) that lacked Antarctic research programmes and argued that this should not prevent them from having a stake in discussions on future Antarctic resource exploitation. As the Treaty Parties started to formally negotiate a mineral resource regime in Antarctica in the early 1980s, Malaysian Prime Minister Mahatir Mohammed criticised Antarctic governance as a geopolitical relic that denied resource exploitation rights to certain states based on what he saw as neo-imperialist grounds. Should Antarctica have resources that could profitably be extracted, the difference between a club and a genuinely international governance agreement based around the United Nations would be considerable. One way in which the parties sought to defuse this tension was to expand the number of signatory states granted consultative status in the ATS in the 1980s, including states such as India, Brazil and Uruguay.[38] A perception nonetheless remained that as long as the ATS member states were engaged in planning a regime for exploiting Antarctic mineral resources, it was controversial to depict the Treaty as an enlightened instrument of governance.[39]

The CRAMRA debate continued through the 1980s. The convention was signed in 1988 but abandoned almost immediately thereafter. CRAMRA was premised upon the need to regulate rather than eliminate mining and contained stringent environmental standards. The demise

of the agreement was due less to internal factors within the ATS than to wider world events, such as the *Exxon Valdez* oil spill in the Arctic.[40] Organisations such as Greenpeace and the Antarctic and Southern Ocean Coalition (ASOC) aggressively criticised CRAMRA for failing to impose a moratorium on extractive industry, in addition to perceived shortcomings within its environmental regulations. As the tortuous negotiations that preceded its agreement suggest, CRAMRA could not escape the connection between economic exploitation and perceived neo-imperialism. But it also struggled to balance acknowledgement of the wider global trend towards environmental protection as a moral good that could outweigh resource extraction on ethical rather than economic grounds—although the doubtful financial prospects for Antarctic mining made that position easier to establish. CRAMRA was abandoned and a new treaty, the Protocol on Environmental Protection (widely known as the Madrid Protocol) was signed instead. In the Madrid Protocol, the symbolic work performed by a 50-year moratorium on any activity related to mineral resources other than scientific research and rigorous environmental controls, notably the removal of dogs and banning the introduction of non-native species, proved more valuable than the potential economic returns from mining. Antarctica could more than ever before be regarded as an exceptional space that embodied enlightened values—a fenced green reserve safe from the economic pressures that threatened the rest of the world. Environmental protection, not science, was the key element in this process.

As the CRAMRA negotiations gathered momentum moves were underfoot in the Arctic that flowed with, rather than against the prevailing environmental currents. It was in this context that Gorbachev's Murmansk speech and later the AEPS articulated a view of the Arctic as a space where states could set aside differences and work together on the enlightened task of environmental management. Gorbachev's call for cooperation between east and west in Arctic environmental research—and indeed, regulation—were products of the time of *glasnost* and *perestroika*. Whereas CRAMRA died and was replaced by the Madrid Protocol, AEPS was the forerunner of the Arctic Council, a fundamentally different structure to the ATS that respected existing sovereignty claims and focused on cooperation between rather than pooling the power of its constituent states. Scientists did not become privileged actors in the way they had become in the Antarctic, and economic

activity (including mining) continued to be a legitimate subject of Arctic political and scientific activity alike.

Citing the ATS as an Inspiration for Arctic Governance, 2007–Present

Given these issues set out above, why has the ATS been floated as a potential inspiration for Arctic governance models in the past decade, and why has the concept of an Arctic Treaty continued to be taken seriously? While there are practically no serious voices advocating a broad treaty superseding existing governance structures over populated spaces, a sense remains that the Arctic is a problem in need of a solution—even if only the "High Arctic," defined as the comparatively small area of ocean and ice outside existing maritime boundaries in the central polar basin. The reason, we suggest, is that invoking the Antarctic Treaty brings with it the powerful sense of enlightened governance based on rigorous environmental protection and respect for science, in contrast to international rivalry and economic exploitation. This in turn requires a view that existing mechanisms for governance in the region are either inadequate or at least partly undesirable, and that the Arctic—like the Antarctic—can be defined as a distinct space requiring a similarly distinct governance structure.

Diverse combinations of variables impacted the exponential increase in international interest in the Arctic around 2007—preparation work toward submissions to the CLCS, the high price of oil and changing domestic politics and discourse involving the Arctic in countries such as Russia and Canada.[41] Denmark and Greenland made a partial submission to the CLCS in 2013 concerning the North East Greenlandic continental shelf. The full submission, made in December 2014, included the North Pole. In response to indications that Russia's second submission to the CLCS would extend their claim to include the North Pole, the Harper government asked the Canadian team to go back to the drawing board and redraft the limits, also extending it to the North Pole. In December 2013, Canada applied to extend its Atlantic continental shelf, including some preliminary extensions in the Arctic.[42] Russia submitted its second application, which included the North Pole, in August 2015.[43] These submissions triggered further opinion pieces on platforms like the *New York Times*, warning of an Arctic gold rush or even arms race.[44]

The *Los Angeles Times* carried an opinion piece penned by a marine conservationist biologist and activist, who urged society to "Save the Arctic now or be sorry later," calling for an Arctic Treaty similar to the Antarctic Treaty "to protect and sustain the region as a common heritage of all mankind, with the greatest possible environmental protections across all Arctic waters and lands."[45]

The CLCS claims achieved increased importance in large part due to perceptions that climate change was making the Arctic into site of economic value. Summer 2007 also saw a spectacularly low sea-ice minimum in the Arctic, at the time the lowest since satellite measurements began in the late 1970s, hot on the heels of the release of a major scientific report that showed climate change happening twice as fast in the Arctic as elsewhere.[46] This led to increased speculation about shipping routes, redrawing the traffic map from the Far East to Europe.[47] Finally, the International Polar Year of 2007/08—following 50 years after the IGY—saw huge investments in polar scientific research, including several bipolar projects in natural sciences.[48] Even if the potential for climate change to open new economic prospects in Antarctica was limited—shipping routes are not a consideration, and the Madrid Protocol's mining moratorium has not been seriously challenged—increased interest in the Arctic fuelled a need for natural scientific knowledge on topics such as sea ice dynamics with relevance to both polar regions.

The links between climate change research and prospects for economic development in the Arctic provide a further instructive contrast to the relationship between science and environmental protection discourse within the ATS. In Antarctica the disembodied gaze of scientific surveillance has attained hegemonic power to both describe the environment and inscribe it with value, whereas the Arctic remains a space where indigenous populations (rightly) refuse to submit to a colonising power structure that renders them passive objects. The comparative ease with which dogs were banned from Antarctica, likewise hunting of seals or penguins, speaks to the absence of a cultural counterweight to preservationist arguments rooted in a particular conception of humans as intruders. This has not been the case in the Arctic, where perceptions of the Arctic as a space in need of environmental protection have the potential to clash with the rights of indigenous peoples whose harvesting of Arctic fauna is not always consistent with traditional green norms—seal hunting being perhaps the paradigmatic example.[49] The divergence

between green and indigenous values poses difficulties for environmental campaign groups. Greenpeace has continued to push its 'Save the Arctic' campaign, using what it touted as its success in the Antarctic—the banning of mining and creation of a "World Park"—as inspiration to lobby for a world park around the North Pole.[50] Indigenous and traditional ecological knowledge (IK and TEK) has complicated the relationship between science and environmental protection, and reinforced the location of people within the Arctic ecosystems that are to be protected.[51] Non-indigenous actors with interests in Arctic economic activity (principally mining or transport and tourism) are also able to claim the need for a balance between economic and environmental concerns that contrasts sharply with the de-legitimisation of the former within the current ATS. Within this context science can function as an aid to economic development—something that beyond tourism is currently almost impossible in the Antarctic.

How then can lessons from the Antarctic be practically applied to the contemporary Arctic? Some legal scholars have highlighted the potential for specific arrangements to be reached within Arctic waters, drawing on marine environmental protection instruments informed by the ATS in limited high seas areas, or flag state approaches to marine pollution.[52] A 2001 study for the International Union for the Conservation of Nature (IUCN), stating that the ATS is considered to be "a model in international law for a purely environmentally focused management regime" considered drawing on the annexes to the Madrid Protocol. However, the study reached the conclusion that the legal context of cooperation in the two regions was too dissimilar for this to be a viable option.[53] The clear difficulty of applying a new governance structure to populated areas helps explain why Berkman's arguments after the ice-minimum of 2007 have quite reasonably focused on the central Arctic ocean, a space more analogous to the Antarctic continent in its comparative remoteness from population centres and absence of easily exploitable natural resources.

But another example suggests that extreme care is needed in attempting to introduce the moral values inscribed in the contemporary ATS even to a limited Arctic space. Diana Wallis, who served as vice-president of the European Parliament between 2007 and 2012, had earlier delivered a speech to the Conference of Arctic Parliamentarians in 2006 arguing for an Arctic Charter along the lines of the Antarctic Treaty. Even though this view lacked any support from the Arctic states, Wallis and the Alliance of Liberals and Democrats for Europe managed to insert a

paragraph calling for treaty negotiations in the resolution. Inspired by the Antarctic Treaty and the Madrid Protocol, the European Parliament then adopted a resolution in 2008 that called for opening a space to negotiate an international treaty to "protect the Arctic." Such a treaty would at a minimum cover the "unpopulated and unclaimed area at the centre of the Arctic Ocean."[54] Oslo and Copenhagen were especially alarmed by this language, and lobbied the Commission to not endorse the Parliament's position, and the language advocating for a Treaty was purged from the Commission's final policy document.[55] The political fall-out from what was perceived as a clumsy effort by the European Union (EU) to interfere in an existing governance regime was compounded by a ban on the sale of seal products in the EU (seal products traditionally harvested by Inuit were exempt, but the market was effectively destroyed). The EU has since struggled to prove its legitimacy as an Arctic actor to the Arctic Council member states, and particularly fell in disfavour with the Permanent Participants (organisations representing Arctic indigenous peoples in the AC).[56]

The idea that the ATS can provide blanket environmental protection for the whole Antarctic Treaty Area is in any case an over-simplification—one that captures the moral message of the Madrid Protocol more accurately than its specific contents. In recent years conservation scientists have disputed the notion that Antarctica as a whole is an environmentally protected area, pointing out the inadequacies in both the terrestrial and marine protection regimes.[57] In July 2013, the United States, New Zealand, Australia, France, and the EU proposed the creation of large Marine Protected Areas (MPAs) around Antarctica. Russia and Ukraine thwarted the proposal by questioning the legal powers of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)—an ATS instrument established in 1982 that, like the Treaty itself, operates on a full consensus basis. In response, New Zealand and the US revised the proposal, significantly shrinking the proposed protected area.[58] A *New York Times* editorial heavily criticised the decision of New Zealand and the US to seek a compromise. To the editors, the decision to try and accommodate the demands "…seems to have more to do with preserving a process than preserving an ecosystem."[59] The paradox within this statement is striking. Is the preservation of the ecosystem not the raison d'être of the Madrid Protocol? As legal scholars Laurence Cordonnery, Alan D. Hemmings, and Lorne Kriwoken have pointed out, for example, fishing activities in waters within the

jurisdiction of the ATS have not been subjected to the strict requirements of the Madrid Protocol governing terrestrial Antarctic activity.[60]

Although a marine reserve was finally declared in the Ross Sea late in 2016, many natural scientists have become more critical of the ATS's willingness (rather than its capacity) to address environmental governance challenges. Brooks et al. have argued that the ATS even needs to "rebuild trust through science" and demonstrate leadership lest "a keystone of science-based international environmental agreements" (in this case CCAMLR) be destabilised.[61] The past capacity of the ATS to adapt to new demands for environmental protection, they argue, is not predictive of future efficacy.[62] Nor is there a full consensus yet on when the cultural heritage value of particular artefacts outweighs the necessity of removing them to conform to the Madrid Protocol's standards. But as the eventual declaration of a Ross Sea MPA shows, a messy but functional process can nevertheless lead to results deemed desirable.

Conclusions: What Relevance Does Antarctic Governance Have for the Arctic?

The ATS is often considered special because it froze sovereignty disputes, demilitarised the continent, and barred almost all forms of extractive industry. It is not difficult to see why it is an attractive rhetorical device in arguing for a more all-encompassing governance regime for what is portrayed as an increasingly fragile Arctic in a hostile world. This view of the ATS and its instruments such as the Madrid Protocol may however also be read as a re-inscription of contemporary interpretations of the Treaty's moral meaning on the legal documents. The intent of the original Treaty had less to do with environmental protection and more to do with non-militarisation and keeping a certain Cold War status quo.[63] That the ATS has been durable is fundamentally a testament to its flexibility. New structures have been added (e.g. CCMALR and the Madrid Protocol) that reflect changing values and anxieties.

Writing with the creation of the Ross Sea MPA still comparatively fresh in our minds, we feel particularly sensitive to the power of discrete but highly visible statements of fidelity to environmental protection in affirming the distinctiveness of Antarctica—and of the ATS. Here it may be useful to distinguish between moral inspiration (the desire to achieve the same outcome, in terms of environmental protection and

demilitarisation) and more legal inspiration to reproduce a similar governance framework. The Antarctic Treaty has come to symbolise an erasure of negotiation between competing interests, most notably economic activity and environmental protection. Yet the ATS continues to be a site of intense negotiation, from the process that ended CRAMRA and produced the Madrid Protocol to the MPA debates. This is not a bad thing. Both these outcomes required the flexible architecture of the Treaty and its instruments, but also the political winds that made environmental protection a more desirable outcome than mining, a marine reserve more desirable than commercial fishing.

Something similar might be said about the ATS and the fact that Antarctica is no longer a site of serious disputes over sovereignty, with no realistic threat of military conflict. The symbolism of a scientific station being established at the South Pole in November 1956, operating through the IGY within an overall framework of international cooperation through science, was particularly striking when contrasted with the surfacing of the US Navy submarines *Nautilus* and *Skate* in August 1958—a time when high Arctic military stations were arguably at their peak. The political order that was subsequently inscribed upon Antarctica may have been challenged in the 1980s, but there has never been speculation of a kind that followed in the wake of Chilingarov's flag planting. The designation of Antarctica as a demilitarised zone free of nuclear explosions (though not necessarily nuclear power) *did* have resonance in the context of the Cold War, and we can celebrate this fact without denying that the continent's isolation and lack of economic utility made demilitarisation somewhat easier than elsewhere in the world. The result may be admired, and likewise the machinery through which it occurred, without denying the uniqueness of the geopolitical circumstances that made it possible.

Notes

1. Borgerson, "An Ice Cold War."
2. European Parliament, "Resolution of 9 October 2008 on Arctic Governance."
3. HSH the Prince Albert of Monaco, "Speech," 11.
4. Beck, *The International Politics of Antarctica*.
5. Scott, "Ice and Mineral Resources," 491–492.

6. Arctic Ocean Conference, "The Ilulissat Declaration." For background on the Danish government's reasons for pushing the Declaration, see Breum, *Når isen forsvinder*.
7. Article VI, which defines the area, also states that "nothing in the present Treaty shall prejudice, or in any way affect the rights, or exercise of the rights, of any State under international law with regard to the high seas within that area."
8. See, for example, the different areas of applicability of the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (2009) and the Agreement on Enhancing International Arctic Scientific Cooperation (2017). See Arctic Council, "Agreements."
9. In terms of international law, there are almost no terrestrial disputes in the Arctic, save for a rather cordial dispute between Denmark and Canada over the uninhabited Hans Island.
10. For comparative studies in political science, history and human geography, see for example Howkins, *The Polar Regions*; Dodds and Nuttall, *The Scramble for the Poles*; Powell and Dodds, *Polar Geopolitics?*; Chaturvedi, *The Polar Regions*.
11. Borgerson, "An Ice Cold War."
12. Stavridis, "Lessons from the White Continent."
13. Klare, "Rushing for the Arctic's Riches."
14. Bhattacharjee, "Antarctica Is a Good Example"; Berkman, *Science into Policy*.
15. See among many others Krige, *American Hegemony*; Hamblin, *Arming Mother Nature*; Oreskes and Krige, eds. *Science and Technology*; Turchetti and Roberts, *The Surveillance Imperative*.
16. On the history of the polar years and the IGY, see for instance Launius, Fleming and DeVorkin, *Globalizing Polar Science*.
17. See for example, Hamblin, *Oceanographers and the Cold War*; Doel, "Constituting the Postwar Earth Sciences."
18. For a description of the warning shots at Hope Bay, see Howkins, *Frozen Empires*, 2–3.
19. Hamblin, "Mastery of Landscapes and Seascapes"; Howkins, "Science, Environment, and Sovereignty."
20. Elzinga, "Antarctica"; Elzinga, "Through the Lens of the Polar Years," 313; Dodds, "Assault on the Unknown."
21. Jacobsson, "Building the International Legal Framework for Antarctica."
22. Roberts, Dodds, and van der Watt, "'But Why Do You Go There?'"
23. Bulkeley, "The Political Origins of the Antarctic Treaty"; Dodds, "Assault on the Unknown."
24. On the politics of the IGY data centres, see Aronova, "Geophysical Datascapes of the Cold War."

25. Van der Watt, Roberts, and Lajus, "Institutions and the Changing Nature of Arctic Research."
26. Bones, "SCAR as a Healing Process?"
27. Quoted in ibid., 242.
28. Ibid.
29. Ibid.
30. Shadian, *The Politics of Arctic Sovereignty*.
31. Armstrong, Rogers, and Rowley, *The Circumpolar North*.
32. Bloomfield, "The Arctic," 89.
33. Also see Beck, "Entering the Age of the Polar Regions."
34. Bloomfield, "The Arctic," 105.
35. The meeting was supposed to be held in Cape Town, South Africa, but SCAR relocated the meeting to the US in large part to avoid highlighting its continued acceptance of apartheid-era South Africa as a full participant in SCAR affairs. Van der Watt, "Out in the Cold," 157.
36. Rogne, Rachold, Hacquebord, and Corell, *25 Years of International Arctic Research Cooperation*.
37. Ibid. Social scientists also initiated steps toward a more traditional research association for Arctic social sciences (without government representatives as is the case with IASC) in 1988, establishing the International Arctic Social Sciences Association (IASSA) in 1990.
38. Van der Watt, "Return to Gondwanaland."
39. On this episode, see Howkins, *Frozen Empires*, 182–187.
40. Howkins, *The Polar Regions*, 4.
41. Generally speaking, after ratifying the United Nations Convention on the Law of the Sea (UNCLOS), states have ten years to make a submission to the UN CLCS. In the case where a state ratified the Convention before 1999, they had ten years counting from 1999. UNCLOS came into force in 1994. Russia ratified the Convention in 1997, Canada in 2003, and Denmark in 2004. The fact that the countries were bound to submit their claims in close succession was often overlooked in media commentary. The United States has not ratified UNCLOS, but abides to most of its provisions. Suarez, "Commission on the Limits of the Continental Shelf."
42. Brewster, "Russia's New Claim to North Pole."
43. At the time of writing, Canada has not yet submitted a revised or additional claim. United Nations, *Submissions*.
44. Klare, "Rushing for the Arctic's Riches"; Stavridis, "Lessons From the White Continent"; and Borgerson, "The Great Game Moves North."
45. Steiner, "The Arctic's Big Year." The piece was also published in other mainstream and regional news outlets, such as the *Huffington Post*, the *Pittsburgh Post-Gazette*, the *Guelph Mercury* and the *Waterloo Region Record*.

46. Corell, *Arctic Climate Impact Assessment*.
47. Christensen, Nilsson, and Wormbs, "Globalization, Climate Change and the Media," 2.
48. ICSU/WMO Joint Committee for IPY 2007–2008, "The Scope of Science," 14.
49. Brabant, "Inuit Hunters' Plea."
50. Sauven, "Saving the Arctic."
51. Bodenhorn, Barbara. "The Animals Come to Me."
52. See for example Koivurova and Molenaar, *International Governance and Regulation of the Marine Arctic*. They consider several different regional governance regimes, not just the ATS.
53. Nowlan, "Arctic Legal Regime for Environmental Protection."
54. European Parliament, "Resolution of 9 October 2008."
55. This section draws upon Wegge, "The EU and the Arctic."
56. The EU's application for observer status has been, in the non-committal language of international diplomacy "deferred affirmatively." Raspotnik, *The European Union and the Geopolitics of the Arctic*, 86.
57. See, for example Shaw et al., "Antarctica's Protected Areas"; Brooks et al., "Science-Based Management in Decline."
58. Guardian Environment Blogs, "Plan to Create Massive Antarctic Ocean Sanctuaries Blocked."
59. The Editorial Board, "Giving Up on Antarctica."
60. Kriwoken, Cordonnery, and Hemmings, "Nexus and Imbroglio."
61. Brooks et al., "Science-Based Management in Decline."
62. Chown, "Antarctic Treaty System Past Not Predictive," 141.
63. On the early development of environmental protection policies in Antarctica see Antonello, "Nature Conservation and Antarctic Diplomacy."

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CHAPTER 8

Political Regime Influences in the Barents Euro-Arctic Region

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In studies of Arctic futures, issues of regional development and public politics play a particularly important role. A crucial question in these studies is: how does regional governance influence the vision of Arctic futures? The collapse of the USSR brought forward new trajectories of institutional development in the regions of Russia, including ones located in the Arctic. From the beginning of the 1990s to the mid-2000s, the Russian political system experienced different forms of political institutional design both on the federal and regional levels, allowing scholars to call it an "institutional laboratory."[1]

In this chapter, we study the Barents Euro-Arctic Region, or BEAR, located in Northern Europe and stretching through four countries. This transnational region emerged in 1993 after the collapse of the Soviet Union, aiming at developing cooperation between Northwest Russian regions and the Nordic countries.[2] Regional representatives of Finland,

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Norway, Russia and Sweden, together with indigenous peoples, signed a cooperation protocol that established the Regional Council for the Barents Euro-Arctic Region with the same objectives—to support and promote cooperation and development in the Barents Region in the areas of economy, trade, science and technology, tourism, environment, infrastructure, and educational and cultural exchange, as well as projects particularly aimed at improving the situation for Arctic indigenous peoples.[3]

However, the BEAR regional cooperation has embraced two different versions of international relations. During Boris Yeltsin's two presidential terms (1991–1999), the dominant foreign policy framework was one of openness to regional cooperation. During Vladimir Putin's first presidency (2000–2008), the main aim of Russian foreign policy instead shifted towards regaining the USSR status of being a self-sufficient superpower.

We trace the trajectories of governance, local residents' voices and changes in the resource extraction structure in two Russian BEAR regions during the two decades following the fall of the Soviet Union, namely the Republic of Karelia and Murmansk Oblast. We show how the perspectives of the cooperation and the futures of the Arctic in these regions have developed among NGOs and local voices, using an interdisciplinary approach drawing on tools from political science and social anthropology.

A Brief Background

After the collapse of the USSR, Russia experienced dramatic changes in its governance structure. Both sides of the conflict, the president and the parliament, gave the regions many generous offers for their support in terms of financial resources and political rights. In turn, regions tried to influence federal politics and create more room for their own agenda. Yeltsin won the struggle in 1993 and implemented a constitution that gave the lion share of the political power to the president. The role of the regions diminished. In addition, intimidated by the decisive military actions against Chechnya, many regions were cautious and concentrated on bargaining with the federal centre on financial resources coming to the region.

In the 2000s, Yeltsin's appointee Putin continued the line of increasing the amount of federal power in the regions. The political slogan of

his first term in office was "strengthening the vertical of power." Putin initiated the revision of regional legislation, created so-called federal districts to observe the activities of regional elites by presidential appointees, relaxed the impeachment procedure for the regional governors, along with a number of other measures. Finally, he reduced the scope of regional autonomy by removing elections and giving the president the power to appoint regional leadership.

The political and economic windows of opportunity provided by the collapse of the USSR allowed the regional political elites to pursue a regional agenda independently from the centre, despite the efforts by Moscow to control the regions. In contrast, Putin's reforms on the federal level in the early 2000s have certainly reduced the space for action for the regional political elite. However, we argue that these reforms have not considerably changed the possibilities for the partners in the BEAR cooperation.

The Barents Euro-Arctic Region includes fourteen administrative units from four countries—Russia, Finland, Sweden and Norway. The region is governed by two bodies: the Barents Euro-Arctic Council (ministerial level) in charge of the general framework and policies, and the Barents Regional Council (regional level) working on the practical issues of cooperation.

The main driving party during the first period of the BEAR operation was Norway, who wished to gain access to Russian natural resources, whereas Russia was willing to bridge the technological and infrastructural gaps to the West and thus generally complied with suggested model and engaged in the cooperation with good grace.[4] During the following years, the cooperation shifted towards non-commercial areas. Twenty years after the first Kirkenes Declaration, a new one was signed in 2013 confirming the new focus. The new declaration reaffirms grass-roots human interaction and environmental, educational and cultural cooperation to be the main goals from then on, not touching on the sensitive matters of resources and major business (Fig. 8.1).

The Republic of Karelia and Murmansk Oblast, the Russian Northwest borderland regions, have much in common: their size and population are roughly the same, there are similar climate conditions and both share a lengthy land border with Finland (and Norway in the case of Murmansk Oblast). Practices of cooperation with neighbouring regions of Northern Europe have existed since the times of Imperial Russia. In the Kostomuksha district, the Karelians have practiced

Fig. 8.1 Barents Euro-Arctic region: Borders and administrative division (*Source* Arctic Centre, University of Lapland (http://www.arcticcentre.org/EN/communications/arcticregion/Maps/Barents))

cross-border bartering of farm goods at least since the eighteenth century.[5] The instalment of the state border in the early Soviet years did not stop these practices. There is evidence that Karelians performed direct barter disregarding the state border up until the 1940s. For centuries, the Pechenga district in the northwest of Murmansk Oblast has also been an area of intensive cross-border cooperation which reached its peak in the eighteenth and nineteenth centuries.[6] The ports of the Rybachiy Peninsula were a common resource for Russian, Finnish and Norwegian fishermen and tradesmen up until the 1920s. The existence of such links in the past, preserved in the collective memory, helped to re-establish the cooperation after 1991.

However, there are also differences in the political regimes and economic structures of these two regions. The political regime that was established in Karelia in the 1990s and 2000s can be described as competitive. The regional governor could never fully control the regional political and economic elite, rather serving as mediator between different

actors. In Murmansk, on the other hand, powerful authoritative governance was established after a short period of competing elites. From 1996 to 2009, the governor had consolidated power in his own hands, controlling all aspects of life in the region, ranging from economic activities to the third sector.

The economic base of the Republic of Karelia consists for the most part of timber production, the bulk of which goes to neighbouring Finland and other EU countries. The entrepreneurs in the timber business are mostly regional. The regional economy of Murmansk is based on metallurgy, mainly for domestic use in the other regions of Russia. The enterprises producing metals are owned by large firms at the federal level.

How the region is governed identifies the paths of cooperation, ability of regional actors to develop projects with partners from bordering Northern European countries, and the scope of autonomy to exercise their own vision for the Arctic future. Given this similarity and diversity, we ask how regional governance influences visions of Arctic futures.

Theoretical Approach and Methodology

We approach the Karelian and Murmansk visions of Arctic futures from the perspective of the three interrelated categories: *governance*, *voices* and *resources*—categories presented in the introduction to this volume.[7] There are evident differences in the foundations and mechanisms of political processes as well as in the role of politics and institutions in established democracies and post-Soviet independent states. The political analysis of Russian regions provided in this chapter is based on the governance theoretical framework.[8] A governance approach "could identify common logic and specific tendencies of the development in Russia and the West."[9]

Therefore, following the lines of the governance approach, we consider institutions, processes and organizational structures that define behaviour in the political system, covering both formal government and other institutions and processes. Furthermore, we consider institutions as "sets of rules, decision-making procedures, and programmes that define social practices, assign roles to participants in these practices, and guide interactions among the occupants of individual roles."[10] Governance structures and institutions serve as mediators of the self-interests of actors.[11]

Governance structures also constrain, or expand, the capacity for actors to exert agency.[12] For example, it can set formal boundaries upon the range of permissible activities. Along these lines, governance structures are created by the actors achieving their goals (or failing to achieve them) at specific historical junctures. Nevertheless, such structures create continuity. Therefore, they persist for (either entirely or in part) considerably longer periods of time than the actors that shaped them.

This means that visions of the future embedded in these structures can continue to exercise projections beyond the period and purposes of their creation, following the will of those in power who created them. This also applies to international agreements based on consensus at a particular historical juncture, including those that have provided fundamental elements in later governance regimes.

According to Avango et al.,[13] voices articulate values as well as interests, and are produced by actors rather than existing independently of them. Ideas cannot emerge in the discourse unless articulated by an actor. The tools for studying voices are borrowed from social anthropology, in which actors' positions and interests are assessed through the study of their judgements as expressed in direct communication. We conducted a set of expert and in-depth interviews with different actors in the regions in question, ranging from ordinary town dwellers to local authorities, to evaluate how the ideas and actions of the governance structures are reflected in local narratives. The subjectivity of this discourse is essential: the interviews provide more direct access to individual perspectives than the reproduction of official narratives.

The other theoretical framework underlying our study is the analysis of resources as constructed rather than found, in the sense that they constitute cultural appraisals of utility and value. We trace changes in the resources extraction in these two regions of Russia over the given period of time and study how it relates to the trajectories of political developments and cross-border cooperation. (See also chapters by Warde, Avango and Lajus on resources.)

To trace the changes of governance and perceptions of the BEAR cooperation, we analysed articles, speeches, memoirs and interviews in the media conducted with senior regional officials and NGO representatives, as well as regional legal documents on the BEAR cooperation and socio-economic development reflecting socio-economic changes. To get up-to-date information and feedback on the political and economic events of the 1990s and 2000s as well as voices of grass-roots actors, two

field trips were made to Murmansk Oblast and the Republic of Karelia in 2012 when the research project was carried out. In both regions, we interviewed regional government officials, local experts, NGO representatives and local residents. Some of these interviews are expert ones, aiming at capturing official discourse and decision-makers' positions; such interviews include ones with regional and municipal government officials and large-scale company managers. Another type of recorded material is in-depth interviews with local residents of the regions in question, whose position indicates how the public policy and the extractive industry management influence grass-roots life and social interaction. All interviews were conducted with prior informed consent, and the full data-set of 48 transcribed interviews is kept by the authors. The main field study was conducted in 2012, but data from later research trips by Vlakhov (2013–2017) reaffirm the trends described in this paper.

The Republic of Karelia

The Republic of Karelia is situated in the north-western part of Russia and is rich in natural resources. Most important for the regional economy are timber production and ores, but fish is also exported to other regions of Central and North-West Russia, and building materials are a considerable source of revenue. The regional economic structure witnessed a change in resource extraction in the post-Soviet period. Two substantial pillars of Karelian economy emerged in the 1990s and 2000s. These industries revolve around timber (timber extraction, pulp and paper industry, logging industry, etc.) and ferrous metallurgy. The pulp and timber production industry rose considerably and served as a main source of revenue for the regional economy in the 1990s and 2000s.[14] Finland provided a growing market for timber. The inability of the state to control the economic sphere allowed timber industry producers to exist in the "grey zones" in the 1990s.[15] Moreover, "black producers" manufactured timber that illegally appeared on the market. Therefore, from the beginning of 1990s and onwards the wood processing industry became major in Karelia.[16]

Ferrous metallurgy of the region in the 1990s was taken over by the federal company Severstal owned by an oligarch, Alexei Mordashov. The revenues increased 6.5 times from 2004 to 2008 on markets in the EU as well as other Russian regions. Plant production rose in the 2000s and in 2010 constituted 32% of regional output (Fig. 8.2).[17]

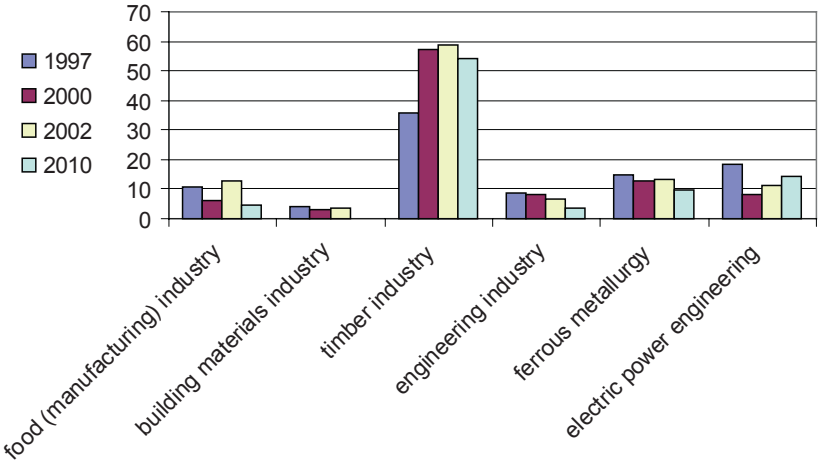

Fig. 8.2 Structure of the regional economy of Republic of Karelia, 1997–2002. Graph based on: *On the strategy of socio-economic development of Republic of Karelia to the year 2020*

After the collapse of the USSR, the Republic of Karelia took active political steps to improve the opportunities of defining the rules of the game in the new state. The regional governor, Victor Stepanov, leader of the Communist Party in Karelia during the Perestroika, had considerable political experience. Stepanov used the political situation—with emerging new governance structures and the windows of opportunity wide open—to promote the importance of Karelia for Moscow, the federal centre. To fulfil his agenda, he used a twofold strategy. Firstly, he used his deputy mandate in the Supreme Council for the Karelian agenda to strengthen the position of the Republic on the federal level. For instance, he proposed that Petrozavodsk be a meeting place for the Constitutional Council, which had to elaborate the draft of the Constitution.[18] Along with the other regional governors of Russia, Stepanov initiated negotiations with the federal centre on the Constitution to attain resources and political power. His other strategy was to allow the more radical of Karelian indigenous groups to give their agenda for secession with Finland to the federal press, so that Stepanov would seem a moderate reformer to the eyes of the federal political elite. Ethnic policy in Karelia is considered by officials to be insufficient; no indigenous language has

any official status, the rights of ethnic minorities are not well supported by the region, and ethnic activism is not strong even in the "national" districts.

Another important aspect of Stepanov's political activities was the enlargement of partnership projects with Finland. He successfully lobbied for establishing the new Russian-Finnish border crossing points and a reduction of military zones (where no cross-border contact was possible) near the border.[19] His other political move was the opening of the office of Russian Ministry of Foreign Affairs in Petrozavodsk, which made it easier for local residents to access neighbouring Finnish regions. Stepanov established the attractiveness of the Department for Investments within the Karelian government, with the main goal of attracting foreign companies, mainly Finnish, to the region and of conceptualizing a regional economic strategy to neighbouring countries.[20] Another step towards the institutionalization of the collaboration with Finnish counterparts was the proposal of sending representatives of the Russian North-West to the Russian embassy in Helsinki. In Stepanov's view, such a regional voice could help to ease contacts and serve as a direct mediator between the Finnish authorities and the Russian regions concerned. However, this proposal was declined by the Russian Ministry of Foreign Affairs.

Stepanov envisioned a future for Karelia enabled by signing bilateral agreements with Moscow, which could provide broader opportunities in political and economic spheres and intensify contacts with Finland as a source of revenue and know-how.[21] However, changes in the centre–regions relations, like the new Russian constitution adopted on the 1993 referendum and coercive strategies towards Chechnya, greatly reduced Stepanov's ambition to heighten the role of the Republic.

We argue that the abovementioned extension of ties to Finland was seen by the regional governance as an important source of constituency support. The partnership helped to achieve "strategic goals" of regional cooperation and carry out projects in the social sphere, which were designed to improve the hardships of everyday life in the transitional period for the majority of the Karelian population. Between 1994 and 1997 there were about 250 large-scale projects financed in the framework of BEAR and other Nordic and European framework programmes.[22]

In 1998, Stepanov had lost the election to the mayor of Petrozavodsk, Sergey Katanandov. According to expert interviews, this happened due

to lack of control over the timber production industry: by 1998, it had become one of the important sources of regional revenue.[23] Thus, controlling resources seemed to be crucial for winning the elections in the Republic. A possible explanation for such outcome is that Stepanov promoted the autonomy agenda but failed in his attempts, which left the Karelian elites with fewer resources.

Katanandov, being the mayor of Petrozavodsk from 1990 till 1998, had prioritized sister-city contacts to foreign cities since the Soviet times. In the late days of the Soviet Union, Petrozavodsk championed this process; priority, however, was given to the Nordic cities. The policy of widening the contacts with Karelian neighbouring regions was further developed. Timber production remained one of the major issues of cooperation in the economic sphere, supplemented by numerous projects carried out with Finland and Sweden (mainly Västerbotten province) in the social sphere (orphan housing support and providing the population with food and clothes).[24]

Changes in the centre–regions relations in the beginning of 2000s, i.e. the "strengthening of the vertical of power", met with no considerable objection among regional elites. Karelia was no exception. The Karelian elites followed the line of Kremlin's policy, and this had implications for the cross-border cooperation. According to expert interviews, the cross-border cooperation and growth of contacts with Finland had been reduced in the 2000s, showing the lack of political motivation to extend existing contacts. The local experts on Karelian politics and NGOs share the view that the Karelian political elite had lesser incentives to broaden cooperation in the early 2000s, compared to the early 1990s, since the federal centre under President Putin provided little room for action in this sphere. However, another explanation of the reduction of cooperation is possible. Nomination of governors by the centre, instead of direct election by the population, gave the Karelian elites a great stimulus to stay loyal to the centre. According to a Karelian government official, it made no sense for the mayor of the region to participate in the cross-border cooperation meetings, since the payoff was small. At the same time, dealing with the federal centre could have been more beneficial in terms of financial resources received by the regional budget from the centre.[25]

We will illustrate the partnership with the case of Kostomuksha. This town was built in the 1970s, about 30 km from the Soviet–Finnish border, to develop newly discovered ore deposits. The iron ore processing

plant was built by Finnish contractors to comply with both Soviet and Finnish environmental standards—one of the first examples of environmental awareness in the Soviet Union. Parts of the town itself was also built by the Finns. As of 2017, the town was home to about 29,500 citizens, mostly Russians and Ukrainians resettled in the 1980s from other mining regions of the Soviet Union; about 4000 were employed by the plant. The "Karelskiy Okatysh" plant ("Karelian pellet") is part of the large-scale federal company "Severstal group", the leading player on the Russian steel and mining market. The group owns several large enterprises based in the northern regions of European Russia such as Vologda, Murmansk and Leningrad Oblasts and the Republics of Karelia and Komi. The Kostomuksha plant exports its production abroad, including Finland. Many other Nordic industrial companies operate in the town as well.

Alongside Soviet legacies in the economic sphere there are legacies in the social sphere. One is the so-called Society of Finnish–Russian friendship. It has existed since the beginning of town construction in the area. The society organized for example cultural events, mutual visits, and teaching Finnish in the town schools. It was most active at the turn of the century when cultural events organized by the Society took place every two weeks, but during recent years these activities have decreased. Exchange on behalf of the citizens improved as visiting became easier. Citizens of Kostomuksha use the opportunity to buy food and clothes at lower prices in the nearest town of Kuhmo, or to visit other EU countries via the Helsinki Airport. Vice versa, Finns visit Kostomuksha because of the lower price of spirits, cigarettes and petrol. Cross-border marriages have also been an important aspect of exchange and integration, primarily in the 1990s. Learning the language of the other side of the border has helped to establish friendly relations on the individual and family levels.

Environmental cooperation has also been developed in post-Soviet times. The main environmental problem of the district is the local mining plant that emits hazardous substances. The emission is monitored jointly by both Russia and Finland, and the filters that are used in the plant chimneys are repaired or replaced with joint funding. Deforestation has become a matter of bilateral concern as many forests were cut down during 1990s. There are a number of efforts to revive the forests, and several natural reserves were created along the Finnish border, some of them part of cross-border collaboration.

The intense contacts have left numerous important traces for the further collaboration: the Karelian governance shares the view that the Finnish regions are the Karelian partners on the European Union, in the political, non-governmental and grass-roots levels alike. Though decreased and stripped of romance, the Karelian cooperation with the Nordic countries persists.

Murmansk Oblast

The resource base of Murmansk Oblast was a great asset to the Soviet Union. However, the dissolution of the Union brought many discrepancies to the region, as governing the extraction activities in the free market proved to be tricky.

After the fall of the Soviet Union, the Murmansk regional economy remained strongly oriented towards resource extraction. The base of the economy has developed around the so-called Kola mining complex, consisting of mining (ore extraction), nonferrous metallurgy, fertilizer production and sulphuric acid production.[26] These enterprises saw a structural crisis in the late 1990s. The birthmark of Soviet planned economy was building cities around enterprises and the Murmansk Oblast is a case in point. Due to a highly controversial process of privatization, the former Soviet giants in Murmansk were taken over by the big firms on the federal level run by Russian entrepreneurs later known as oligarchs, such as "Interros" of Vladimir Potanin, "Yukos" of Mikhail Khodorkovsky, "Renova" of Viktor Vekselberg, and "Severstal" of Aleksey Mordashov.[27]

The distribution of power between regional and federal actors in Murmansk Oblast varies from industry to industry, which can be clearly seen when comparing nonferrous metallurgy, the fishing industry and the marine. Nonferrous metallurgy and its substantial branch—electric power engineering—together constituted more than 50% of the regional GDP in the mid-2000s. The importance of federal companies for the regional economy was thus significant. On the one hand, the federal management never meddled in the Murmansk political elite's struggle directly. On the other hand, federal management has always been interested in a strong regional governor to secure smooth economic processes and to evade disputes over property rights. In Soviet times, an important part of regional economy was the fishing industry. However, its role in the post-Soviet era has been reduced due to high taxes and customs

duties, which belongs to the federal sphere of legislation. During the 1990s, this had been a source of dispute between federal and regional authorities over taxes and custom regulations. The fishing industry has been declining throughout the 1990s and 2000s.[28] Another considerable source of the regional budget was the marine and the Northern Fleet. However, in the 1990s numerous financial issues and the non-payment of salaries to the servicemen, as well as debts of the Russian Ministry of Defence for goods and services delivered to the Northern Fleet, made this source of income less significant compared to Soviet times.[29] Changes in regional economic structure are summarized in the graph (see Fig. 8.3).

Compared to Karelia, Murmansk Oblast has had a different path of governance development. To have capacities that normally are related to a sovereign state were of great importance for the region and its governance. In parallel, the region has seen a massive depopulation for many years. During the Perestroika, the proportion of pro-reformist, pro-democratic voters was high in Murmansk Oblast owing to the comparatively high level of education and large urban population.[30]

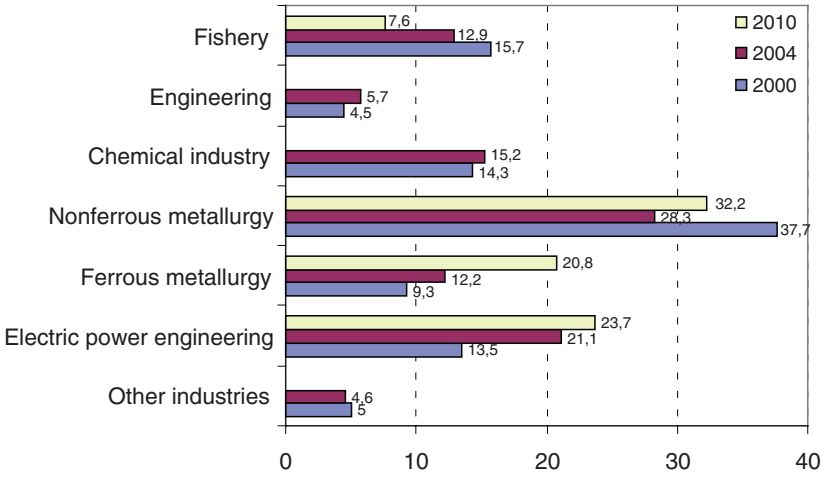

Fig. 8.3 Structure of the regional economy of Murmansk Oblast, 2000–2010. Graph based on: *Strategy of socio-economic development of Murmansk Oblast to the year 2020* (https://minec.gov-murman.ru/activities/strat_plan/sub02/. Accessed 4 February 2018)

Most of the Murmansk representatives in the Soviet, the Chamber of Soviet Parliament, became deputy members of the pro-reformist platform during the Perestroika. Boris Yeltsin, possibly influenced by this, appointed a representative of this democratic platform, Evgeni Komarov, as the governor of the Murmansk Oblast.

Compared to Stepanov of Karelia, the Murmansk Oblast governor, Komarov, was far more moderate in his struggle to enlarge the region's rights in the new statehood. Building on expert interviews and media coverage of the regional events of that period, we argue that Komarov's primary concern was the stabilization of governance in the region and setting up an agenda in the economic sphere. Deep economic recession, limiting Moscow's capacities of providing Murmansk Oblast with financial resources, and the absence of clear cut rules of budgeting and taxation left little space for Komarov to act accordingly to the formal rules. This was aggravated by his position as "an alien" to the managers of the Murmansk enterprises, the backbone of the regional economy. Moreover, the Russian economic reforms and privatization gave the managers of ex-Soviet enterprises far more room for autonomy. The "loan for shares program" of 1995, which allowed for the privatization of certain "strategic enterprises" of the extraction industry, gave way to the big companies on the federal scale. To sum up, Komarov could not provide the local dwellers with vital resources in the period of recession, nor could he maintain control over the competing elite groups.

Therefore, we may speak about *competing centres of power* as a main governance feature of the region in the given period. This is in correspondence with the political scientist Anna Tarasenko's argument that the given political situation in the beginning of the 1990s in the Murmansk Oblast contributed opportunities for various voices to be represented. She claims that Murmansk NGOs in the 1990s had access to expertise on regional laws on social policies, contributing to the inclusion of the interests of various social groups in law drafts.[31] Similarly, Anton Shirikov traces the source of adopted law initiatives as an indicator of the level of autonomy of the regional assembly from the governor. Shirikov argues that the larger the diversity of sources for these initiatives (proposed by governor, regional assembly and other bodies), the broader the regional autonomy is.

The democratic elections of 1996 brought about a shift from the competing centres of power to the consolidation of power, as Komarov was replaced by Yuri Evdokimov, the former manager of a Soviet

enterprise and a speaker in the regional legislative assembly. Evdokimov took a new course for consolidation of power in his hands, taking full control over decision-making. In keeping with Shirikov's analysis, a decrease in the participation of other bodies followed. Tarasenko notes that in Murmansk, the law on Murmansk Civic Chamber that reduced the role of the NGOs in laws elaboration was only changed in 2003, i.e. seven years after Evdokimov's election as the regional governor and his attempts to consolidate the political regime. Therefore, the role of NGOs, i.e. voices of different society groups, has been reduced to the legitimization of political decisions taken by the governor.[32]

Murmansk governance trajectories not only shaped internal governance structures but had its ramifications for cross-border cooperation. The key issues in the beginning 1990s lay in the field of environmental cooperation. The great concern of Norwegians was air pollution by the ore extracting enterprises. Norwegian NGOs were actively claiming the closure of enterprises in Nikel and Zapolyarny, located some kilometres from the Russian–Norwegian border, due to its excessive generation of pollutant substances and subsequent threat to the entire Northern Europe.[33] Murmansk Oblast was given economic support from the Nordic countries (mostly Norwegian funds) to establish up-to-date cleaning facilities and to train personnel.[34] The Murmansk regional governance, marked by competing centres of power, welcomed financial assistance and tolerated technical support of the Nordic countries in establishing the NGO structures. Federal authorities performed a more controversial approach. On the one hand, Russian President Boris Yeltsin and Minister of Foreign Affairs Andrei Kozyrev stressed the importance of cross-border cooperation for the democratic development of Russia and its regions in public speeches. On the other hand, the strategic position of Murmansk Oblast as the main naval base of the Northern Fleet was a source of concern and suspicion for the federal centre towards Northern European countries.

Cross-border cooperation in the economic sphere between the neighbouring regions of Norway and Murmansk peaked in the 1990s. During his first term in office (1996–2000), and partly during the second one (2000–2003), Evdokimov took people's mandate to broaden cooperation to the countries of Europe.[35] The governor actively widened regional contacts with Norway and Finland in numerous bilateral meetings in the BEAR framework. He initiated projects on environmental cooperation and supported initiatives for radioactive hazards prevention.

He tried to attract investors from the countries of Northern Europe, initiating visits of companies to the region. Evdokimov was also active elsewhere. He tried to promote a regional agenda in every field that had a connection to Murmansk: The Northern Sea Route, the Transregional highway, the Shtokman gas deposit, the fishing industry, etc. However, after 2003 the number of foreign meetings declined, giving priority to federal activities.

The changes of Putin's presidency relating to foreign policy influenced the regional level and cross-border cooperation. According to interviews with representatives of regional NGOs, in the beginning of the 2000s it became difficult for the employees of the federal institutions in the region, and later for regional NGOs, to cooperate and to maintain contacts with Northern European NGOs. Internal regulations of federal ministries issued in the beginning of the 2000s provided less room for communication between their regional representatives in Murmansk and Norwegian and Finnish colleagues. The scope of various projects in environmental protection and culture was reduced to a few projects devoted to nature protection activities on the border and youth exchanges, as interviewed NGO experts say.

Due to a political dispute with Moscow in 2008, Evdokimov was forced to step down from his office. The key element of the dispute was Evdokimov's support for a popular candidate in a Murmansk mayoral election. However, this candidate was not approved by the federal centre, which supported an alternative politician. The departure of this powerful actor left a power vacuum. There were no strong actors among the Murmansk political elite to carry on the projects initiated by Evdokimov. Governor Dmitry Dmitrienko, appointed by President Medvedev in 2009, being an outsider to the regional political elite, left his post before the end of the term. The consolidation of power in Evdokimov's hands left no room for NGOs to maintain their agenda. In the interviews, Murmansk NGOs representatives share the view that the future of the BEAR cooperation lies in the hands of the federal centre. Among regional government officials there is a consensus that the policies set up by former governor Evdokimov needed to be continued. The perspectives for the Arctic future are bound to the trust between the Russian regions and the Nordic countries.

The case of the Pechenga district can serve as an illustration. Situated on the northwest the Murmansk Oblast, it has common borders with both Finland and Norway. The district's main settlements are Nikel and

Zapolyarny, located near the Russian–Norwegian border. These towns contain two high-capacity metal plants that process non-ferrous metals, mainly nickel and copper. The town of Nikel was built in the first half of the twentieth century, and Zapolyarny, the largest settlement in the district, was built in the 1960s when new ore deposits were discovered. Both plants are now in fact a joint mining complex "Kolskaya GMK" owned by the Norilsk Nickel group.

Cross-border turnover in terms of ore is not substantial as the plants' industrial output is for the most part transported to other Russian regions. The cross-border trade in non-mining areas is limited to the fish-processing factory in Liinakhamari. Hydroelectric power plants located in the district are used jointly by Russian, Finnish and Norwegian consumers. The Pechenga district is the only Russian municipality that has a land border with Norway, and the only road from Murmansk to Norway. The goods transported through the district are quite intensive.

The nearby Norwegian municipality of Sør-Varanger has been cooperating with the Pechenga district in the cultural field, a tradition established before 1991 and persisting even after the 2014–2016 political estrangement between Russia and the West. The local administration of the Pechenga district encouraged the creation of cross-border organizations in the early 2000s, and several ones were created, but due to bureaucratic problems all of them had to close. There are also many opportunities to learn Norwegian in the district, and Norwegian literature is easily accessible in every library.

However, life in Nikel and Zapolyarny depends on the existence of the mining plants, and therefore on the natural resources. One of the most frequently repeated local narratives is about "the closure of the town." The extractable resources can come to an end, and it means the end for the town. The expert knowledge about this moment is hidden from ordinary citizens, and that is why their views on their own futures are unclear, as one can see in the local discourse:

> We can't make plans for the distant future. That's the peculiarity of our town: we depend on the plant, if it dies, the town will die too. But no one tells us for how long the plant will operate. My husband works there as the department head, and even he knows nothing, only the rumours — and these were the same twenty years ago: that we've run out of ore and the plant is closing. But the other day they say that a new deposit had been discovered and we continue working. And the atmosphere is nervous for

> that, some can't bear it and go away, and we, as you see, are still here. (48 year old female official, Nikel)[36]

But there is division between the near future and the distant one. It seems that all the opinions expressed are not far-extending; the grassroots interest is mainly with the present and the immediate future. The views on the distant future are more vague and undecided:

> I know nothing about what will be in the future. They always say different things: we are closing the plant, we aren't closing the plant; and we become used to think only about the daily requests. Of course, children think otherwise, but it's their own life, they have to plan; we, the elders, don't make plans, it's none of our business. (48 year old female teacher, Zapolyarny)[37]

Perceptions of the future tend to correlate with the industrial profile of the city and are a strong marker of local identity. The views on the future in Pechenga are somewhat more apocalyptic because of the absence of other industrial activities in the region. In Kostomuksha, where the industry is more diversified, the perceptions are more optimistic, but citizens often compare the city to other Karelian towns that have suffered economic collapse after the plant bankruptcy. Both regions (Kostomuksha and Pechenga) experience massive emigration to big cities.

Citizens link their futures to resources and their extraction, but there are also other possibilities and variations in the narratives. The grassroots level voices seem to be more concerned with the present than the future (according to our interviews) and therefore more interested in everyday activities, including international cooperation. The evolution of the post-Soviet cross-border cooperation in these regions seems to follow three stages that correspond with the economic development of post-Soviet Russia: the period of booming cooperation (1991–1998), the period of scepticism and the reduction of the cooperation (1998–ca. 2005), and the period of stable mutual contacts (2005 to this day). This group of informants depends on the actions of the government and is therefore quite pessimistic about the future, remembering the economic collapse of 1998. The voices of people working at the plants are relatively well-to-do, but nevertheless pessimistic about their future because of instability of their working position (it depends on the policy of the

plant and the resources) and—to a lesser extent—because of the environmental situation. The voices of plant officials present a picture of successful activity and a development of the regional economy based on international cooperation. It is unclear how real these scenarios are; there is desire to construct a bright future, and this desire can be implemented. Finally, the voices of the local government are, like the previous group, unwilling to comment on the future. One reason for that can be the weakness of local authorities compared to industrial players.

Conclusion

The governance structure influences the path of cooperation and thus forms the future of the Arctic. The Republic of Karelia experienced a split in the political elite throughout the 1990s, and the regional economy in its crucial sector was oriented towards Finland. These factors created a pattern of cooperation, which allowed multiple projects within the BEAR framework to come into existence. Though diminished, cross-border cooperation projects continue, and Karelian regional NGOs continue to cooperate with their counterparts along the border. Karelian actors' vision for the Arctic futures are signs of hope for the enlargement of regional cooperation.

The Murmansk pattern of governance—a strong and powerful governor, along with significant ties between the regional economy and large federal companies—has not created any powerful actors in the region able to bring the agenda of regional cooperation further. Instead the Murmansk Oblast actors consider their place in the Arctic futures to be bound to the will of the federal centre.

The study suggests that an extensive sustainable network of cross-border cooperation was developed during the past two decades. It included grass-roots economic relations and resource and environmental cooperation. These fields affect different kinds of actors, and hence the cooperation is expressed in a multitude of voices ranging from ordinary people to local government and plant officials. Resources and environmental cooperation, though differently, have played an important role in the transformation of the local economies during the transitional period of 1990–2000s. The projects under the banner of the Barents Euro-Arctic Region helped to ease the cooperation at its initial stage. The cross-border cooperation was performed without a potent ideological framework, but it still penetrates many fields of regional economy; the

possible change of attitudes due to such cooperation can be considered as the formation of a Barents regional identity. The main aspects of the emergent identity are the resources and the environmental issues that are combined with the borderland narrative, and those aspects result in a new form of regional discourse based on economic cooperation.

Experience of common projects, contacts between neighbouring regions and common environmental issues create continuity. The vision of the Russian regions has its place in the competing futures of the Arctic.

Notes

1. Shirikov, *Anatomiia bezdeistviia*; Croissant and Merkel, "Formale und informale Institutionen in defekten Demokratien."
2. *The Kirkenes Declaration*.
3. See the Region's official webpage. Accessed 4 February 2018, http://www.barentscooperation.org/en/About/Barents-region.
4. Hønneland, "Identity Formation."
5. Leontyev, *Kostomuksha*; Katajala, "Cross-Border Trade in Karelia."
6. Bulatov and Shalyov, *Barentsev Evro-Arkticheskiy region i Arkangelskaia oblast*.
7. Avango, Nilsson, and Roberts, "Assessing Arctic Futures."
8. Gel'man and Ryzhenkov, *Local'nye Rezhimy*; Shirikov, *Anatomiia bezdeistviia*, 27–28.
9. Gel'man and Ryzhenkov, *Local'nye Rezhimy*.
10. Young, *Creating Regimes*, 15–16.
11. Krasner, *International Regimes*.
12. McAnulla, "Structure and Agency."
13. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," 433.
14. Butkevich, "Uvelichenie finskikh investitsiy v derevoobrabotku Rossii; Kurilo, Nemkovich, and Senyushkin," *Sotsial'no-ekonomicheskie preobrazovaniya v Respublike Kareliya*.
15. Aho, "Ostorozhnost' finnov obyasnima," 9; Kauppila, "K sozhaleniyu, politika i ekonomika v odnoy svyazke."
16. Boldinyuk, "Finlyandiya raspakhivaet dlya nas vorota"; Deryabin, "Finlyandiya nastorozhenno otnositsya k investirovaniyu i ne speshit oblegchit' vizovyy rezhim"; Shlyamin, "Severnoe izmerenie."
17. *On the Strategy of Socio-Economic Development of Republic of Karelia to the Year 2020*.
18. Todres, "Murmanskie khodoki pravdy v Moskve ne nashli i groziat otvetit' zabastovkoi"; Portnikov, "We Are Already Late with Union Treaty," gives examples of the popular opinion.

19. Valtasaari, "Vzaimodeystvie v sopredel'nykh regionakh."
20. Shlyamin, "Vzglyad iz Karelii na vneshneekonomicheskie problemy Severo-Zapada."
21. Todres, *Murmanskie khodoki*.
22. *K Kontseptsii sotsial'no-ekonomicheskogo razvitiya Respubliki Kareliya na 1998–2001 gg*.
23. *K Kontsepsii*.
24. *K Kontsepsii*.
25. As stated by Karelian government officials in numerous expert interviews.
26. *Strategiya sotsial'no-ekonomicheskogo razvitiya Murmanskoy oblasti do 2025 goda*.
27. Shleifer and Treisman, *Without a Map*.
28. *Strategiya* 2010; Jørgensen, "Recent Developments in the Russian Fisheries Sector," 89–90.
29. Sudakov, "Murmansk Regional Digest."
30. Sudakov, "Murmansk Regional Digest."
31. Tarasenko, *Prichiny vozniknoveniya konsul'tativnykh organov v regionakh Rossii*.
32. Tarasenko, *Prichiny*.
33. *Nezavisimaya Gazeta*, a Russian federal newspaper, had several entries of this during 1992.
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35. As stated by Murmansk government officials during research interviews and in public presentations.
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CHAPTER 9

The Telecoupled Arctic: Assessing Stakeholder Narratives of Non-Arctic States

Eric Paglia

Introduction

Historians assert that the development of the circumpolar North has long been largely determined in national capitals far to the south of what is commonly considered the Arctic.[1] A further displacement of Arctic agency is currently underway, with significant decisions influencing the future of the Arctic being taken in the capitals and corporate boardrooms of Asia and continental Europe. This reflects what Oran Young calls the second Arctic state change,[2] characterized by greatly heightened interest in the region by non-Arctic states and other actors drawn by perceived opportunities presented by the impacts of climate change on the Arctic's physical geography and the continued expansion of globalization.[3]

In this new geopolitical context, the notion of the Arctic as a geographically defined and delimited region, with distinct northern stakeholders enjoying exclusive agency in producing Arctic futures, is in flux.

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Keskitalo contends that conceptions of the Arctic are historically contingent constructs.[4] She employs insights from region-building discourse to explain how towards the end of the Cold War the Arctic became constructed, for strategic and political purposes, as an eight-state international region embodied by the Arctic Council. "The way in which a region develops is not a given," according to Keskitalo, "but a choice made on specific historical and political grounds."[5] Contemporary examples of contingent Arctic boundaries can be found in the Arctic strategies of Sweden and the Faroe Islands,[6] which privilege political definitions over other conceptions based on geographic features such as degrees of latitude, tree lines or the presence of permafrost.

Favouring social, political and historical aspects is analogous to a perspective on regions put forward by historian Fernand Braudel, who challenged the common assumption that regions are primarily geographic conceptions. In *The Mediterranean and The Mediterranean World in the Age of Philip II*, Braudel evoked a Greater Mediterranean, even a "global Mediterranean" that defied the conventional boundaries proposed by geographers, geologists and others. The Mediterranean region, he suggested, was not primarily defined by its natural features but by the tides of human history. The Greater Mediterranean, he argued, expanded and contracted over time, depending on its exchanges with the wider world. "The Mediterranean (and the accompanying Greater Mediterranean) is as man has made it. The wheel of human fortune has determined the destiny of the sea, expanding or contracting its area," according to Braudel.[7]

This view that regions expand and contract over time can be applied to the contemporary Arctic and its multiplying connections to lower latitudes. Like Braudel's Mediterranean, the Arctic's ostensibly newfound potential to become a future hub of transregional human activity has been noted by a number of observers, some of whom have evoked an Arctic or Polar Mediterranean. This is in fact an almost century-old analogy that, after lying dormant for several decades, has risen to new prominence.[8] It originated as a means of promoting a preferred Arctic future where the circumpolar north occupied a central position in human affairs. In *The Friendly Arctic* and *The Northern Course of Empire*, and contributions to mainstream publications such National Geographic, the New York Times and Life magazine, the Icelandic–Canadian–American Arctic explorer and anthropologist Vilhjalmur Stefansson expounded upon the centrality of the "polar Mediterranean" or "Great Northern

Mediterranean," situated between three continents and strategically positioned for commercial exploitation.[9]

Stefansson further prophesized that the future of intercontinental aviation would move towards the north, and make the Arctic a node of modern communication. Although aviation did indeed come to make extensive use of Arctic airspace, the persistent presence of sea ice has relegated the Arctic to the periphery of human affairs, remaining an object of exploration, scientific investigation, military manoeuvring and regional exploitation by littoral states and historic maritime powers of northern Europe. Thus, despite heroic voyages by Adolf Erik Nordenskiöld (1878–1880) and Roald Amundsen (1903–1906), neither the Northeast nor the Northwest Passage have become the corridors of global exchange imagined by Stefansson, and the Arctic Ocean has until recently attracted only moderate attention from extra-regional actors.

The fact that Stefansson's Mediterranean–Arctic analogy has resurfaced is largely due to changing geophysical and geopolitical conditions in the Arctic.[10] The profound transition in Arctic maritime geography due to declining sea ice coverage has rekindled interest in inter-oceanic shipping routes and the expanded exploitation of natural resources. Together with increased scientific concern over planetary impacts of rapid Arctic environmental change, these developments have motivated a widening array of non-Arctic states to profess a political, economic and environmental stake in the future of this newly dynamic region.

For earlier generations of Artic actors, Asia exerted a power of attraction. From the sixteenth century onward, European powers and commercial interests sought to establish trade routes to Asia and the Pacific Ocean via the Arctic. Today, major Asian states have themselves undertaken significant Arctic programmes of science, technology and diplomacy to expand their links to the region and establish themselves as legitimate stakeholders with a degree of influence over its future development. The Arctic pull of Asia has thus largely become a push from countries of the Pacific Rim, reflecting changes in economic and political geographies and globalization more generally. At the same time, European states with long Arctic histories are reasserting their stake in the north. Hence a new Arctic stakeholder geography is emerging, one that challenges and potentially expands our perception of regional boundaries. This conceptual extension of the Arctic and its stakeholders is exemplified by the 2013 addition of six observer states to the Arctic Council, institutionally linking the Arctic to much of the western Pacific

littoral, the Indian Ocean and the heart of the Mediterranean Sea.[11] The re-conception of the region as area of global concern, which these and other states advance to promote their stakeholder claims, effectively alters political and popular perceptions of the Arctic.

Purpose and Methods

If the history and destiny of the Arctic is, like the Mediterranean, not simply a matter of geographical markers but "as man has made it," what elements constitute a region that extends beyond the boundaries of the Arctic Ocean and its littoral territories? This chapter's purpose is to explore how the boundaries of an Arctic in transition are being reconceived by external states that today claim a stake in the region's future. This suggests an expanded Arctic perceived through a lens of human connections across space, as opposed to a region bounded by fixed geographical traits. These linkages are often elaborated in environmental terms, yet are embedded in political stakeholder narratives intended to expand conceptions of the Arctic.

One example of environmental linkages between the Arctic and lower latitudes is the climatological concept of teleconnection. India for instance alludes to "the hypothesized teleconnections between the Arctic climate and the Indian monsoon,"[12] and Indian scientists are stationed on Svalbard to research such links. Due to its key role in the functioning of the climate system, the Arctic is thought to have a strong effect on weather patterns across Eurasia through teleconnections,[13] understood as interlinked atmospheric phenomena across distant space. A US National Research Council report defines teleconnections as "linkages between weather or climate changes occurring in widely separated regions of the globe." The report further states, "what happens in the Arctic doesn't stay in the Arctic," noting that the rapidly warming Arctic impacts atmospheric and oceanic circulation and drives sea level rise, affecting human populations and ecosystems not only in northern latitudes but also globally.[14]

Recent interdisciplinary scholarship has combined the teleconnections concept with the study of globalization processes to produce a framework for analysing interlinked socioeconomic and environmental interactions between distant locations.[15] The integrated concept of "telecoupling" entails identifying multiple and intertwined causes and effects, as well as the flows, feedbacks and networks, within and between human

and natural systems across long-distance spatial expanses. Telecoupling provides a useful lens for assessing and surveying the range of environmental and social connections mobilized in stakeholder narratives that underpin a reimagined and expanded Arctic. Examples of telecouplings employed for evoking globally inclusive Arctic futures include the development of shipping routes connecting southern ports to Arctic waterways (including cartographical depictions of such connections); infrastructure investment programs enabling non-Arctic states to operate in ice-infested environments; diplomatic initiatives aimed at enhancing political ties with Arctic areas like Greenland and Iceland; scientific expeditions to the Arctic Ocean aboard icebreakers, and the circulation of non-Arctic state scientists between their home countries and terrestrial research stations in the High North. These and a range of other flows and interactions increasingly shape perceptions of the Arctic as a "human unit" (Braudel) rather than a purely geographic region. Hence telecouplings serve as discursive resources that substantiate and support Arctic stakeholder narratives of distant states. The array of inter-latitudinal linkages—the social and environmental telecouplings—constitutes the sinews of an extended Arctic reconceived as a global region that encompasses stakeholders beyond the circumpolar North.

In analysing the two Arctic state changes since the Cold War, Young differentiates between linking changes and delinking changes.[16] The latter are characteristic of the first state change, when the Arctic became more inward looking, institutions for multilateral cooperation took shape, and a regional identity was constructed. This effectively delinked the Arctic from external processes, and outside actors consequently showed marginal interest in the region. Linking changes characterize the second state change since circa 2005, when the Arctic has become increasingly globalized and enticing to non-Arctic states, which have taken a series of initiatives to construct stakeholder identities. Through these efforts and by articulating the associated telecouplings between their territories and the Arctic, extra-regional states have sought the legitimacy and voice in Arctic affairs conferred to Arctic Council observer states.

The building blocks of this analysis are thus these telecouplings—the legitimizing activities, environmental connections and social interaction—mobilized in the narratives and ongoing efforts for recognition by an expanding array of would-be Arctic stakeholders. These are herein referred to as legitimizers, as they have been articulated for the purpose

of promoting the public perception and official recognition of non-Arctic states as legitimate actors within the realm of Arctic governance. The actors under analysis are non-Arctic states granted observer status to the Arctic Council, whose collective efforts are shifting previous understandings of the Arctic from a region characterized by Northern geography to one of far wider global scope. Legitimizers employed by non-Arctic states sometimes resemble the efforts and elaborations of earlier Arctic actors to assert sovereignty. Parallels will thus be drawn to situate contemporary stakeholder assertions within a longer history of political performance in the Arctic.

The mapping of legitimizers and analysis of stakeholder narratives was carried out though close examination of documents submitted to the Arctic Council, primarily responses to questionnaires issued by the Danish and Swedish chairmanships in 2010 and 2013, respectively.[17] These confidential documents were accessed with the assistance of the foreign ministries of China, Germany, Italy, Japan, the Netherlands, Poland, South Korea, Spain and the UK. To supplement this material and to assess the stakeholder narratives of countries whose questionnaire responses were not made available (i.e. France,[18] India and Singapore), official statements and public presentations at Arctic Council events and major international Arctic for a served as additional primary sources. The legitimizers gleaned from this empirical material are grouped into four broad and overlapping categories: Geography; Science, Environment, Technology and Expertise; Commerce; and History. These categories serve to map legitimizers and provide a lens for assessing commonalities and differences within and between European and Asian observer states.

A brief overview of the Arctic Council and its relationship with non-Arctic states is provided below before proceeding with the empirical mapping of legitimizers. The discussion section analyses similarities and differences in stakeholder narratives within and among the geographical groupings of observer states. This includes identifying analogues to practices of earlier actors that asserted state interest in the Arctic. The chapter concludes by considering the influence of legitimizers in fostering, from Braudel's perspective on the historical contingency of regional boundaries, a re-conception of the Arctic as a telecoupled global region based on social and environmental factors not limited to physical geography.

Arctic Council as Regional Gatekeeper

As the institutional embodiment of the Arctic, the Arctic Council conveys legitimacy to those it accepts as observers. States granted observer status at the 2013 ministerial meeting in Kiruna, Sweden undertook a range of activities to establish and communicate their stake in the Arctic. The observer application period and process therefore provides an opportunity to analyse empirically how non-Arctic states construct stakeholder status. The cases they make to bolster perceptions of legitimacy, despite their lack of geographic proximity and in some cases short history of Arctic activity, can serve as indicators of what the sinews and future boundaries of a conceptualized greater or global Arctic might comprise.

The Arctic Council's gatekeeper role shapes contemporary understandings and articulations of what is "Arctic." States seeking observer status can be expected to formulate their case for inclusion based on the activities, institutions and organizational structure of the Arctic Council, including the 2011 "Nuuk criteria."[19] This strongly favours the practice of science, concern for the environment and the promotion of sustainable development. The landmark 2004 Arctic Climate Impact Assessment centralized the Arctic within global climate discourse and greatly heightened international awareness of both topics. Furthermore, the prominent position of the Permanent Participants within the Council also pronounces the Arctic to be a place of indigenous peoples and practices.

From 2006, a series of Asian states applied for observer status, including China, South Korea, Japan, Singapore and India. All were ultimately admitted, along with Italy, at the 2013 Kiruna ministerial. This 2006–2013 period provides the temporal context for assessing the articulations and activities conducted by non-Arctic states seeking observer status. Prior to Kiruna, six European states held permanent observer status: France, Germany, the Netherlands, Poland, Spain and the UK.[20] These states have long traditions of Arctic science, commerce and exploration. Their stakeholder narratives should be expected to differ somewhat from the newer observers. To provide additional nuance and offer a comparative perspective, this analysis of legitimizers and stakeholder narratives is divided into two categories consisting of (7) European and (5) Asian states.

Analysis of Legitimizers

Asian States

Geography

China has since 2012 described itself as a "near-Arctic state." In elaborating this overarching narrative for China's legitimacy in Arctic affairs, senior officials note that Chinese territory reaches almost 50°North. "As a 'near-Arctic state', China is significantly influenced by the natural changes and economic development in the Arctic region in terms of its climate, agricultural production, shipping, trade, social and economic development etc.," according to Ambassador Zhao Jun.[21] Arctic shipping routes could, for example, alter China's internal economic geography, shifting manufacturing and port facilities north-eastwards.

Other Asian states refer their seafaring orientation, and reliance upon shipping routes for exports of manufactured goods and vital imports of energy and other resources. Japan, Singapore and (de facto) South Korea are island states, physically and metaphorically linking them northwards to the mostly maritime domain of the Arctic. Hence national characteristics and interests determined by geography, according to this line of argument, seamlessly link such states to an Arctic that is as much a part of the world ocean as a High Northern space. Singapore further notes its strategic geographical position along the Straits of Malacca, from which it has gained great experience in navigational safety, protecting the marine environment and managing emergency response systems and infrastructure in an international context. It claims that such skills can be of benefit in the Arctic maritime domain.[22]

Human geography is employed by Japan and China, which claim a cultural connection to the Arctic through indigenous peoples. Japan cites several policy initiatives promoting the cultural prerogatives and human rights of the Ainu people native to Hokkaido. Japan claims its Ainu policy experience could be of benefit for Arctic countries and indigenous permanent participant organizations in the Arctic Council.[23] China notes that the indigenous people of Aoluguya in the Inner Mongolia Autonomous Region are, like several Arctic indigenous peoples' organizations, members of the Association of International Reindeer Herders, and that the Chinese city of Genhe in 2013 hosted the 5th World Reindeer Herders' Congress.[24]

Asian states moreover maintain a physical presence through geographic proxies in the Arctic. Parties to the 1920 Spitsbergen Treaty can conduct activities on Svalbard. This bestows both an institutional and legal basis under international law for Arctic stakeholder claims, as cited by for instance India, and provides an opportunity to bolster such claims through conducting terrestrial activities in a High Arctic environment. Observer state officials frequently cite their operation of research stations in the Svalbard scientific community Ny-Ålesund.[25,26] This geographic juxtaposition provides Japan (Rabben Station, established 1991), South Korea (Dasan Station, 2002), China (Yellow River Station, 2004) and India (Himadri Station, 2008) a permanent physical presence on Arctic territory in stations bearing names often derived from their own national geography, culture or history.[27] These stations, which are visited by scores of scientists every summer as well as by senior political officials and even tourists, can be seen as what Sörlin calls "symbolic territory" for non-Arctic states.[28]

Science, Environment, Technology and Expertise

Geographic justifications continue to be perceived as important. Yet, geography alone clearly cannot form the basis for legitimacy claims by extra-regional states. It is rather the practice of science, exemplified by the research conducted in the national science stations in Ny-Ålesund, which forms the foundation of Arctic stakeholder narratives among observer states. This is strongly emphasized by all non-Arctic states active in the region. Arctic science is, moreover, tightly coupled with environmental concerns—regionally in the Arctic as well as on a global level. The Arctic is often cited as a key indicator or "barometer," as well as driver, of global environmental processes such as climate change. It is considered a lynchpin of Earth systems such as climate and thus a crucial component of global climate models.[29]

Environmental changes in the Arctic are considered of global importance, affecting weather patterns across the northern hemisphere and contributing to sea-level rise worldwide. Singapore notes that it is a low-lying island state whose very survival is at stake, stating that "geographical distance is not a factor when it comes to the global effects of climate change."[30] Non-Arctic states portray themselves as Arctic stakeholders at a distance due to global impacts of environmental changes such as melting ice sheets and altered oceanic circulation patterns

occurring at high northern latitudes. As noted earlier, India invokes teleconnections thought to affect Asian monsoon rains, crucial for Indian agriculture and thus of major societal importance.[31] In this regard, teleconnections transcend physical proximity and allows for geographic, scientific, environmental and socio-economic linkages to be established between high and low latitudes.

A less critical yet evocative environmental link is proposed by Singapore. The presence of Arctic migratory birds in the Sungei Buloh Wetlands Reserve and Southern Islands during winter months provides Singaporean authorities an opportunity to collaborate with Arctic partners to study migration patterns along the East Asian–Australasian Flyway that links northern Russian and Alaska to Australia and New Zealand.

Science also affords non-Arctic states a basis for embedding themselves in relevant international organizations that further solidify their stakeholder status. China, India, Japan and South Korea are members of the International Arctic Science Committee (IASC), and participated in the 2007–2008 International Polar Year. IPY symposiums were held in Tokyo in 2007 and 2010. China, for its part, hosted the 2005 Arctic Science Summit Week, followed by South Korea in 2011 and Japan in 2015. As ad hoc observers to the Arctic Council, scientists from Asian states contributed to various working groups such as AMAP, CAFF, ACAP and PAME.[32] Moreover, a host of bi- and multilateral projects have brought scientists from Arctic and non-Arctic states together to investigate questions of common concern. An example cited by both South Korea and Japan is the NEEM ice core research project that was carried out in northwest Greenland under Danish leadership 2007–2011.[33] South Korea also notes its participation in the Svalbard Integrated Arctic Earth Observing System Preparatory Phase (SIOS-PP).[34]

Multinational science evokes a cosmopolitan Arctic, an image that serves to fortify the region's ties to the south. Non-Arctic states provide extensive detail in highlighting these scientific links. Examples include Japan's collaboration with Russia on an observation site in Yakutsk, and its study of terrestrial ecosystems on Ellesmere Island. Japan further notes its participation in the EISCAT radar station in Longyearbyen, where its National Institute of Polar Research has maintained an office since 1993,[35] as well as its involvement with the International Arctic Research Center (IARC) at the University of Alaska/Fairbanks. South

Korea also cooperates with IARC, and refers to annual field surveys conducted by scientists from the Korea Polar Research Institute (KOPRI) to gather climate, permafrost and ecosystem data at Nome. KOPRI also collaborates with Canadian institutions at Cambridge Bay and the Resolute research station in Nunavut. In Greenland, KOPRI staff has carried out permafrost research at Zackenberg Station, while in the Sea of Okhotsk, Korean scientists have collaborated with Russian and Japanese colleagues on researching the environmental impact of gas hydrates at the Sakhalin Slope. South Korea has also signed joint statements and memorandums of understanding for further scientific collaboration with polar research and academic institutions in Norway, Sweden, Denmark, Canada and the United States.[36]

Asian states have furthermore funded and/or provided technological research platforms for carrying out scientific activities in the Arctic in which scientists of multiple nationalities take part. Japan has conducted Arctic expeditions with its research vessel *RV/Mirai* since 1998. South Korea's research icebreaker *Araon* has since 2010 taken international scientific teams on its annual Arctic voyages. China numbers its Arctic expeditions, having so far conducted eight (in 1999, 2003, 2008, 2010, 2012, 2014, 2016, 2017). The 5th Arctic Expedition of the icebreaker *Xuelong*, which included scientists from Canada, Finland, Iceland, Russia and the United States, was a highly symbolic voyage through the Northeast Passage that returned to China across the Arctic Ocean along the Transpolar Sea Route, passing near the North Pole. Icebreakers and other vessels and technologies for operating in Arctic conditions are prominent examples of physical assets that symbolize and enact the stakeholder claims of extra-regional states.

Commerce

Science and technology often support commercial ambitions of non-Arctic states.[37] South Korean companies build icebreakers, ice-hardened vessels and specialized equipment for offshore oil and gas operations in Arctic environments. China is constructing a second icebreaker, and India plans to build one. Many Asian officials point to global energy demand and their own interests in oceanic shipping as factors that legitimate their Arctic stakeholder status. China presents a detailed analysis of the potential for Arctic sea routes to carry a significant portion of its exports by 2020.[38] Singapore calls for the "sustainable economic development"

of the Arctic, and provides a litany of its natural resources. Stating that it has no interest in developing these resources, Singapore instead positions itself as a stakeholder through its capability of constructing icebreakers and ice-class offshore rigs.

History

Asian states generally have short histories of Arctic engagement. Only Japan and India refer to activities prior to 2000. Japan posits that it has practiced Arctic science since the 1950s, and established its research station in Ny-Ålesund in 1991. India invokes its signing, as a British overseas dominion, of the Spitsbergen treaty in 1920 to note that its "engagement with the Arctic dates back to nearly nine decades."[39] Other Asian states refer to their longer research programs in Antarctica and the stations they maintain there. By framing the Arctic as a polar area, they are able to emphasize their several-decade long polar presence as a legitimizing factor in their Arctic stakeholder narrative. India furthermore mentions its expertise within the Antarctic Treaty System, arguing that its experience in polar governance matters is also relevant in the Arctic.[40]

European States

Geography

The UK makes the most direct geographic reference among European states in noting its "close proximity" and location as a "near neighbour" to the Arctic, having territory above 60°North that is "barely 100 miles from the AHDR Arctic boundary."[41] British geographers have also referred to the UK as a state of the sub-Arctic, influenced by the climate system of the High North.[42] Maritime interests and expertise deriving from its geography and history, moreover, help underpin Britain's stake in the Arctic. Migratory species also link the UK and the Arctic, according to the British questionnaire response. The Netherlands, too, mentions migratory birds, which overwinter in the Wadden Sea, as part of a "special ecological relationship between the Arctic and the Netherlands" that fortifies Dutch stakeholder claims: "Through the designation of our Wadden Sea (a National Protected Area) as both a UNESCO Biosphere Reserve *and* a UNESCO World Heritage Site, we contribute to Arctic avian biodiversity." The Netherlands, like the UK, also notes its maritime

tradition, and alludes to its geographic proximity to the Arctic in stating, "climate scenarios for NW Europe strongly depend on Arctic weather and marine circulations patterns."

Science, Environment, Technology and Expertise

The UK and the Netherlands as well as Germany, Italy and France accentuate their Ny-Ålesund stations,[43] which embody a physical presence in the Arctic and facilitate the practice of science in a cosmopolitan setting. Poland devotes most of its questionnaire response to elaborating on the *Stanislaw Siedlecki Polish Polar Station Hornsund*, a research station it has operated in another area of Svalbard since the 1957–1958 International Geophysical Year. The international engagement of the Polish station—as a platform for scientists, instruments and projects from a variety of nations—is strongly emphasized. Germany also mentions a station it runs together with Russia in the Lena Delta in Siberia, and other long-lasting, bilateral German–Russian science projects in the Chukotka region and the Laptev Sea.

The presence of Italian scientists and instruments on Greenland, at Thule and Zackenberg Station, are highlighted in the Italian response. It moreover goes into great detail in elaborating Italy's scientific activity, including the array of institutions and agencies involved in Arctic research, and lists several dozen scientific publications by Italian scholars. Spain quantifies its Arctic-related publications and projects, naming several Spanish scientists conducting Arctic research. Italy and Spain also refer to the range of projects and collaborations they participate in with Arctic Council states and the European Union. All Arctic observers in fact mention their participation in various multilateral arrangements such as Arctic Council working groups (e.g. AMAP, PAME, CAFF); Svalbard-based (e.g. SIOS, NySMAC), pan-Arctic (e.g. IASC, SAON) and even bi-polar institutions (the International Polar Year and its legacy activities).[44] Germany in its questionnaire response also alludes to hosting Arctic science and policy conferences in 2009 and 2011 (in cooperation with the foreign ministries of Denmark and Norway, and Finland, respectively).

The UK outlines its domestic institutions involved with Arctic research, including the Scott Polar Research Institute, the British Antarctic Survey and the Natural Environment Research Council. Also referenced is a Memorandum of Understanding signed with Canada,

which provides the UK with logistical support and greater access to the Arctic. The Netherlands established an Arctic Centre at the University of Groningen in 1970, and has conducted research on geese on Svalbard since 1975. Dutch funding for Arctic natural science is, however, described as modest. Significant emphasis is therefore placed on the technological knowledge and engineering expertise that the Netherlands can put into practice in the Arctic. In particular, maritime technology—including offshore energy installations and harbor infrastructure, and initiatives such as the establishment of a Centre of Excellence for Arctic Engineering at Delft University of Technology—are referred to the Dutch questionnaire response.

The Netherlands also notes its private sector maritime salvage capabilities and experience from the Arctic and Antarctic. The UK likewise points out its cold water operational experience that can contribute to the International Maritime Organization's polar code. Both countries are also involved in cleaning up nuclear waste and spent fuel in Andreeva Bay and elsewhere in Northwest Russia through the Northern Dimension Environmental Partnership and other, bilateral initiatives.

The German Institute for Polar and Marine Research deploys both a research icebreaker, *Polarstern*, and research plane, *Polar 5*, in Arctic surveying. The involvement of the research ships *Horyzont II* and *Oceania* in multilateral Arctic science projects is mentioned by Poland, while Spain refers to its research vessel *R/V Hesperides* that conducted two Arctic scientific expeditions—Project ATOS-Arctic and Project SVAIS—in 2007. Italy provides a detailed list of technological instrumentation involved in its scientific efforts in the Arctic, such as the Amundsen-Nobile Climate Change Tower in Ny-Ålesund and the GMBS at Thule in Greenland, as well as instruments and systems such as SOMBRERO, CASPER and COSMO-Sky-Med.

Commerce

The technological and logistical capabilities of the Italian super-major energy company ENI are another significant component of Italy's stakeholder narrative. The company's historic and current Arctic activity represents a major theme of Italian legitimacy claims. As a "top player in the Arctic region," ENI has conducted offshore oil exploration in Norwegian waters since 1965 and was the operator of the first oil development project in the Norwegian Arctic (the Goliat field). ENI has also

been active in Western Siberia and in the Beaufort Sea off Alaska's North Slope. Italy points to ENI's community outreach programs in the Arctic, and its sponsorship and representation in organizations such as Scott Polar Research Institute and the ICE Study Group consortium together with Greenlandic authorities.

Economic activity is also prominent in the French stakeholder case. "Many French firms have activities in the Arctic in sectors such as energy (Total and GDF-Suez in Norway and Russia), mining (Lafarge in Canada), fishing (Euronor, FROM Nord and Compagnie des Pêches Saint Malo in the seas of Norway and Barents, and around Greenland, Svalbard and Iceland), tourism (Compagnie du Ponant and GNGL in nearly all the parts of the Arctic) and commercial shipping (CMA-CGM in many Russian, Norwegian, Faroean and Icelandic harbours)," as noted by a French diplomat involved with Arctic affairs.[45]

"Future transport opportunities" as a result of melting ice in the Arctic are referenced by Spain. Yet the primary Spanish economic activity in the Arctic is commercial fishing. This includes scientific and diplomatic dimensions as well, as Spain emphasizes its involvement in the conservation and management of Arctic fish stocks through bilateral agreements with Canada, Norway, Iceland and the United States based upon the "best available scientific information."

History

Spain moreover references the historical continuity of its presence in the Arctic, citing its centuries long activity and interest in Arctic and sub-Arctic fisheries. France dates its commercial activities in Arctic waters back to the seventeenth century, when fishermen from Brittany and the Basque areas engaged in whaling. Arctic whaling is a historic practice also emphasized by the Dutch, who maintained whaling stations in Jan Mayen and Spitsbergen in the seventeenth and eighteenth centuries. The Netherlands regards the remains of the Smeerenburg station on the island of New Amsterdam, Svalbard, as particularly important. Dutch archaeological work there yielded a collection of artefacts displayed in the Svalbard Museum in Longyearbyen.

Arctic accomplishments such as the discovery of Spitsbergen and Bear Island by Dutch mariner Willem Barentsz, and his overwintering on Novaya Zemlya in 1596–1597, are presented as a "vivid part of the historic conscience of the Dutch people." Cultural heritage sites such as

remains of settlements and the over 1000 Dutch graves in the Arctic, as well as the many place names and the prominence of Dutch map making in the Atlantic Arctic until the end of the nineteenth century, are further cited as factors linking the Netherlands to the High North. Even *Mare Librum*, the 1609 treatise on freedom of the sea by philosopher Hugo Grotius, is referenced as an expression of Dutch principles that have been applied to contemporary Arctic Ocean governance through the Law of the Sea convention.

Participation in processes leading to modern Arctic governance institutions, such as AEPS and the Arctic Council, is noted by both the Netherlands and the UK as well as Germany. Poland proclaims that its presence on Svalbard since the IGY in 1957 and the "long-running tradition" of its science station there "is the basis for its (the Polish station's) international recognition."[46] The UK and Netherlands construct continuity by emphasizing their activity in the Arctic since the sixteenth century, and connecting it to their contributions to the region's more recent development. Italy also invokes historical ties, mentioning the eighteenth-century exploration of the Arctic by the Duke of Abruzzi, and the expeditions of the airships *Norge* and *Italia* by Umberto Nobile, who passed over the North Pole in 1926. Those latter expeditions are further commemorated in the names of Italian facilities in Ny-Ålesund (research station *Stazione Artica Dirigibile Italia* and *Amundsen-Nobile Climate Change Tower*).

Discussion

European states clearly consider history a salient factor for their contemporary stakeholder claims. Those with the strongest historical ties, especially the Netherlands and the UK, place the most emphasis on their Arctic past, including relevant cultural heritage sites and place names. Longstanding ties to the region represent the most significant difference between European and Asian states in their respective elaborations of links to the Arctic. Asian states, lacking historical legacies in the Arctic, in some cases emphasize their Antarctic activity. In doing so they represent their endeavours in the North as a part of their longer *polar* tradition. Similarly, Spain acknowledges that "until now the interest of Spanish polar researchers have mainly focused on Antarctica' where Spain maintains two stations, although "at present a growing number of Spanish

scientists and research institutions consider necessary to understand both poles."[47]

The production of polar knowledge as "political performance" has a long history.[48] For both groups of non-Arctic states, science is the most substantial and cited Arctic activity, which facilitates an array of telecouplings. Congruence with the Arctic Council's mission and the Nuuk criteria is likely a major motivating factor for this emphasis on science as a legitimizing practice. It furthermore strengthens ties and enables cooperation with Arctic states through bi- or multilateral projects that place scientists of Arctic and non-Arctic states together in the field, in the laboratory or on marine expeditions. Practicing science in the Arctic also allows non-Arctic states to join regional institutions such as IASC and Arctic Council working groups, enhancing the image of the Arctic as a cosmopolitan space where diverse stakeholders work together for humankind's common good.

Science also provides the pretext for establishing geographic proxies such as the stations in Ny-Ålesund and elsewhere. Arctic actors have long striven to maintain physical presence as a key to sovereignty claims or, for today's non-Arctic states, stakeholder status. Whaling stations, ramshackle huts and makeshift signs marked territorial claims in the *terra nullius* era of Svalbard, while coalmining settlements continue to serve a similar purpose.[49] Science stations, too, have historically played an important geopolitical role in the polar regions,[50] and can be seen in a similar light in the contemporary Arctic. Technological tools of science, especially icebreakers and other polar research vessels, are additional stakeholder symbols. Such research platforms, as with science stations, facilitate physical presence while enabling legitimate scientific activities. Few states have the capacity to conduct major research expeditions in high latitude maritime environments. Those that invest in the necessary infrastructure use their technological assets and scientific expeditions to signal Arctic agency. Asian states have prominently employed icebreakers to great symbolic effect. Their expeditions evoke past and current practices associated with asserting sovereignty and stake by Arctic Council member states. For instance, Coast Guard patrols constituted the only US federal presence in Alaska after its 1867 purchase from Russia. Canada has long conducted what it calls sovereignty patrols to maintain a physical presence in its vast and underdeveloped north, while Sweden—which lacks an Arctic coastline—employs its world-class

research icebreaker *Oden* as a means of projecting presence and enhancing its legitimacy in the circumpolar north.

Today, non-Arctic states dispatch scientists to facilities like India's Himadri Station to study the trans-regional environmental processes such as atmospheric teleconnections believed to influence, for example, the Asian monsoon. Such teleconnected effects of Arctic environmental change facilitate the geopolitical scripting of the Arctic as an area of general concern for all humanity. Scientific knowledge—produced onboard icebreakers or in terrestrial stations—substantiates geopolitical scripts that situate non-Arctic states as stakeholders in the extended Arctic region evoked via environmental telecouplings. Scientists circulating between institutions in their home countries and research platforms in the Far North represent a social form of telecoupling that non-Arctic states also emphasize in their stakeholder narratives. Moreover, the materiality of scientific presence—such as the research stations, instruments and infrastructure, cultural artefacts and other national symbols including station names—provide physical manifestations of inter-latitudinal telecouplings. Likewise, government agencies and research institutes situated in non-Arctic states that are devoted to producing polar knowledge represent reciprocal links from south to north. These scientific, social and material telecouplings in turn reinforce the scripting of the Arctic as a region of global stake. The telecoupling concept thus reflects and encompasses the range of entangled environmental, material and social links and interactions.

Singapore, the UK and the Netherlands evoke telecouplings in their reference to overwintering sites and migration routes of birds through their territories, referred to as "stepping stones" by the latter. The Dutch speak of "global ecological networks" that encompass the species, scientists and spaces along migration routes that span thousands of kilometres. Species such as barnacle geese studied by Dutch biologists stationed in Svalbard exemplify telecouplings that are both social and environmental in nature. Bird movements between points north and south, with seasonal sojourns in protected areas set aside by state authorities along migration routes, thus serve to modify and expand conventional geographic conceptions of the Arctic's connection to other parts of the planet.

Several non-Arctic states have attempted to establish more traditional geographic ties to the Arctic in their stakeholder narratives, employing formulations such "near neighbour" or "near-Arctic state." These

include relatively proximate states such as the UK that administers territory touching 60°North in the Shetland Islands, as well as more southerly China. Other states such as Japan, South Korea, Singapore and the Netherlands produce scripts that seamlessly connect their territories to the predominantly oceanic Arctic region through emphasizing their position as island or coastal states with strong maritime orientations. The maritime coupling is prominent in both Asian and European Arctic stakeholder narratives. China and Japan establish human geographical telecouplings through northern indigenous populations and their cultural practices such as reindeer herding. This type of legitimizer is similar to Canada's longstanding custom of referencing aboriginal peoples in asserting sovereignty over its northern territories.[51]

The portrayal of commercial telecouplings vary somewhat between European and Asian states, and are generally the least emphasized legitimizer, even if they likely represent the strongest national interest among non-Arctic states. Such ambivalence should be expected, as perceived encroachments on the economic interests of sovereign Arctic states can be considered sensitive. Spain is however explicit about its fishing interests, while Italy and France mention their involvement with natural resources, particularly the oil and gas sector where major national companies ENI and Total have long operated in the Arctic. Yet much of Italy's elaboration on its commercial ties to the region, through the logistical and technical prowess of ENI, are framed as serving local stakeholders and positively contributing to Arctic development in collaboration with regional partners (e.g. Norway). Asian states likewise present their commercial activities as adding value for established Arctic actors. For instance, strong shipbuilding traditions and the capacity to construct icebreakers and other vessels and offshore infrastructure for Arctic use are prominent in Asian stakeholder narratives. Interest in Arctic shipping routes is expressed by both European and Asian states, yet more strongly by the latter.

Conclusion

The political Arctic region that emerged in the wake of the Cold War was founded upon the established sovereignty of eight states with territory touching the Arctic Circle. Their claims to sovereignty are not significantly contested by extra-regional states, a growing number of which have instead positioned themselves as legitimate Artic stakeholders

through establishing and elaborating connections to the Far North, and successfully pursued observer status in the Arctic Council. Additional states—such as Switzerland, accepted as observer in 2017—will likely follow the current cohort in reconceiving the Arctic according to telecouplings and other linkages that legitimate their professed stakeholder status in the region's future. Reminiscent of Stefansson, these states envision and evoke an inclusive future of inter-latitudinal communication and commercial exploitation—as well as comprehensive scientific study—of the Arctic in which they play a prominent role.

The conception of the Arctic that has evolved over the past decade can be characterized as a less geographically determined and more diffuse space where distant environmental and social interactions substantiate the stakeholder narratives of non-Arctic states. Similar to the interested actors that projected the earlier Arctic futures explored in this volume, states asserting an expansive Arctic implicitly and explicitly inscribe their place in an ostensibly sustainable circumpolar North that conforms with their national interests. Like Braudel's Mediterranean, which at different historical junctures encompassed e.g. the Atlantic Ocean and Sahara Desert, the conceptual telecoupled Arctic of today transcends physical geography and reflects an emerging greater or global region that extends to northeast Asia, the equatorial Pacific and the monsoon lands of the Indian subcontinent, the Alps and the Mediterranean Sea.

Notes

1. Sörlin, "Rituals and Resources."
2. Following first state change in late-1980s/early-1990s.
3. Young, "Arctic State Changes."
4. Keskitalo, "International region-building."
5. Keskitalo, 188.
6. *Sweden's Strategy for the Arctic Region*. Accessed 15 February 2017. http://www.government.se/country-and-regional-strategies/2011/10/swedens-strategy-for-the-arctic-region/; *The Faroe Islands—A Nation in the Arctic: Opportunities and Challenges*. Accessed 15 February 2017. http://cdn.lms.fo/media/6788/føroyar-eitt-land-%C3%AD-arktis-uk-web.pdf.
7. Braudel, *The Mediterranean*.
8. Byers, *Who Owns the Arctic*; Dodds, "Polar Mediterranean"; Holmes, "Open Seas."
9. Stefansson, *Friendly Arctic*; Stefansson, *Northward Course*.

10. Christensen, Nilsson, and Wormbs. *Media*.
11. France became a Permanent Observer in 2000, Spain 2006; although both are Mediterranean littoral states, Italy in 2013 became the first entirely Mediterranean country granted observer status.
12. "India and the Arctic." Accessed 12 December 2017. http://www.mea.gov.in/in-focus-article.htm?21812/India&.
13. Gao et al., "Arctic Sea Ice and Eurasian Climate."
14. National Research Council, *Radiative Forcing of Climate Change*.
15. Liu et al., "Framing Sustainability in a Telecoupled World."
16. Young, "Arctic State Changes."
17. Documents reviewed by author include responses of Germany, Japan, the Netherlands, Poland, Spain and the United Kingdom to Danish Arctic Council chairmanship's questionnaire, 'Arctic Council Review of Observer State Status', July 2010, and responses by China and Italy to Swedish chairmanship's questionnaire, March 2013.
18. Email exchange, October 9, 2012, with Maxine Reynaud, senior official responsible for Arctic matters at France's Foreign Ministry. This communication was described as reflecting the content of France's 2010 questionnaire response, and provided further insight into the French Arctic stakeholder narrative.
19. Arctic Council, "Observers." Accessed 15 February 2017. http://www.arctic-council.org/index.php/en/about-us/arctic-council/observers.
20. Year admitted as observer: France 2000; Germany 1998; Netherlands 1998; Poland 1998; Spain 2006; United Kingdom 1998.
21. "China and the High North." Speech by Chinese Ambassador Zhao Jun at Arctic Frontiers, January 21, 2013, Tromsø, Norway. An almost identical framing was made by H. E. Ambassador Lan Lijun at Meeting between the Swedish Chairmanship of the Arctic Council and Observers, November 6, 2012 at Swedish Ministry of Foreign Affairs.
22. Speech "Singapore in the Arctic" by Sam Tan, Senior Parliamentary Secretary for Foreign Affairs, at Arctic Circle forum, October 14, 2013.
23. "Additional Information Submitted by Japan Concerning Japan's Application to Become a Permanent Observer in the Arctic Council." Ministry of Foreign Affairs of Japan, March 2010.
24. "Updated Information Regarding the Application for Observer Status in the Arctic Council by China." Ministry of Foreign Affairs, March 2013.
25. Excepting Singapore and Spain, which have not established stations on Svalbard.
26. Roberts and Paglia, "Belonging."
27. Echoing the push for effective occupation that established Arctic sovereignty claims in nineteenth and early-twentieth century.
28. Sörlin, "Polar Extensions."

29. "China and the High North", Speech by Chinese Ambassador Zhao Jun at Arctic Frontiers Conference, January 21, 2013, Tromsø, Norway. "Korea's Arctic Policy—A Korean Route Towards the Arctic frontier", speech by H. E. Mr. Byong-hyun Lee, Republic of Korea Ambassador to Norway, Arctic Frontiers Conference, January 21, 2013. "Japanese Research Activities in the Arctic Region and Potential Contributions", presentation by Tetsuo Ohata at IDAC, Copenhagen, Denmark, May 28, 2010.
30. Sam Tan, "Singapore in the Arctic."
31. "India and the Arctic."
32. Acronyms refer to working groups: Arctic Monitoring and Assessment Program; Conservation of Arctic Flora and Fauna; Arctic Contaminants Action Program; Protection of the Arctic Marine Environment.
33. NEEM: North Greenland Eemian Ice Drilling project.
34. "The ROK's Activities in the Arctic", Republic of Korea Ministry of Foreign Affairs, 2013.
35. "Japanese Research Activities in the Arctic Region and Potential Contributions," Tetsuo Ohata, presentation at Information Day of the Arctic Council, Copenhagen, Denmark, May 28, 2010.
36. "The ROK's Activities in the Arctic."
37. See Nilsson, this volume, for a discussion on how commercial interests are voiced.
38. "Towards the Opening of Arctic Sea Routes (ASR): R/V Xuelong's Exploration and Some Perspectives." Presentation by Dr. Huigen Yang, Polar Research Institute of China. The Economist Arctic Summit March 12, 2013, Oslo.
39. Ministry of External Affairs, "India and the Arctic."
40. Ibid. See Roberts and van der Watt, "Voicing Bipolar Futures," this volume, for further discussion on this topic.
41. The Arctic Human Development Report's Arctic boundary varies, dipping to 60°N between the Faroe (Denmark) and Shetland (UK) islands.
42. Depledge and Dodds, "The UK and the Arctic."
43. France and Germany merged their Ny-Ålesund stations in 2003.
44. Acronyms refer to Svalbard Integrated Arctic Earth Observing System; Ny-Ålesund Science Managers Committee; International Arctic Science Committee; Sustaining Arctic Observing Networks.
45. Email exchange, Maxine Reynaud, October 2012.
46. Poland's questionnaire response, July 2010.
47. Spain's questionnaire response, July 2010.
48. Sörlin, "Polar Extensions."
49. Avango et al., "Between Markets and Geo-Politics."
50. Wråkberg, "IPY Field Stations."

51. "Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad". Government of Canada, 2010.

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CHAPTER 10

Arctic Modernism: New Urbanisation Models for the Soviet Far North in the 1960s

Ekaterina Kalemeneva

The exploration of new spaces often provokes discussions about their future development among various interested actors. One of the core questions of these debates is how to incorporate a new territory into a particular national, social or cultural space. The more unusual a developed area is the more radical images of its future development could appear. In the twentieth century, the Arctic often generated various images of its future transformation among intellectuals and scientists because of its remoteness, low level of development and research, and severe natural conditions.[1] It was particularly true for the USSR, where almost a half of the national territory was considered to be part of the Far North.[2] Like in other countries, the target of the exploration of Soviet northern territories, started since 1920s, was primarily resource extraction through industrial colonisation. One of the consequences was the construction of various infrastructure and hundreds of towns in

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extreme natural conditions. While the Soviet policy of Arctic exploration for industrial, geopolitical and military purposes has gained attention among researchers for a long time,[3] controversies concerning the urban development of that region in still an almost unwritten story.

As Peter Hemmersam mentions, the Arctic is still largely externally construed as a space of industry and resource extraction as well as a scene for international politics.[4] The same is true for the history of Arctic urbanisation. A few contemporary works explore the transnational development of architecture and planning strategies in the North in the twentieth century with the core idea to create a "modern settlement" on frozen land, including some high modernist almost utopian projects.[5] However, none of them even mentions the practice of urban planning in the Soviet Union as if the territory from Kola Peninsula in the west to Kamchatka Peninsula in the east were not a part of the Arctic. Nevertheless, a closer look at the planning and architectural development of Soviet Arctic towns in the second half of the twentieth century reveals some similar patterns of imagining a new type of Arctic modernist settlements.

This chapter explores how Soviet architects since the late 1950s created alternative projections for new types of towns "with artificial microclimate" for the Far North,[6] which were expected to create the most comfortable conditions for the population in extreme climate conditions. The projects of the settlements with artificial microclimate were created mainly at the Leningrad branch of the Soviet Academy of Construction and Architecture, as this organisation since the 1950s was responsible for development of planning principles for the entire Soviet North. In the 1960s, various modernist projects of northern towns with small variations in planning design frequently appeared in Soviet central and local newspapers, in professional scientific journals, architectural papers and popular magazines.[7] Implementation of some of them was confirmed by the highest Soviet committees, but none of them was fully realised. Thus, how can one evaluate the historical and analytical significance of unrealised projects?

The chapter aims to show that seemingly futuristic images should be treated not just as sudden ideas of individual actors. As formulated by Reinhart Koselleck, expectations are at once person-specific and interpersonal, they take place in the today—it is the future made present.[8] Future visions especially in the twentieth century tended to be a product of scientific knowledge and technological enthusiasm, embodying

an amalgam of rational calculations and social expectations. As Michael D. Gordin, Helen Tilley and Gyan Prakash claim, historians should use variants of futuristic thinking and actions to explore the specificity of the time and a place which created them. Future-oriented projects could be seen as "concrete practices through which historically situated actors seek to reimagine their present and transform it into a plausible future."[9] Utopian urbanism is usually fuelled by dissatisfaction with present conditions and aims to reframe and improve socio-spatial relations.[10] Therefore, the analytical focus should be not only on the projections as such, but on the reasons stimulated their circulation and on the pragmatic logic that underpinned them. Consequently, the particular time and place of the appearance of future-oriented projects, as well as specific actors and their argumentation gain a crucial importance for the understanding of the role and function of such projections. The analysis of different aspects of 'horizons of expectations' in the past rather than 'spaces of experience' helps to illuminate the key moments of possibilities as well as to demonstrate different strategies and politics of the future in the present.[11] In this sense, it is important to speak about various scenarios of futures instead of a singular future,[12] what allows one to trace the diversity of stakeholders who could articulate various visions of the future and attempted to implement them.

This paper investigates the middle level of mastering the Soviet Far North—the intention of the group of architects to implement their own visions of Arctic urbanisation in the 1960s. It is essential to look upon these experts not only as governmental tools to control and manipulate society. On the one hand, the work of different Soviet experts was pressed with official directives and the central planning system. On the other hand, being the most practical art or the most artistic practice, architecture is always a product of negotiations between power, society and the professional architectural community.[13] This tendency was very traceable during the post-Stalin period in the USSR, characterised by a certain liberalisation of the regime. Being obliged to serve both the state's interests and human needs the architects worked as mediators between governmental tasks, different social questions and technical requirements.

In this chapter, I argue that various modernist urban projects created for the Soviet Far North were far from an abstract futuristic fantasy and therefore they should be understood in the broader context of Soviet northern studies and architectural policy in the late 1950s

and 1960s. Leaving aside the issue of the probability of their implementation, the chapter will demonstrate that their circulation could be treated as a junction of the changing public discourse of the 1960s and the articulation of professional ambitions of Soviet architects during the time of obligatory standardised construction.[14] Based on various types of unpublished documentation of Soviet architectural institutions and official instances, published works of Soviet urban experts and on interviews with projects' authors, the analysis of urban projects of the cities with artificial microclimate uncovers the diversity of the experts' visions of Arctic futures in the USSR and shows limits of their influence.

"Turn to the North" in the Soviet Policy in the 1950s and Its Practical Consequences

Future-oriented urban projects often contain the critiques of contemporary situations and promise to make a better world. Expectations are impossible without experience, as both of them are present-centred.[15] Therefore, a brief description of the practices of mastering the Soviet Arctic can not only give a necessary context, but would also explain the reasons for the appearance of projects which offered a new conception of the Arctic settlement (Fig. 10.1).

Almost half of Soviet territory was considered a zone of the Far North. The northern region was extremely rich with resource potential, holding more than three-fourth of national coal and iron ore reserves, gold, oil, gas, non-ferrous metals, diamonds and other resources. At the same time, that huge region had diversity of natural conditions, demographics and economic characteristics, which made its exploration a challenging and quite expensive undertaking. Long distances from the centre, the task of building infrastructure and populating this region, and the necessity of special technologies that could work in extremely cold temperatures, made the mastering of the Far North almost five times more expensive than that of central regions of Russia.[16]

In an administrative sense, these territories were a part of the Russian State over a long period of time and were inhabited by various indigenous groups. However, in terms of transport infrastructure, built environment and social diversity, the region was not fully integrated into the economic, social and symbolic space of the country before the Soviet

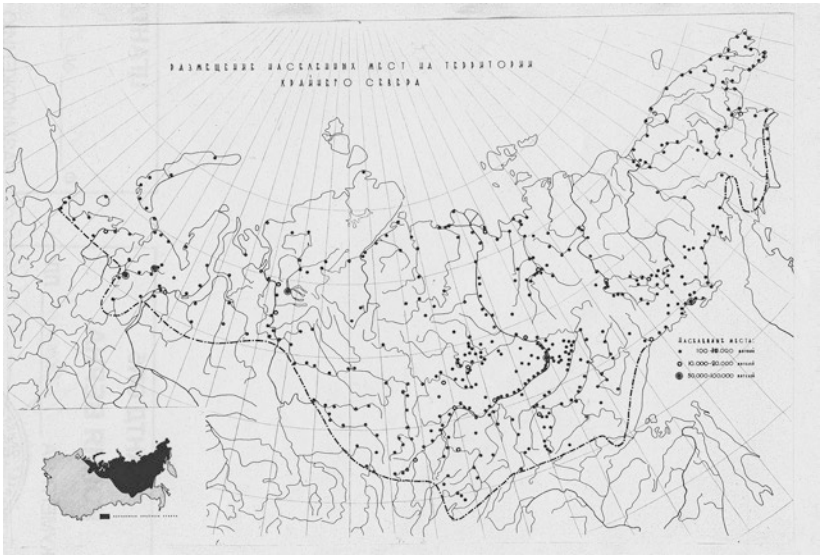

Fig. 10.1 The map of the Soviet Arctic with the biggest towns (*Source* Tsentral'ny gosudarstvenny archiv nauchno-technicheskoy documentatsii Sankt-Peterburga [Central State Archive of Scientific Technical Documentation of St. Petersburg] TsGANTD SPb F. 17 Op. 2-2 D. 467. L. 6)

period.[17] Only a few towns had been established there by the beginning of the twentieth century.[18] A new wave of broadening the borders of the human-built environment in the Far North started in the end of the 1920s, when geologists discovered coal and other important resources in the region.

The exploration of resources and the formation of the Northern Sea Route in the 1930s, with the necessity to establish supporting ports, involved the Arctic area in a broader context of economic development and social transformations in USSR. One of the most significant long-lasting effects of mastering the Soviet Arctic since the 1930s was the formation of numerous permanent industrial towns in previously undeveloped areas of the Far North. These polar towns located close to industrial sites but hundreds of kilometres from one another became the main elements of the network which connected the huge Arctic region with the centre in administrative, social, economic and cultural sense.

Urbanisation was the main tool of assimilation of the Arctic region.[19] That did not lead to the homogenisation of northern settlements, but it stimulated the spread of the models of Soviet urbanism typical for other bigger Soviet towns. Since then the Arctic had been represented as a great resource treasury, capable of providing enormous economic and industrial development for the whole country.[20]

Throughout the twentieth century, there were some general features of Soviet Arctic development which shaped the practices of mastering the region, such as the predominance of technocratic visions based on the intention to modernise the Arctic or an indifference to the environmental and social consequences of this policy.[21] However, in terms of methods of administration and the social structure of settlements, the process of mastering the Soviet Far North splits into two periods. During the industrialisation in the 1930s–1940s, numerous settlements in the Far North were established side by side with the corrective labour camps of the Gulag system. Camps were used as a tool to accumulate an enormous amount of resources for the construction of industry in the tundra and to inhabit the region with the necessary working force.[22]

Gulag legacy had an effect even on the spatial structure of the settlements. Under Stalin's authoritarian regime, the administration did not pay enough attention to the living conditions in the Gulag settlements; thus, many Arctic towns were constructed without taking into consideration the harsh northern environment. With the exception of a few big cities such as Norilsk and Vorkuta, the vast majority of small towns had been built with wooden one- or two-story houses and barracks without any communal services like sewage, central heating and water supply.[23] Stone houses were extremely rare and mainly used for administrative purposes. Moreover, later reports recorded an extreme housing shortage: for example, in Vorkuta in 1957, there were 2.7 square meters of living space per person, with a portion of the buildings unfit for habitation due to inappropriate cooling, partial destruction and improper construction methods in Arctic climatic conditions.[24] During the exploration of big mines, industrial facilities were constructed first, while apartments and other infrastructure like hospitals could be delayed for months and years.[25] It needs to be mentioned that building new towns according to prescribed models was standard practice in the USSR in that period. However, the automatic transfer of average building principles to the Arctic made conditions in these settlements dangerous for those who

lived there because of frostbite, illness and great problems with goods and products supply.[26]

The reform of the concentration camp system in the 1950s led to serious changes in the principles of Arctic development. While acknowledging a continuity of different aspects of Arctic policy before and after the 1950s, the analysis of social models and urban structure of Gulag and post-Gulag northern towns reveals a few crucial changes in patterns of mastering the Far North. First, the closure of Gulag camps in Arctic towns meant changes to their administrative status, increasing flexibility of migration to and from the towns. Since the beginning of the Gulag reform, the government and various newly established research institutes had to find new ways to construct and develop permanent settlements in the Soviet Far North, as well as to stimulate voluntary migration to the industry of these towns. Second, a considerable number of Arctic towns built after the 1950s, were family-based settlements established and functioning without the labour of prisoners. This meant that the urban structure of post-Gulag towns differed as they had all the basic elements of "ordinary towns" like schools, shops, hospitals and various public services, which was also a result of the new consumer culture developing on the both sides of Iron Curtain.[27]

The state interest in the development of the Far North intensified and spread in new directions after the middle of the 1950s. Numerous successful geological expeditions and discoveries of resources in the Far North after the 1950s created a necessity to establish new industrial towns in the polar region close to coal, diamond, gas, oil deposits almost from scratch. At the same time, among more than 500 northern settlements established before the 1960s, there were just a few big cities with a population between 20,000 and 100,000. Most other towns were small single-industry settlements with less than 5000 inhabitants each.[28]

Such "turn to the North" in the 1950s changed the social environment and built environment of the region. The reorganisation of the Gulag system aggravated the problem of the migration of free labourers to northern industrial sites. Consequently, the Soviet government had to find new ways to stimulate the migration of labourers to newly established industrial Arctic towns in the post-Stalin period. For doing that, one of the new trends was the rise of official calls and juridical statements directed towards the exploration of undeveloped lands. Since the 20th Communist Party Congress in 1956, many official speeches underlined

the huge national significance of energy and mineral resources in Siberia, Yakutia and the Far East.[29] Such increased attention can also be traced in the dynamics of state funding into that field. According to official data, while from 1918 to 1960 the Soviet government invested 13.5 billions of rubbles to the development of the Far North, from 1961 to 1965 this sum rose up to 10.7 billions of rubbles, and up to 17.9 billion from 1966 to 1970.[30] Besides ideological calls for the "constructions of the socialism" in the new lands, one of the most effective tools were so-called "northern benefits"—material privileges approved by the law for industrial labourers to the northern industry and construction sites.[31] As a result, the Soviet Arctic not only became a more urbanised area after the 1950s, but was also inhabited by people from different parts of the country. Many of them were not familiar with the Arctic environment before, but had the experience of urban life and expected to find similar conditions in their new homes.

Changes in Soviet Arctic policy in the 1950s were also traceable on the institutional level. Since then, several influential central scientific and planning organisations have been established in order to search for the rational methods of mastering the Far North, to create Arctic settlements and to coordinate other researches in new conditions. Due to the high level of centralisation of Soviet science, the majority of research and project organisations that specialised on Arctic issues were located in Moscow and Leningrad. For example, in 1955, the "Committee of Northern Issues" was created as part of the Soviet Academy of Sciences, becoming the main institute for systematic research on resource potential of the Far North and for creating of economic projects for development of the area. Its member Samuil Slavin became one of the founders of the co-called complex northern studies (*severovedenie*) in the USSR.[32] Since 1956 the Committee annually published the journal "Northern issues" which became the first interdisciplinary public platform for various Soviet researchers to discuss different aspects of the development of the Soviet or foreign Arctic. In 1960, the "Commission on Acclimatisation of the Population in the Far North" was established in Moscow in order to make researches and recommendations on human acclimatisation and adaptation to the harsh climatic conditions. In that context, the problem of constructing northern settlements and creating "normal living conditions" in the Far North became topical among urban specialists and architects as well.

Housing Reform in the Soviet Union the 1950s: Pressure on Architects or New Opportunities for Experiments

The creation of an architectural organisation specifically for the northern territories was connected not only with general shifts in the Soviet Arctic policy. Soviet architecture, as any other field, was shaped by power relations and even state interventions into building practice. The period of late Stalinism was characterised by the dominance of neo-classical style and selected monumental buildings.[33] Neo-classical administrative buildings or cultural clubs became an important element of sovietisation of territories (later it was even called "Stalinist style").[34] Hence, even in some Arctic towns like Vorkuta among hundreds of small wooden houses and barracks, a few monumental stone buildings with columns and decorated facades were erected.

The turning point for the development of Soviet architecture in the post-Stalin period was a famous speech of the new party leader Nikita Khrushchev at the Second All-Union Convention of the Construction Workers in 1954, when he surprisingly criticised "excessive decoration" of facades in neo-classical style and called for the industrialisation and standardisation of mass housing.[35] That speech and the 1955 official decree "On liquidation of excesses in projects and construction" marked de-Stalinisation in Soviet architecture as it led to radical and rapid changes in building style and technology as well as to the position of Soviet architects. One of the main consequences of this new course was the wide implementation of standardised construction of apartment blocks and other buildings.[36] Henceforth, due to the new obligatory architectural principles of standardisation and retrenchment, any project had to be chosen from several types of building lists.[37] On the one hand, the fight against "excessive decorations" of the facades and transition to the industrial methods of construction and cheap materials such as concrete led to radical increase of the number of affordable apartments for millions of people. In result, since 1956 to 1965 almost one-third of the population of USSR moved into new private apartments from communal ones and barracks.[38] On the other hand, the housing reform transformed the landscapes of built environment across the entire USSR, having made seemingly endless districts of completely similar standardised apartment blocks a symbol of late socialism.

At the same time, the idea of the standardisation of building practices paradoxically caused their specialisation in specific climatic zones. The initial intention was to streamline construction methods and norms for the entire country. In 1955, the Soviet State Committee for Construction launched the creation of "Rules and norms for the planning and construction of cities in the USSR," which was to be a unified set of norms for architects and engineers all over the county in order to cheapen the construction process.[39] However, the idea to use the standardised building and planning norms for the entire country soon turned out to be almost impossible. During the first years after the reform due to an obligatory standardisation of architectural practice, specific types of buildings were created for an average "central climate region," so that local builders in the Far North had to choose a particular type of construction from the list, and then adapt infrastructures and foundations for local geological and climatic conditions. Even for doing that work, local planners had to create about two hundred new blueprints, which led to the delay of construction works. Therefore, newcomers had to leave in other inappropriate buildings for several months or years.[40] Only a few northern towns had local architectural bureaus, yet their work was mostly focused on technical issues of construction on permafrost rather than on rational planning. The building regulations at the beginning also ignored adaptation of materials and planning for northern climate, which sometimes led to absurd situations. For instance, in some standardised wooden houses constructed in the Arctic in the 1950s a special place in apartments was dedicated to a bathroom although there was no water supply system in many towns. Later observations showed that usually inhabitants used such bathrooms as a storeroom and had to organise a lavatory outdoor.[41]

What is remarkable is that the northern territory was chosen as the only region for which a special "Rules and norms for the planning and construction" was created.[42] In order to establish construction norms in the polar region, the "Department of Urban Planning in the Far North" was established in 1956 as part of the "Leningrad Branch of the Soviet Academy of Construction and Architecture."[43] Its members were instructed to research previous practices of the construction of urban areas in the polar region, contemporary development of architecture in other northern countries, and create new rational urban projects and building types for the Far North. To get information about local conditions, the members of that Department every year organised several

expeditions from Leningrad to different northern settlements to explore the territory, analyse major planning factors and evaluate previous building practice. In contrast with local architectural bureaus, the Leningrad Department of Urban Planning in the Far North was not an ordinary planning institute as its members were considered more as scientists; they published research articles, participated in the conferences on the themes of Arctic development, made experiments in laboratories to find and examine new building materials, etc. Comparing with other Soviet architectural bureaus, the task for the Leningrad architects was to develop new principles of planning and the invention of new technologies and materials.

The expertise of those who began to research the issue of construction in the Far North since 1956 was also remarkable. The majority of architects and engineers from the newly established Department of Urban Planning in the Far North had no experience of Arctic conditions beforehand. There were no special classes or literature to train specialists who dealt with construction in the North. Instead, many of them had received a classical architectural education from one of the oldest Russian architectural institute in Leningrad before Khrushchev's housing reform. That factor could have shaped their expectations from the profession. An analysis of contemporary interviews with the architects who came to the newly established Department in the 1950s–1960s demonstrates that the specificity of "architecture for the North" attracted young specialists who previously had dealt with other topics by the possibility of experimental constructions instead of standardised housing and the romantic perception of the region. Some architects during contemporary semi-structured interviews said that they came to this institute because they searched for "something new" in the profession and were interested in "exotic field trips."[44] Valentin Tankayan, the author of some of the modernist projects, directly explained his coming to the institute as a salvation from predominant standardised planning in other institutes in Leningrad.[45] Romantic views of the Arctic and its "conquerors" also played a significant role as many interviewers repeated the trope of "escaping from crowded city to nature"[46] which was a typical phrase for public discourse in the 1960s.[47] The majority of the architects stayed at that Department almost their entire professional career.

The first journeys to the Far North influenced the architects' perception of their own mission. After the trips, all of them had to write scientific reports with descriptions of natural conditions of northern towns,

analyses of planning structure of the settlements and offers of further development.[48] Markedly gloomy descriptions of the local natural and built environment and numerous pictures of misshapen buildings in those unpublished reports demonstrate that they were shocked by dramatic living situations in many towns as well as by the Arctic nature itself. According to the reports, the problem of the northern residential areas began at the level of the inappropriate state of the housing. For many of the architects the first "impressions from the North" led to the idea of their great mission to improve the situation. After the trips, they started to write about the necessity of radical changes in the practice of entire northern urban planning. As members of the scientific institute, they published many papers in different journals and in the national press, participated in various conferences where they repeatedly claimed the necessity of creation "normal living conditions" for the population in the Far North.

Official discourse in the 1960s described the region in before-and-after schemes, focusing on the images of the undoubtedly bright and constant progress of its development. The national press portrayed the exploration of the Far North as a victory of the Soviet people over the inclement ice desert. Arctic industrialisation was depicted as the process by which Soviets civilised the North, the symbol of that process was the industry and a fully developed settlement, like in this article from the main Soviet newspaper "Pravda":

> today there is not the same 'white silence' as it was a decade ago. It is still white, but there is no silence. In places where there was no human footstep before, in tundra and permafrost regions, now we can hear motor and factory.[49]

In this situation, Leningrad architects were almost the first who publicly began to describe the Arctic development not in "civilising" categories but as a process filled with mistakes articulating the housing situation in the North as a huge problem. Every official paper, popular article or public speech of the architects from the Department of Urban Planning in the Far North since 1956 started with the description of numerous faults in previous building and planning practice. Tatiana Rimskaya-Korsakova, who was for many years a head and one of the main members of the Department, claimed that "there are too many negative sides in our experience of mastering the northern region."[50] Even though they never mentioned the Gulag legacy in northern settlements, Leningrad

architects created a particular negative image of the past of the whole region which according to them was full of mistakes.[51] At the same time, through this exoticisation of northern conditions and the current built environment they reinforced their status as the main experts and gained legitimacy for their new projections. The status of the scientific research institute distinguished the Department of Urban Planning in the Far North from other planning organisations, which became an important argument in the self-positioning of its members. This position seemed to open the possibility to implement unstandardised projects in the era of standardised constructions in the Soviet Union as this scientific position authorised making projections for the better future.

Future Visions for Today's Needs

The official task for all Soviet planners since the 1950s was to find a middle way between effectiveness and cheapening the process of building in the North. As the author of the book "Millions of new apartments" proclaimed in 1958,

> many existing projects still have a lot of excesses to cut off for the cheapening of construction. […] The fight against excessive decorations of facades is not a temporary campaign, but a basic direction for the transformation of the further progress of our architecture and construction.[52]

Yet, the architects of the Department started to combine that argument with another one, claiming the necessity to create comfortable conditions for the population in order to motivate people to move to the polar towns. The fact that many settlements had to be constructed from scratch enabled the architects to make challenging proposals. Moreover, in the time of predominantly standardised constructions in the USSR, a little corner of creative work for the architects was at the level of urban planning, including layout design, gardening and other aspects of a wide view of the urban space.

Planning proposals of architects from the Department of Urban Planning in the Far North showed a serious shift in the conception of the future of cities in the Arctic. Whereas the previous practice was a spread of standard construction and planning principles to the North in order to create a "Soviet" environment, Leningrad architects started to argue for the necessity of careful attention to the specific Arctic environment

and experimental new projects. On this basis, their intention was to prove that the North was a specific region that required special building techniques and even special types of towns. Having a rather vague image of local circumstances, but good classical architectural education and professional ambitions, they tried to implement new ideas of northern towns of the future. They began to articulate the idea that the North was not only a land with lots of resources, but also an inhabited area of millions of ordinary Soviet citizens, which meant that the core targets of Arctic development should be making comfortable conditions in northern environments.

Many architects from the Department—Tatyana Rimskaya-Korsakova, Sergey Odnovalov, Valentin Tankayan and several others—proposed different projects to create modern types of northern settlements in the 1960s. The collective character of research in that Department led to the implementation of similar basic principles in all the projects that were made there. While in official discourse the development of northern industrial towns was depicted through "before-and-after" narratives, all papers of the Leningrad architects were made in the framework of a "now-and-future" contraposition. The main element was a strong attention toward planning scale, as they tried to prove that the development of new technologies alone could not improve living conditions in the Arctic. Architects started to claim the necessity to create not only "material living space," but foremost a "liveable environment" for inhabitants, what predetermined "a combination of conditions for proper physical and spiritual life of a man and society."[53] Figure 10.2 demonstrates how the architects from the Department of Urban Planning in the Far North tried to combine the use of standardised buildings with the untypical design of the settlement. First of all, the architects called for an improvement of layout design by constructing a town in accordance with micro-district principles—a new building strategy, in which a city centre with the main public services should be surrounded by apartment buildings. They explained this planning approach combining both "economic" and "humane" arguments: reduced distances between apartment buildings and public places in micro-districts could shorten the amount of time spent by inhabitants outdoors, and reduce the overall size of expensive infrastructural works.[54] In a more advanced project, several multi-storied apartment buildings would be connected by roofed galleries, which could also serve as wind and snow protection for citizens.

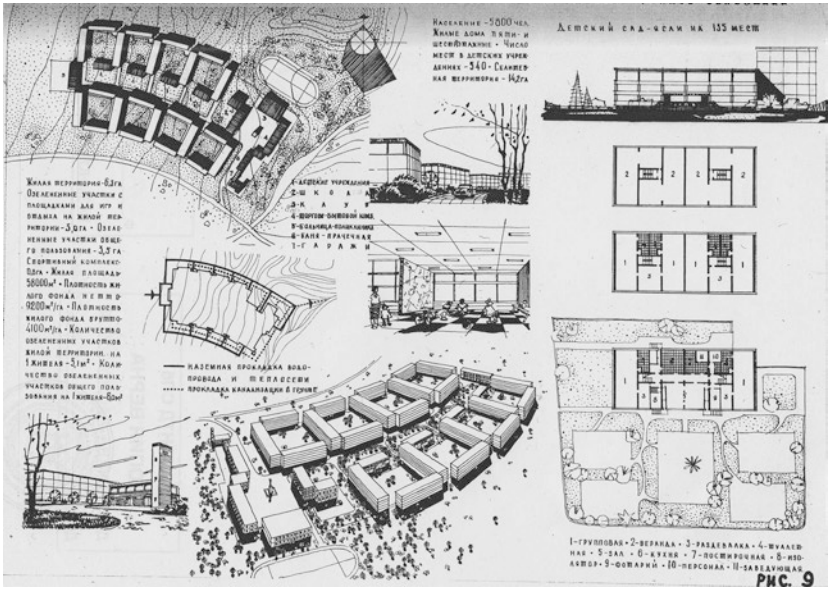

Fig. 10.2 Exemplary planning scheme for an Arctic town (*Source* TsGANTD SPb F. 17 Op. 2-2 D. 479. L. 63)

Along with numerous planning principles and technical projects, the architects from Leningrad in early 1960s started to develop the idea of a northern town with an artificial microclimate where the core principle was that in such a city citizens would not need to go outside for their every-day activities. In 1960, readers of the main Soviet architectural journal "Architecture of the USSR" could find an article titled "A housing complex for the Arctic coast," in which the architect Konstantin Agafonov proposed the construction of a new type of a settlement in the Soviet Far North. In that project a whole town consisted of three or four multi-storey round apartment buildings, connected by galleries with a public centre where all the administrative, cultural and educational institutions were located.[55] The author also suggested the construction of winter gardens in the inner yards of apartment buildings covered by a glass roof, a special planning schemes of apartments and creation of diverse communal infrastructure for the inhabitants. The remarkable detail of this modernist-looking project was the author's argumentation:

Agafonov said no word about untypical modernist design as officially modernism was considered as a "western style" in the Soviet Union. Instead, Agafonov focused only on technical and constructive details of the project relying on numerous schemes and blueprints. In his project, apartment buildings should have a round shape to prevent snow from gathering in front of the walls. The ground floor was raised three metres above the ground to avoid transferring heat from buildings to permafrost. Roofed galleries were expected to serve like covered streets that could help to solve the problem of greening in the Arctic as they could contain greenhouses, small shops and other public services. He claimed that it was a new "rational and effective way" of urban planning in the northern environment as it could help to reduce expenses of construction and infrastructural works in the Arctic and correct previous mistakes. There were many projects with small variations of this idea.[56] In the 1960s, authors of such projects with an artificial microclimate promoted them in scientific and architectural literature, in their presentations at the conferences, even in popular journals as "a journey to the city of the near future (Fig. 10.3)."[57]

In the middle of 1960s these projects became widely debatable in various spheres. Some of the modernist projects were even discussed on the pages of the local Arctic press. The readers in Vorkuta or Mirny could find in their daily newspapers numerous images of the immediate future of their towns: a technological city with modernist architecture made of glass and concrete, developed transport infrastructure and other technological innovations for a comfortable life in the North. Sometimes the projects of a city with an artificial microclimate were also referred to in the local press as "our polar city of the future" with detailed descriptions of the projects as if they had been constructed.[58]

On the one hand, the projects for Arctic towns with an artificial microclimate mirrored the architects' high-modernist intention to create the city where the life of its dwellers would be rationally organised according to a large-scale plan.[59] At the same time, these modernist projects can be seen as a wider continuation of the scientification of many fields during the 1960s. Future-oriented ideology penetrated different spheres of everyday life in the second half of the twentieth century.[60] A typical feature of engineers' post-war discourse was a strong and enthusiastic belief in the benefit of technical progress. Often-repeated phrases like "scientific-technical progress," "scientific approach" or "progressive and rational project" became stock phrases in all kinds of Soviet literature

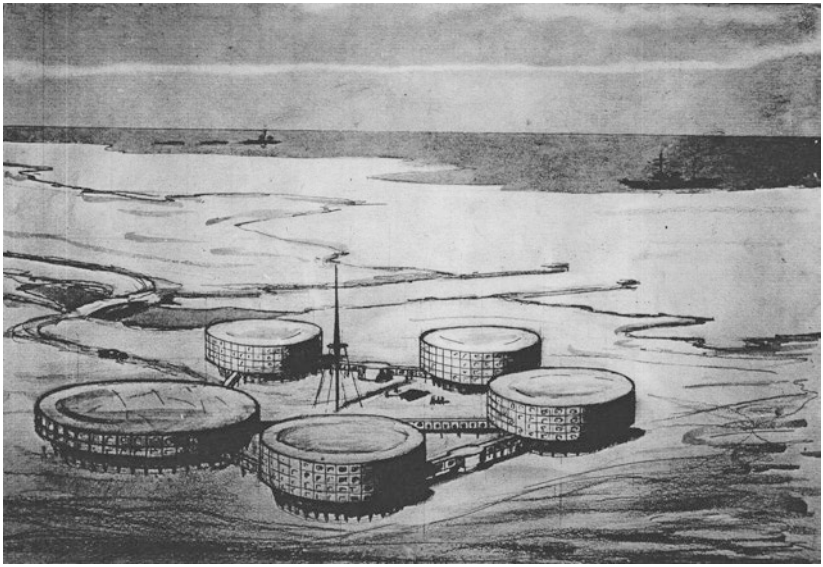

Fig. 10.3 Project of a town on the Arctic coast (*Source* TsGANTD SPb F. 17 Op. 2-2 D. 467. L. 35)

since early 1950s. Technology and science were considered as the main tools for achieving bright future in the shortest period. Different scientists themselves actively participated in the creation and circulation of various projections of future development in their fields. For example, in the book *A report from the 21st century* published in 1958, twenty-nine famous Soviet scientists wrote chapters about the development of science and technology in 2007.[61] Many Soviet planning institutions also explained the main task of their work with the phrase "to accelerate scientific-technical progress in the field of architecture,"[62] which actually meant the use of contemporary building methods in order to cheapen the construction works. This opened the door for various building experiments and attempts to construct houses totally made of plastic or aluminium panels, and mirrored modernist shapes and principles.[63] Especially after the conquering of space, urban expansion to the Arctic was considered to be a much easier task. Images related to space exploration became widespread in popular culture, so it could inspire designers to imitate of some elements in the shape of objects or even houses.[64]

At the same time, these modernist urban projects should not be considered just as isolated work of the Soviet architects: in 1958, Canadian architects also proposed a construction of the modernist domed-city Frobisher-Bay near the Arctic Circle.[65] Despite being suggested as one of the most comfortable northern cities, its construction was too expensive.[66] A participant of a Soviet scientific delegation to Canada in 1958 noted in her report that almost nobody among Canadian specialists took the project of a domed city for Frobisher Bay seriously.[67] Swedish architect Ralf Erskine also promoted similar ideas of construction of the special northern towns with improved microclimate.[68] Many Soviet architects admired Western modernism. During contemporary interviews, authors of these projects agreed that they "tried to reach western excellence."[69] At that moment, Soviet northern architects started to translate and publish articles on modernistic urban experiments in other northern countries.[70] Soviet engineers and architects were well informed about those projects. They were frequently referred to in Soviet professional journals as offering the "most complex care about inhabitants in the North."[71] However, almost the only resource of information about western Arctic urbanisation for Soviet architects were translated scientific journals. Therefore, sometimes they even did not know whether those Canadian or Swedish projects were implemented or not, and thus cited those projects as realised progressive settlements of a new type.[72] Nevertheless, there were still some specific characteristics in Soviet urban projects. While first proposals touched upon special planning design and technologies, the later updated projects of the mid-1960s assumed a special social order in northern towns: a strong regulation of the amount of inhabitants, a renewal of the idea to socialise household activities by creating a system of refectories and food factories to provide ready-to-cook foods for workers and their families instead of private kitchens in the apartments.[73] That issue makes the projects of cities with artificial microclimate closer to the Soviet avant-garde experiments.

The very northern environment to some extent allowed the Soviet architects to create modernist projects: highly untypical circumstances and the absence of special types of buildings for the northern climatic zone were used as legitimisation for planning projects with artificial microclimate. In order to justify these projects, the architects from the Department of Urban Planning in the Far North started to use the concept of "northerness" of architecture and planning for opening cooperation with other Northern countries. Architects tried to promote the

idea that towns in the Arctic should not be "Soviet" or "western," but foremost "northern." When they described a special planning system of micro-districts or the new types of buildings, they did not mention the issue of modernist design. Instead, the arguments were very functional: the necessity to cut down on construction expenses in the Arctic and the problem of making normal living conditions for the inhabitants in the Far North.[74]

Thus, there was also another important function of the seemingly futuristic modernist projects in the Soviet Arctic. Their appearance can be seen as a reaction to the compulsory standardised construction, a chance for the architects to show the creative nature of their work. Nowadays they represent themselves as heroes who achieved a lot by creating such Arctic projects even without their implementation. The contemplation of previous building practice during the Soviet housing reform in the 1950s opened an opportunity for different discussions about the ways of possible development of socialist architecture. On the one hand, architects became more independent in creating projects influenced both by western modernism and a partial rehabilitated of the Soviet Constructivism of the 1920s.[75] On the other hand, nobody knew whether the proposed projects were suitable for party demand and planning economy or not.

Yet, a reasonable question is to what extent this was a utopian undertaking rather than real proposals. The analysis of the authors' argumentation shows that the intention to create comfortable settlements in the Far North was not just a protest against previous building practices. Instead, they saw these projects as highly important for the present, not for the future. Moreover, the projects could be seen as the continuation of official Soviet discourse in the middle of the twentieth century, called up to improve living conditions for the population. At the same time, these projects sometimes did not have a wide support among other architects and engineers. For instance, great problems appeared during discussions of the projects with an artificial microclimate with local specialists. In 1958, Tatiana Rimskaya-Korsakova tried to persuade local engineers to build such a town not far from Norilsk.[76] However, during the discussion local engineers looked on the architects from Leningrad as strangers who did not understand local necessities. Norilsk specialists were not interested in large-scale issue of rational urban planning. In their work, they were more oriented toward the present needs of housing rather than long-term transformations of building environment.

The main critical claims were about "the absence of information about local conditions in your Leningrad."[77]

While numerous projects for particular northern buildings and specific building materials and planning principles of micro-district for northern towns created by architects from Leningrad were widely accepted and implemented, the fate of modernistic urban-planning projects for Arctic towns with improved microclimate was not so successful. On the one hand, from year to year, the work of these architects got state funds, such projects of towns with artificial microclimate received highest medals in Soviet architectural exhibitions. On the other hand, the State Construction Committee (Gosstroi of the RSFSR) did not take any responsibility for the realisation of these modernistic projects, approving some of them for implementation but avoiding to provide necessary funding. Controversial fate of these projects even mirrored the ambiguous position of the Department of Urban Planning in the Far North. On the one hand, this organisation was the chief institute in the USSR for research on urban planning in the Arctic. The members of that Department participated in many conferences devoted to the development of the Soviet North, published the results of their research and project proposals in special brochures, in central and local newspapers, in the main professional journals. In other words, they tried to behave as "real scientists." At the same time, they could neither influence the official construction instances nor control the implementation of proposals, because their research and projects were just taken as recommendations for other building organisations, not as obligatory planning and construction principles.

As a result, the attempts to implement such modernist Arctic projects soon came to an end. While in the 1960s these projects were widely called polar cities of the nearest future, already in the early 1970s some publications mentioning "northern" projects of Leningrad architects in "Pravda" demonstrate the disillusion concerning the modern future of Soviet Arctic towns:

> The cinema 'Rubin' in Surgut is on the edge of a building fantasy, […] 'northern version' of which exists only in montage or in images of unreal cities with glass domes and covered streets-galleries. […] We do not need to tease our conquerors of northern tundra with palms on the glassed-in streets, we need to provide them normal houses with stable heating systems…[78]

This rhetoric shift also represents broader processes through which "the most future-oriented period in Soviet history" ended in stagnation and nostalgia for the future.[79]

Conclusion

If these projects finally had been left on papers, one may ask about the reason to study them today. The unrealised proposals for Arctic towns especially in the Soviet context may seem just as utopian visions of a small group of people. However, utopia is an emotionally charged word. It contains both undertones of romantic dreams for a better future and internal affirmation in their unrealised nature. Future-oriented or utopian projects contain not only particular visions of the ideal social order, but also the process and strategies of its imagining. The distance between imagined brand-new urban project and implemented reality is always significant. Yet, different elements of the projects of towns with artificial microclimate do not seem utopian one by one: development of architecture demonstrates that a covered corridor between buildings or a winter garden, or round corners of apartment buildings was an ordinary practice for urban planning in the twentieth century. But combining these elements together makes any project look rather futuristic. Therefore, instead of questioning the possibility of implementation of these projects in the Soviet Union, it is important to understand their function in the particular historical context.

This chapter demonstrates that the case of modernistic urban projects was more than a trifling episode of the professional biography of a few architects from Leningrad. The projects of Arctic towns with an artificial microclimate were a part of the wider process of mastering and reimagining the Far North in the Soviet Union. The creation and circulation of modernist projects for Soviet northern towns were influenced by the intersection of at least two broader contexts of the Thaw period in Soviet history: changes in the policy of Arctic development in the USSR after the gradual closure of the Gulag system, and Khrushchev's housing policy and its influence on formation of new obligatory building practices. Both of these spheres experienced substantial shifts in the middle of the 1950s, which problematised representation of previous stages of their development and made it necessary to embody new conditions in large future-oriented progressive schemes. At that moment, various Soviet economic and urban specialists initiated one of the important discussions

about future visions of human-built environment in the Soviet Far North with the core point to make "comfortable" settlements there. Soviet urban experts in the 1960s created alternative projections for the new types of towns in the Far North and devised different images of the future being influenced by changes in Soviet science and by international patterns to gain legitimacy for their work and to implement architectural models which were alternatives to general building practices in the USSR.

In several northern countries, in the mid-1950s, the main task for the architects in the Arctic became to make harsh and psychologically challenging conditions comfortable for the population. However, transnational similarity of modernist projects should be explained not only by the blind transfer of the ideas. All those projects aimed to modernise the North had been at the intersection of the influences created by national politics, engineering, style, local social conditions and professional ambitions of the architects. To some extent, the appearance of modernist urban projects in the USSR was the architects' reaction to the expansion of standardised construction with almost no alternatives. Instead of strict planning schemes, the architects in the 1960s tried to create their own visions of the new cities in the Arctic. At the same time, this was not a dissent against widespread practices as the projects were packed in the patterns of official discourse. The architects from the Department in Leningrad tried to prove that those cities would be the golden mean between two main tasks—the necessity to cheapen construction in the Far North and to make normal living conditions for the inhabitants. Unusual climate conditions were used in the architects' discourse as legitimation for challenging urban projects. While most of those projects were not implemented, the appearance of such projects shows the shift in the attitude toward the North in the USSR. Production and circulation of the images of the comfort of future Arctic towns contributed to the creation of the idea of the "normalcy" of Arctic industrial settlements (and consequently, the region as such) in terms of social and cultural practices.

Notes

1. See for example Ryall, Schimanski and Howlid Wærp, *Arctic Discourses;* Frank, "Mythos of the North Pole."
2. While there are some differences between Arctic, Far North and polar territories, definitions and geographical borders of all of them were and still

are debatable. During Soviet times, "Arctic" was used mostly for shoreline territories and had geopolitical connotations, whereas "Far North" became a juridical term for the inland Northern region since the 1940s. However in contemporary works both these terms are used interchangeably. Therefore, in the context of this study, "Far North" is used as an overall description of the geographies involved.

3. Horensma, *The Soviet Arctic;* McCannon, *Red Arctic*; Josephson, *The Conquest of the Russian Arctic*.
4. Hemmersam, "Arctic Architectures."
5. Hemmersam, "Arctic Architectures"; Lee, *Radical Arctic Proposals*; Decker, *Modern North*.
6. The author of one of these projects points nowadays that the original term "artificial microclimate" which was frequently used for describing their projects, does not sound well as they did not intend to change microclimate itself. The core idea was to make special built-environment in the Arctic, which could help to avoid being outdoors for long period of time.
7. Semushkin, "Trubka Mir"; Murzin, "V Severnom Variante."
8. Koselleck, *Futures Past*, 259.
9. Gordin, Tilley, and Prakash, "Utopia and Dystopia beyond Space and Time," 4.
10. Hall, *Cities of Tomorrow;* Hermansen Cordua, ed., *Manifestoes and Transformations*.
11. Engerman, "Introduction: Histories of the Future and the Futures of History," 1403.
12. Avango, Nilsson, and Roberts, "Assessing Arctic Futures," 432.
13. Bass, *Peterburgskaya Neoklassika 1900–1910-kh gg*.
14. For more about the Thaw period see: Kozlov and Gilburd, eds., *The Thaw*; Bittner, *The Many Lives of Khrushchev's Thaw*; Jones, ed., *The Dilemmas of De-Stalinization*.
15. Koselleck, *Futures Past*, 262.
16. Cherskiy, "Sever Zhdet, Sever Trebuet!"
17. Slavin, *Promyshlennoe i Transportnoe Osvoenie Severa*.
18. For the brief overview of Russian and Soviet Arctic exploration in the twentieth century see Slezkine, *Arctic Mirrors*; Josephson, *The Conquest of the Russian Arctic*.
19. Dybbroe, Dahl and Müller-Wille, "Dynamics of Arctic Urbanization," 120.
20. Lajus, "In Search of Instructive Models"; McCannon, "Tabula Rasa in the North."
21. Bruno, *The Nature of Soviet Power*.
22. Barenberg, *Gulag Town*.
23. Mary reports from northern towns which depicted difficult situation with housing there are stored in The Central Archive of Scientific and

Technical Documents in St. Petersburg (TsGANTD SPb). For instance see: TsGANTD SPb F. 17 Op. 1-1 D. 410.

24. TsGANTD SPb F. 17 Op. 2-2 D. 479. L. 51; TsGANTD SPb F. 17 Op. 2-2 D. 432. L. 32.
25. Bataeva, "Osobennosti Uslovii Zhizni," 35.
26. TsGANTD Spb, F. 17 Op. 2-2 D. 479. L. 25.
27. Castillo, *Cold War on the Home Front*; Gorsuch and Koenker, eds., *The Socialist Sixties*.
28. TsGANTD SPb, F. 29 Op. 2-2 D. 484. L. 16.
29. *20 S'ezd KPSS. 14-25 Fevralya 1956*, 80.
30. Slavin, "Razvitie Proizvoditel'nykh sil," 19.
31. Kutsev, *Chelovek na Severe*. Later sociological research shows that in many cases these benefits were the most important reasons for moving to the Far North.
32. Slavin, "Rayonnyy Razrez Plana Vtoroy Pyatiletki."
33. Paperny, *Architecture in the Age of Stalin*.
34. Stronski, *Tashkent*.
35. Khrushchev, "O Shirokom Vnedrenii Industrial'nyh Metodov."
36. Smith, *Property of Communists*.
37. Meuser and Zadorin, *Towards a Typology of Soviet Mass Housing*.
38. Zhukov, "Tekhnicheskaya Estetika i Oborudovanie Kvartir," 1.
39. *Pravila i Normy Planirovki*.
40. TsGANTD SPb F. 17 Op. 1-1 D. 362. L. 64–66.
41. TsGANTD SPb F. 17 Op. 1-1 D. 362.
42. Pravila i Normy, TsGANTD SPB F. 17 Op. 2-2 D. 428 L. 14.
43. TsGANTD SPb, F. 17 Op. 1-1 D. 396. L. 2.
44. Interview with U.D. Brusnikin, October 14, 2013.
45. Interview with V.G. Tankayan, November 30 2013.
46. Interview with A.I. Shipkov, April 21, 2014.
47. Voronina, "Pamyat o BAM'e."
48. TsGANTD SPb F. 17 Op. 1-1 D. 378. L. 12.
49. Reut, "Na Severe Dal'nem."
50. TsGANTD SPb F. 17 Op. 2-6 D. 1188. L. 1.
51. Krupitsa and Boris, "Problemy Stroitelstva," 6–20; Murav'ev and Rimskaya-Korsakova, "Gradostroitelstvo i Akklimatisatsia Naseleniya," 83–91.
52. Terent'ev, *Milliony Novykh Kvartir*, 10.
53. Ullas, "Znachenie Prirodno-Klimaticheskikh Faktorov," 2–4.
54. Rimskaya-Korsakova, "Struktura Selitebnoy Territorii," 64.
55. Agafonov, "Zhiloy Kompleks," 35–37.
56. Murav'ev and Rimskaya-Korsakova, "Gradostroitelstvo i Akklimatisatsia Naseleniya," 83–91; TASS, "Zapoljarnyi gorod budushchego."

57. Odnovalov and Tsimbal, "Rascvetaushchie Goroda Zapolaria," 38–39.
58. TASS, "Zapoljarny."
59. Scott, *Seeing like a State*.
60. Fokin, '*Kommunizm ne za Gorami*'; Siddiqi, "From Cosmic Enthusiasm to Nostalgia For the Future."
61. Vasiliev and Gushchev, *Reportazh iz 21 Veka*.
62. RGAE F. 5 Op. 1 D. 19. L. 12.
63. Drozdov and Sebekin, *Proektirovanie krupnopanel'nykh zdanii*, 96–99.
64. Anker, "The Closed World of Ecological Architecture."
65. Farish and Lackenbauer, "High Modernism in the Arctic."
66. Attfield, "June in January?, 40.
67. RGAE F. 746 Op. 1 D. 135. L. 11.
68. Sörlin and Nordlund, "Modernizing the National Landscape."
69. Interview with Valentin Tankayan.
70. Rimskaya-Korsakova, *Stroitel'stvo*.
71. Yastrebov, "Osvoenie Krainego Severa," 24.
72. Rimskaya-Korsakova, *Stroitel'stvo*, 18.
73. TsGANTD SPb F. 17 Op. 2-2 D. 479.
74. TsGANTD SPb F. 17 Op. 1-1 D. 444. L. 14.
75. Bittner, "Remembering the Avant-Garde."
76. TsGANTD Spb F. 17 Op. 1-1. D. 395.
77. TsGANTD Spb F. 17 Op. 1-1. D. 395. L. 25.
78. Murzin, "V Severnom Variante."
79. Boym, *The Future of Nostalgia*, 60.

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CHAPTER 11

Conclusion: Anthropocene Arctic—Reductionist Imaginaries of a "New North"

Sverker Sörlin

A starting point for this volume is that discussions on the Arctic in our time are to a large extent driven by speculations of an uncertain future. Its positive, almost utopian version is predicated on climate change as a driver leading to economically viable mineral prospecting in high latitudes through the opening of the Northwest and Northeast Passages to shipping, increased tourism, mining, fossil fuel extraction, and other prosperous activities. Its contrasting, sometimes dystopian version suggests severe impacts on environment and local cultures, in addition to climate change itself being a frightening phenomenon everywhere, including in the Arctic. Some of this "geographic determinism" can be contextualized into a long tradition of visions of development of the Arctic, picturing a bright, and often also drastically changed Arctic with modern infrastructures, large populations, and even a warmer ("improved") climate. The epitomes of these

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visions might be those of Vilhjalmur Stefansson's Arctic development manifesto, *Our Northward Course of Empire* (1922), or indeed his earlier regional romance, *The Friendly Arctic* (1921), or, for the Soviet Union, Harry Peter Smolka's visionary journalistic document *Forty Thousand Against the Arctic* (1937).[1]

The genre has continued to echo over many generations, with climate change acting as the catalyst for current debates. The science language is often part of the package. As an example, one could cite this passage from a US report a few years ago that at the very outset makes it clear that remarkable things are happening, heralding an entirely new future: "This report comes at a unique time in human history—never before has an ocean opened up before our eyes, awakening many to the importance and relevance of the far north."[2] Widely spread popular histories and geographies of the region have brought a similar message ascribing significant roles to the Arctic in a world of tomorrow, yet unseen but conjured up with great energy.[3] Mainstream and popular media have followed suit and released an avalanche of Arctic futurology. One of them, the *Economist*, has even organized seminars with oil men and high-ranking militaries on the podium to set the tone for the strategic approach northwards (cf the oilmen of Warde's chapter). In the vein of their forerunners, reports, books, and journalism portray a future Arctic where economic activities have moved to the coasts where harbors, airports, and cities export resources and import people, technology, and capital, whereas the Inuit hunting grounds suffer from climate change that undermines a lifestyle based on frozen ground and sea ice.[4]

Elements of these visions have appeared in the previous chapters of this volume and they have already served the purpose of seeing these visions as a kind of process, and also work, worthy of study in its own right. Different interests prefer different futures, and since futures are not predetermined, despite what reports and scenarios sometimes tell us, be they "scientific" or not, this is a work that involves, precisely, competition. The effort to make your preferred future prosperous, happy, and more likely than the futures proposed by others, is a work that can be linked to ambition and interest, economics, and (geo)politics at least as much as it can be regarded as an outcome of science and scholarship. Behind competing futures are competing actors, busy gathering facts and data, analyzing and synthesizing, selecting and prioritizing, wishing and dreaming, construing and fabricating, in short, pursuing the work that makes Arctic futures an arena that merits our attention.

In fact, as the chapters of this book demonstrate, all these and other forms of sense-making, and appropriating, of the unfolding Arctic are complex, mixed, at times confusing, and are in need of serious disentanglement.

This final chapter tries to add yet another layer to this analysis of competing Arctic futures by understanding this genre of future visions as a kind of *historiography*. I will argue that the Arctic is, to put it crudely, now provided with a new history. As much as it is a narrative of the past this history is also a narrative of the future. The preoccupation with the future is a longstanding feature of the lore of the North. The new history, I will also argue, is in important parts derived from the natural sciences rather than from historians and it mirrors a particular way of organizing perceptions and projections of time in our era of the Anthropocene.

My point of departure is the observation that current reflexion on the Anthropocene—the role of humanity as a formative geological force on the global scale and responsible for the future *fate of the earth*—to a remarkable extent is about changing temporalities, i.e. social perceptions and projections of time.[5] These temporalities include historical periodization and the understanding of direction and speed of major societal and environmental transformations, which typically involve humans in a key role as agents. A common element in the emerging temporalities is that science and scientific framings are mobilized in the historical narrative and that geological and climatic factors are given considerable explanatory value.[6] While some are more reserved, others argue that this is the direction that the writing of history should take and that there are strong added values in a more integrative approach where scientists, social scientists, and humanists all contribute.[7]

The writing of history, the very direction of our world and our time, is increasingly under debate. Still, one could also see this seemingly new *Anthropocene historiography* as perhaps not so new at all and even dangerously close to well-known pitfalls of previous ways of writing history. This emerging literature echoes of older tropes of northern futures and it elaborates on earlier versions of regional or national histories that have been schematic, marked by simplification or downright determinism, be they based on climate, geography, natural resources, or sheer historical metaphysics, quite common in the Early Modern period.[8] Framing the visionary speculations as narratives of science and as *histories of the future* should perhaps rather be seen in *a context of attempting to give authority and agency to certain claims on time, destiny and direction of the Arctic for resource geopolitics and global change policies.*

The Absence of a Pan-Arctic History

It is a striking fact that the first general, academic history of the Arctic was published as late as 2012, John McCannon's *A History of the Arctic*. It was first in the sense that it made the claim to serve as such a history, albeit with a number of caveats: that it wasn't general—it didn't cover the entire Arctic (nor all possible themes)—that it wasn't very academic, and that it wasn't even first—a few popular forerunners existed, focusing mostly on the European and North American Arctic.[9] McCannon admitted that his book lacked a solid empirical foundation, largely because so little serious historical interest has been offered about the region as a common geopolitical space.[10]

The late arrival of a systematic historiography of the Arctic can be explained partly as a default outcome of its largely colonial status and its peripheral relations to major states and powers, partly by its absence of standard actors that historians used to require treating them as methodologically relevant. Another factor is the recent appearance of the Arctic as a meta-region in its own right.[11] The concept itself is old, but it spread as the name of an acknowledged region in earnest only in the second half of the twentieth century.[12] Furthermore, Arctic territories, populations, and events have only in exceptional cases been counted as legitimate elements of the histories of states. In Russia and the Soviet Union, the Northeastern sea route to Asia has been a national priority since the nineteenth century and resulted in major public agencies and research facilities in the twentieth. The Danish North Atlantic empire—Iceland, Greenland, Jan Mayen, and the Faroe islands—has been included in the history of Denmark and honored a role in school textbooks. The same goes for Canada, whose Arctic provinces and territories are part of a solid national narrative.[13] Arctic history has to some extent been part of the chronicling of companies, such as the Hudson's Bay Company or the London Muscovy Company. In particular, it has become part of the histories of exploration or woven into Arctic sub fields such as Arctic anthropology, archaeology, religious studies, or the Danish sub-specialty of Eskimology, or elsewhere Inuit studies. But even in these cases, history was rarely a chief objective. In the case of nations the Arctic elements were typically appropriated into a nationalist narrative. In the scientific genealogies the purpose was rather a backdrop to the formation of the particular discipline at hand, written largely, and often skillfully, by its own practitioners.[14]

Very rarely, if at all, historians have felt inclined to research and write, or even compile comprehensive pan-Arctic histories. When some attempts in this direction were started only quite recently it did so in sub-specialties focusing on science, environment, geography, geopolitics, or other fields where the Arctic was considered a more relevant category than it was in more general histories of for example power, legislation, war, political and social life.[15] Indeed, the keywords in the subtitle of McCannon's book were *Nature, Exploration, Exploitation*. One could of course say, that this pattern is not dissimilar from colonial encounters in other parts of the world, but with some marked differences. One is that Western or perhaps more accurately, Southern colonization was small in absolute numbers and large in relative terms. It is a consistent pattern that national majority populations have by far exceeded the existing local ones in numbers and especially in concentration, with cities like Tromsö in Norway, Kiruna in Sweden, Murmansk and Nikel in Russia, Fairbanks in Alaska, and Yellowknife in Canada dominated by non-aboriginal populations. The major exception is Greenland, despite the long Danish colonization since 1721 (with full status as a colony from 1814).

The pattern has a variable history though. Influx of majority populations into Arctic Russia, mainly to the Kola Peninsula but also to Siberia and as far east as Chukotka began on a massive scale under the young Communist regime in the interwar period in a concerted attempt to develop the natural resources there as part of "engineering socialism." There were also strategic and commercial reasons as Murmansk was a year-open port to the Atlantic and not, like St Petersburg, locked into the Baltic. Veritable campaigns were launched to attract engineers and their families and large numbers of workers to move north and the Russian population grew by hundreds of thousands, often living under harsh conditions and restricted freedom.[16] In the Nordic countries the colonial spread of majority populations is much older and date to the late Middle Ages and Early Modern period, although with a significant upturn in the nineteenth and twentieth centuries.[17]

As parts of their nations these northern lands, for the most part not called Arctic, have been researched and presented in some detail. The regional histories of the north are typically written into national histories where they are commonly presented affirmingly, if not triumphantly as integrated parts of the growth of legitimate and benevolent nation state projects, often supported by science.[18] A common theme has been the emphasis of the northern colonization and economic projects as future

oriented. The tradition can be taken all the way back to *Carta Marina*, the propagandistic map that the Swedish catholic chronicler Olaus Magnus printed in Rome in his attempt to impress on courts and princes in Europe, and the Catholic Church, so that they may act to reinstall the true religion in Protestant Scandinavia. His map, and his following massive four volume narrative, "The History of Northern Peoples" (1555) are replete with the same *miracula* and *mirabilia* as were used in Early Modern colonial projects elsewhere and that Columbus had used in dressing up his transatlantic discoveries; indeed, in the midst of northern Sweden Olaus Magnus inserted the words *minera auri*—gold ore.[19]

In the following centuries, it was common among missioning clergy in the north of Norway (part of the Danish empire until 1814), Sweden, and Finland (part of the Swedish empire until 1809) to write histories and geographies of their northern parishes and regions. These missionary tales, along with an also growing topographical literature in practice served as the historiography that there was. It is a literature that has yet to be more fully examined,[20] but we know enough about it to be able to say that it represented a metaphysical belief in a divinely pre-ordered spread of civilization and religion northwards, and that this should be richly rewarded not only in souls but in material wealth.

An example of this forward-looking narrative is Pehr Högström's description of Swedish Lapland from 1747 translated to several languages including French and Dutch.[21] He was, based on physico-theological thinking, deeply convinced that "Lapland" was chosen by God as a land of future wealth and massive population growth in an expanding Sweden and read anything from the flat landscape along the rivers (good for road making) or the many mosquitoes (a reminder that draining was necessary to improve agriculture) as signs of God's ambitions in the north. Knud Leem (1696/1697–1774), professor of Sámi language at the *Seminarium Lapponicum* in Trondheim, Norway, published a similar work.[22]

Considerable research has been carried out on the clerical chronicles literature, especially on their status as sources, for example on the Sami.[23] However, they also served as historical accounts and as such they consistently presented northern histories as future oriented. A basic trope was that of history as a divine promise for the nations to which they belonged. This lore of wealth in the unknown continued, although stripped of most of its religious underpinnings, and was rather reinforced in the industrial period when Arctic nations developed heroic northern

myths of resource nationalism, sometimes built into national policies. The Russian quest for the North East Passage to Asia, in and of itself an old dream, was transformed into an organized national quest in the latter part of the nineteenth century and the formation of major research institutes and public agencies in the Soviet period, chief amongst those the Main Administration of the Northern Sea Route.[24] In Canada, the quest for a "true North strong and free," based on the idea of northern resource development, theorized through Harold Innis's *staple theory*, became the hallmark of Prime Minister John Diefenbaker's Northern Vision policy in the 1950s, but with many predecessors in modern Canadian history.[25] In Sweden, there was a widespread rhetoric of the north, Norrland (more than half of the country's total area), as the "Land of the Future" based on extraction of minerals and the harvesting of forests, hydroelectric power and other energy resources, possibly also with a strong future agriculture and tourism.[26]

The Future Gaze and the Arctic Anthropocene

This backdrop already suggests that a central trope of Arctic imaginaries is the preoccupation with the future, and more precisely with the promise of future wealth and glory based on fabulous natural resources. It also tells us that these historiographies and narratives were deeply related to the destiny and direction of Arctic nation states; they were in fact emblematic examples of the kinds of future lore that nationalism typically displays.[27] Many of these features remain in the new Arctic imaginaries. Indeed, these similarities are so strong that it is very tempting to underscore the continuities in this process. However, there are also fundamental differences. The recent imaginaries and historiographies of the Arctic belong rather in another category, namely that of meta-geographical projects. The major subject of action and future here is no longer exclusively the individual nation but the Arctic as an entity, a whole.

The nationalist version of appropriating the Arctic and turning it into a part of history of the nation also suggests a very particular kind of temporalization: a future orientation combined with a fairly consistent denial of the Arctic as a whole, or at least the high Arctic, as standing outside of history. Even in those countries where there has existed a longer historiographical tradition this tradition seems to be bound up with an identity as not "Arctic," but using other concepts such as "North," or varieties of that word, or "colony" for Danish Greenland. It is as if "Arcticality,"

a term introduced by Gíslí Pálsson,[28] has excluded historical depth precisely because it has not been turned into the national(ist) narratives but instead invited a temporalization shift towards an essential future gaze that has kept being reproduced, with slight shifts in focus and argument. An element of development of known or hidden resources had always been there, already in the Early Modern fantasmagoric tales and maps. Another trope, also related to the vagueness of the North, is the idea of *horror vacui*: the fear that if the state was not represented by commercial interests, administration, militarily or in other forms of presence, control of the resources would be at peril. If need be claims on undefined space could be made indirectly through "actants."[29]

This future gaze, the inbuilt capacity to await future significance, is hence a central part of the external temporalization of the Arctic. And so is the equally inbuilt property of this temporalization to assume a more or less stable background situation. In what remains of this chapter, I will expand on the contrasting idea I presented at the outset: that while the preoccupation with the future remains largely intact and follows its conjunctures of hope and disappointment, booms and busts, the general framing of the temporalization has been changing, precisely because the Arctic has been provided with a new "naturalized history" that derives its main narrative from the natural sciences.

A common concept for much of these currently destabilizing temporalizations is the Anthropocene. By now a well-known concept in the scientific literature and among strands of the historical community, the Anthropocene refers to the increasing capacity of humanity, taken as a collective, to exert profound and lasting impacts on the earth. This capacity has grown during the entire Holocene, the last 12,000 years, and it is debated if an Anthropocene epoch should be proclaimed during which this human force has been the dominating force to impact on the earth, and if so when it started. Many argue that this impact should not be dated further back than the industrial revolution in the late eighteenth century or not even earlier than ca 1950 when there is overwhelming evidence for a dramatic increase in impacts called the Great Acceleration.[30]

The Arctic occupies a privileged position in the emerging narrative of the Anthropocene. Some of the most spectacular indicators of changes in the earth system are particularly visible in the Arctic. Climate change is more pronounced in the Arctic with a so-called "Arctic amplification" mechanism that has led to a temperature increase in the region twice

as high as the global average since preindustrial times. Sea ice has been waning steadily since the 1980s and the shrinking of the Arctic Ocean summer ice cover has become a global icon of climate change. Similar trends have been identified for the size and seasonal length of terrestrial winter snow cover. Reports by indigenous populations on changing ice and snow conditions abound since many years and have given rise to a substantive research among anthropologists, geographers, historians, and geophysical scientists about how Anthropocene impacts play out among local communities.[31] Erosion and thawing of permafrost in the Arctic tundra give rise to additional feedbacks impacting on terrestrial and marine systems. Vegetation periods in Arctic tundra and boreal forests are growing in length. Permafrost levels are going down and now serve in and of themselves as indicators of change.[32]

All these changes, and several others, combine to raise the Arctic to a special position in establishing an emerging new narrative of the modern era, especially the period since 1950, which coincides with the mainstream chronology of the Great Acceleration after the Second World War and the official dating of the Anthropocene. The Arctic has also assumed a special standing as a critical factor in influencing and connecting environmental conditions around the planet and a key role in an emerging understanding of a future "fate of the earth" and of humanity where "humanity" as a collective play a key role. The Arctic is far away from major population centers, but a key feature of Anthropocene understanding is the connectivity across space and time. Impacts are not just local; they are mediated and can travel. Hence, "teleconnections" has become yet another trope of this new Arctic narrative (cf Paglia this volume).[33] It was known for a long time, and discussed since at least the interwar period when the concept was also first used, that climatic changes could travel far.[34] Also, it was well established that weather in the North Atlantic was affected by the massive accumulation of ice and cold in the far North. This was used as an argument for Arctic research in the Scandinavian countries which could even be called a Nordic "responsibility."[35] In recent years a similar argument has been used on the global level. The Arctic is now affecting the rest of the world, according to findings in earth systems science. Monsoons in Asia depend on climate change in the Arctic. Arctic warming has been linked to observed increases in tundra shrub cover and growth which in turn can be linked to teleconnections.[36] The shrinking sea ice is, it is suggested, causally connected with changes elsewhere, from the Baltic to the Pacific.[37]

The Arctic Ocean is the smallest of the world's seas and as a region the Arctic comprises a mere three percent of the globe. But in the world of earth systems science the Arctic hits far above its weight and has been given a prominent role in the temporalization of systemic geophysical events and processes. At the same time, the Arctic itself is at the receiving end of the same earth systems logic. The waning of the ice and the snow, the reduction of the albedo, the thawing of the tundra and the longer vegetation periods, and indirectly changes in societies, villages, and for human livelihoods, are all effects of climate change, especially in its amplified Arctic version. In the language of earth systems science, climate change, decisive and dramatic in and of itself, is the *driver* of Arctic change.

Several major synthetic reports, many from the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP), have summarized this work and gradually built this grand narrative of an Arctic that is on the one hand a recipient of changes caused elsewhere and, through its own changes, the causal factor in changes going on elsewhere. The *Arctic Climate Impact Assessment* (ACIA) report in 2004 is generally regarded as the first full establishing of the Arctic as climate vulnerable, as an amplifier of global effects and as an indicator or "bellwether" of climate change on the global scale.[38] The *Snow, Water, Ice and Permafrost in the Arctic* (SWIPA) report in 2011 reinforced this general image. The *Arctic Resilience Report* (2016) broadened the scope to include ecosystems, economic and social change and tried in particular to investigate the capacity of systems, of all kinds, to adapt to change and transform successfully. In essence, however, it offered the same overarching narrative of an Arctic strongly affected by change and with unclear outcomes, only in a more comprehensive version.[39]

Over this more than decade long period, the word Anthropocene has increasingly risen as the overarching concept that brings structure and direction to global change, and also Arctic change. It was not mentioned in the ACIA report, which was when the concept had just started its modern career, launched by Paul Crutzen and Eugene Stoermer in 2000 and further propelled by an article by Crutzen in *Nature* 2002.[40] In later reports, it has occupied an increasing position and in the *Arctic Resilience Report* it is a foundational perspective for the framing. Arctic change has become part of the evidence of the arrival of the new epoch: "The core message in the idea of 'the Anthropocene' is that we are sufficiently numerous and our actions are sufficiently magnified by technology that human actions have become a powerful biophysical force at a global scale."[41]

In 2014, the National Academies of Science in the United States issued a report with the concept in the very title, *The Arctic in the Anthropocene: Emerging Research Questions.*[42] Its basic argument was that change in the Arctic is now so comprehensive and irreversible that it requires an entirely new set of questions to guide future research. These questions should reflect the fact that the Arctic is now already in the new epoch.

New North Reductionism

Almost a full century after Vilhjalmur Stefansson's bold and far reaching vision of "The Friendly Arctic" that would open up a new step in the progress of humanity on its "northward course of empire" the imaginaries of the north seem in perfect health and vigor, if we are to judge from the reports just cited. But is it the same kind of future? Not quite. The future that Stefansson had in mind—just as his many predecessors over many centuries—was not constrained or steered by any scientific understanding of change, let alone by any particular direction of change. Environmental change was unknown to him; "the environment" was not yet a concept in our now current usage, let alone would he imagine that such a change could be predicted.[43] He was also unaware of the possibility of any large scale effect that human activity could have on climate or other major physical conditions. The fact that his Arctic progress narrative had such a deterministic geographical direction, from the heat of Babylon to the cold of Canada and the Arctic rim, was rather a repetition of an old metaphysical trope of progress, translated into a language, with numbers and graphics that *looked* scientific.[44] The constraints Stefansson and other Arctic visionaries really counted on were those set by climate and geography. Stefansson's visionary boldness lay precisely in his disregard for such constraints. Ice, snow, and cold were no obstacles, he argued, they were useful tools for Arctic survival and wellbeing. Climate itself was a guide, and if anything it would only improve with increased human activity. Arctic geography was benevolent.

Future in the Anthropocene is almost perfectly the opposite. It is constrained by science and it can't be freely chosen. Climate change is its prerequisite. It is a science informed projection of waning sea ice and irreversible warming that determines the general direction of Arctic futures. This is as true if the future means a bonanza of resource extraction as if it means environmental and social decline, or both. Even more

fundamentally, these potential futures are determined outside the Arctic. The Arctic is less a region or a set of states and actors that determine their own future than it is a product of decisions and agency elsewhere. The Anthropocene itself seems to impose a trajectory for the Arctic that is predominantly one of adaptation to circumstances rather than one of choosing a future and trying to make it happen.

That this perspective dominates in largely science-based reports may not be very surprising. But it is also a super narrative of our time, influencing future-oriented work based in the social sciences and humanities as well. In fact, the latter often cite the former. The emerging scientific *Weltanschauung* of the earth system sciences works as a framing of the kinds of future-oriented narratives that are possible.[45] Ultimately, it seeps into policy documents and general thinking so that "the Arctic" today is not just the region that became the product of region-building—it is also a region that is the product of a particular form of Anthropocene temporalization. One could argue that this is what increasingly happens to the entire planet: that it is shifting from a state where geographical constraints are permeable and can be challenged by the will and ambition of social actors, what we might call the democratic or the political, to a state where the geographical constraints are introduced by scientific intervention in relation to which the democratic and political forces have to adapt. This shift is one of the main causes behind the controversies that the Anthropocene concept has provoked. Will humanity be liberated in the Anthropocene or will it become constrained by the new workings of the earth system that we ourselves have wrought?

This shift is nowhere more readily perceived than in the Arctic. Despite successful inroads by the human and social sciences, it remains a region where science descriptions tend to play a disproportionately large role. It is also a part of the world where a large presence of human societies is also more recent (and still small compared to most world regions). This gives the Anthropocene narrative more leverage and allows it to inform temporalizations without much narrative friction or temporal resistance. There is little proper history writing there to balance the Anthropocene influence.

It is not easy to state clearly what the lack of a thick, rich written history implies for a country or a region until such a region or nation is in a formative phase: then a new history has to be written to provide a meaningful and purposeful identity of the new community, which is at the same time environmental, spiritual, and political—or so it has been, in countless transitions of history since the French Revolution. In this

regard, we may look at the Arctic as a new region, a new political space, which is in a perfectly typical need of an articulated identity and a narrative of its place in time, a temporalization, or, rather, a set of synergistic temporalizations that can in some polyphonic way, including diverse ethnic communities and local and national histories, work towards a unified, yet diverse imaginary of past-present-future. It is a daunting, but also possibly alluring challenge. After a period, longer or shorter, of articulating their future-oriented national histories in the North, Arctic states are increasingly entering a regional phase. But as yet they don't seem to have any clear idea of what this history might mean, nor what a reasonable regional future might imply. In this void the science-based temporalities tend to get the upper hand.

Canadian Prime Minister William Lyon Mackenzie King said in a speech to the British House of Commons in 1936, that his was a country with "too much geography" and too little history.[46] He was probably wrong on both scores, but most perfectly wrong on the second. About the Arctic it could be said that it fits on the second one, if it is just tweaked a bit: it is a place with too little *historiography*. In that sense, the two books cited in the beginning of this chapter, Charles Emmerson's *The Future History of the Arctic* (2010) and Laurence C. Smith's *The New North: The World in 2050* (2011), are emblematic insofar as the Arctic history that preoccupies them is almost entirely that of the future.

For Emmerson, the Arctic is confusing, with unclear boundaries, unclear definitions based on temperature, latitude, vegetation, varying between the climatologist, the biologist, the geographer, the political scientist… "And for the historian? For that unlucky soul, the Arctic is all these things and more." Is that a reason to be unlucky? Might it not be on the contrary—so much to write history about! But Emmerson continues on a reductionist path: "But for most of us, the Arctic is above all an idea."[47] The Arctic is certainly an idea, or rather many ideas, but is it not more than that? Still, Emmerson says important things: the Arctic is not a single place, it is fractured.

Smith's *New North* takes one step further and presents a full-scale Utopia. As global warming continues, the Arctic will be increasingly livable and a refuge from inhospitable places in hotter climes so that by 2050 it will have turned from a periphery to a hub. The Friendly Arctic 2.0, although for a completely different reason than that proposed by Stefansson, and, importantly, not with a metaphysical underpinning but based on the science story (which however seems metaphysical in Smith's sanguine imaginary).

Indeed, what these emblematic 'historical' texts tell us is precisely how determining the science narrative has become. Instead of attempting a history these authors use fragments of the past to build what is essentially a speculation of what might happen in the future. In that particular genre, of historically informed guess work, they are both smartly conceived and enjoyable, but already now, less than a decade later fairly badly treated by the passing of time. They stand out mostly as local Arctic symptoms of the kind of processes that constructivist historians, geographers, and other scholars have since long argued, namely that regional formations are bound to release the narrative energies of self-professed *mythomoteurs*. In that vein, Emmerson and Smith come across as a kind of smaller, homespun copies of their grander patriotic predecessors, Canada's Stefansson, Norway's Fridtjof Nansen, or Denmark's Knud Rasmussen, who gained some of their grandeur from multi-year heroic expeditions.[48]

The Anthropocene temporalization, spiced up with the opportunities of economic promise is perhaps irresistible. The underlying science narrative is an excellent baseline which many historians in all parts of the world would do well to pay attention to. Some of the best work today on Arctic culture, social life, and indeed history integrates climate and environment as essential factors.[49] It is a literature that is not exclusively relevant to Arctic specialists, just as significant work on India is not only relevant to Indianists or enlightening books on Russia not just of interest to Russianists. Books, also from the last decade or so, by Kirsten Hastrup on Greenland (2015), Julie Cruikshank on cultural encounters around glaciers in the eighteenth century Pacific Northwest (2005), Shelagh Grant on forced relocations in the Canadian Arctic (2010), or Andrew Stuhl on the deconstruction of the superficial "new Arctic" narratives (2016) speak to cultural, social and environmental issues anywhere.[50] But these works have been too few and they have not been able to form any counter narrative. Most work has remained overly inward looking and the sheer amount of work that has gone into understanding the full width and depth of Arctic histories has been way too small.

The Need for Thicker Histories

An Anthropocene temporalization in the Arctic tends to reproduce and cement a narrative which turns the Arctic into a reactive position. This is the case in the "future histories" by Emmerson and Smith. The trajectories they sketch—wildly different as they are—share an "Arctic" which is

bumped and bullied into serving particular roles in the interest of agency resting elsewhere. Still, this agency is too vague, and too sparsely presented to become more than a ghost and as history these kinds of work will be little more than gestures. Even in more strictly scholarly works on social and historical issues, a similar tendency to align the research agenda with the climate science narrative is hard to deny. With the best of intentions this work, often of high quality, was boosted during the International Polar Year 2007–2009.[51] Since then this tendency has probably grown.[52]

The result was impressive collaborations and great projects and an expansion of social science and humanities in Arctic studies.[53] It is easy to find case studies where the science infusion has clearly offered imaginative new approaches. We should also take stock in observing the humanities and social sciences content of this new understanding. The science concept of ice, and cryosphere, is only one topic that has been colonized by scholars in a range of historical disciplines. Ásdis Jónsdottír writes about the southern Iceland glaciers which she reads as constructed natures, and the materiality of major national imaginaries: "It examines how 'local' and 'global' glaciers come into being in practices of knowledge making, storytelling and taking photographs." Glaciers are enrolled in narratives of Iceland, its history, its future, its identity, but also in global narratives on climate change, vanishing life forms and cultures.[54] Perhaps most importantly, we can contextualize this work, as it were scale it upwards into new narratives of the planetary. Some of these are truly scary and involve policies and technologies that go beyond the ethically and environmentally responsible, and are truly violating sustainability in the Arctic. But the local stories become parts of the global narrative in ways that *it falls also on scholars to provide*. There are narratives of hope that we can also tell, emerging stories of protecting ice and conceiving of it, for example along the lines of the environmental humanities where such storytelling is a central concern.[55]

While encouraging observations such as these can be made, it is also, a decade down the road, hard not to see a potential cost: the lack of hypotheses and research lines that are rooted in the kinds of explanations that we used to believe in and that historians all over the world still trust: political, social, economic. The massive outpour of Arctic reports and assessments, some of them with claims on what "drives" and "explains" past, present, and future change in the region and sometimes also issues advice on how to "manage" or "adapt" present societies and ecologies in a language and a framing that still would be impossible in most other

parts of the world.[56] The reason is that other parts of the world have a presence of the past and the present that is rich and massive enough to hold back the impulses to simplify what isn't simple at all, just because there is still more ice than people.

The chapters of this volume are an attempt to bring the issue of Arctic futures to the fore. Many of them are empirical examples of how futures for the Arctic have been presented, from the economics and politics of oil to the building of high-tech towns on the Euro-Asian tundra. Many others, in fact most, have built into them elements of reflexivity on the issue of futures itself as a historiographical problem. They are all—some tacitly, some overtly—preoccupied with the same challenge as I have made the central theme of this final chapter: the context and politics situating the scholarly ambition of writing a history that makes a responsible and meaningful difference in a situation where competition is hard from wishful thinking, journalistic snapshots, or indeed, the kind of fake pasts and fake futures that are both timeless and in our time canvassed at least as shamelessly as ever before. The Arctic has been vulnerable to this traffic, and still is, and if there are competing futures we should at least argue that no future, not even a fake future, is yet history.

Already some years ago, Mike Hulme warned in a much-cited paper of the risks of "Reducing the Future to Climate." He looked back at how previous generations of climatologists had repeatedly, despite lessons that it didn't work, returned to the temptation to simplify complex patterns of change to explanations of the past based on changes in climate. He also identified the possibly even stronger temptation to predict the future: "In its crudest form it [climate reductionism] asserts that if social change is unpredictable and climate change predictable then the future can be made known by elevating climate as the primary driver of change."[57] He goes on to cite historian Stephen Pyne, best known for his fire histories from around the world, who in his poetic essay "The End of the World" (2007), says the so obvious but so easily forgotten, namely that reductionism is a useful, indeed necessary method of science and technology, of all research. It is "good for extracting resources and for creating instruments, medicines, gadgets; but it does not—cannot—tell us how to use them or when or why." Use is about meaning and judgment. The same goes for the writing of history. It is tempting to reduce history to simple explanations, readily available storylines or "drivers." But, Pyne reminds us (historians): "[Reductionism] cannot tell us what we need to know to write genuine history, even when that history involves nature."[58]

Hulme's take home message is that there is no way escaping from "putting society back into the future."[59] I agree, and I would like to extend this statement to encompass the futures of the Arctic. Once you introduce societies and their complexities, contrasts, and creativities, there will always be a healthy balance between the necessity to simplify and predict on the one hand and the necessity to doubt and point to alternatives on the other. Above all, it will be necessary to allow for democratic and collective, indeed political, agency which is another word for freedom.

The lesson to be learned is that historians, and the funding agencies and foundations that support their research, need to take the Arctic more seriously as a political and historical entity. They (we) have also at times been carried away by the allure of the simple and straightforward, in particular when it is these kinds of research lines that have offered chances to be better fed from the more richly filled funding portfolios of the natural sciences. Historians and social scientists should sit down next to natural and medical scientists and they should collaborate. In doing so, they should realize the limitations of each others' stories. In the Arctic the hegemonic stories have come from the sciences and in particular those sciences that have been able to call on the forces of climate.

This has brought risks. The meta-narratives propelling policy and popular imagination about the Arctic remain by and large in the hands of those who care for temporalities and narratives that have an overt or covert instrumental (or "reductionist") purpose. One could put this in other words and say that Arctic historiography has not yet fully pursued its transformation from methodological nationalism to that of transnational regionalism, although individual exceptions exist.[60] Even to achieve an acknowledged *national* Arctic historiography has proven hard in most Arctic nations. This ambition is far from fulfilled; histories on the north of countries such as Sweden, Norway and Finland remain underrepresented and need further integration into national historiography.

Yet another way of expressing this concern is to say that there is a disproportion between imaginaries on the one hand and their empirical foundations in rich and thick descriptions on the other. There is too little history to serve as a counterweight, in particular when the imaginaries are reductionist, simplified, and grand. This keeps the Arctic exceptional in an unfortunate way. Historiography is usually plagued by the opposite concern: too little synthesis, too scarce overview. Arctic history so far remains a sketch, a set of criss-crossing scratches, a palimpsest barely begun.

Notes

1. Stefansson, *The Northword Course of Empire*; Stefansson, *The Friendly Arctic*; Smolka, *Forty Thousand Against the Arctic*. For literary expressions of Arctic visions, see for example Grace, *Canada and the Idea of North*; Hansson, "Arctopias."
2. *The Arctic in the Anthropocene*.
3. See for example Emmerson, *The Future History of the Arctic*; Smith, *The New North*.
4. For example as it has been analysed for northern Greenland by Danish anthropologist Hastrup, "The Icy Breath"; Hastrup, "Anticipation on Thin Ice."
5. Bonneuil and Fressoz, *The Shock of the Anthropocene*; McNeill and Engelke, *The Great Acceleration*; Jordheim, "Introduction"; Chakrabarty, "The Climate of History"; Pálsson et al., "Reconceptualizing the 'Anthropos' in the Anthropocene."
6. Lakoff, "Why It Matters How We Frame the Environment."
7. Christian, *Maps of Time*; Costanza et al., *Sustainability or Collapse*; Cornell et al., "Developing a Systematic 'Science of the Past'"; van der Leeuw et al., "Toward an Integrated History to Guide the Future."
8. Early Modern northern speculation had several elements of Christian schemes that promised a northward progression of civilization, sometimes with a benevolent pastoral version of climatic conditions, even including promise of human amelioration of climate through cultivation. An example is Swedish clergyman Pehr Högström (1747), see below.
9. Vaughan, *The Arctic*; McGhee, *The Last Imaginary Place*.
10. McCannon, *A History of the Arctic*.
11. Sörlin, "The Arctic Ocean," on meta-regionalization and the Arctic.
12. Keskitalo, *Negotiating the Arctic*.
13. Coates and Morrison, "The New North in Canadian History and Historiography."
14. Krupnik, ed., *Early Inuit Studies*.
15. Jørgensen and Sörlin, "Making the Action Visible"; Bravo and Sörlin, *Narrating the Arctic*.
16. McCannon, *Red Arctic*; Josephson, *The Conquest of the Russian Arctic*; Nuykina, *Resettlement from the Russian North*; Holzlehner, "Engineering Socialism"; Bruno, *The Nature of Soviet Power*; Bolotova and Stammler, "How the North Became Home"; The recent development is covered in Orttung, *Sustaining Russia's Arctic cities*. For the broader Soviet ideological and political background, see Graham, *The Ghost of the Executed Engineer*.

17. Sörlin, *Framtidslandet*.
18. Sörlin, *Science, Geopolitics and Culture in the Polar Region*; Bravo and Sörlin, "Narrative and Practice."
19. The best analysis of the Arctic Ocean lore of Olaus Magnus is Johannesson, *Götisk renässans*. See also, Roberts, *The Early Vasas* and for comparative aspects on the genre of colonial lore of resources and riches, Greenblatt, *Marvellous Possessions*; Seed, *Ceremonies of Possession*; Campbell, *The Witness and the Other World*.
20. Legnér, *Fäderneslandets rätta beskrivning*.
21. Högström, *Beskrifning öfver de till Sveriges krona lydande lappmarker*.
22. Leem, *Beskrivelse over Finmarkens Lapper*.
23. Ojala, *Sámi Prehistories*.
24. McCannon, *Red Arctic*; McCannon, *A History of the Arctic*, 206–209.
25. Abel and Coates, *Northern Visions*; Zaslow, *The Northward Expansion of Canada*; Innis, *The Fur Trade in Canada*; Easterbrook and Watkins, "Introduction", and "Part 1: The Staple Approach"; Grace, *Canada and the Idea of North*.
26. Sörlin, *Framtidslandet*.
27. In the history of nationalism, national destiny is a standard trope, based on religious calling, myths and metaphysics of history, but also often rooted in rich natural resources.
28. Pálsson, "Arcticality."
29. Göthe, *Om Umeå lappmarks svenska kolonisation*. On actants, see Avango this volume.
30. Steffen et al., *Global Change*; Steffen et al., "The Anthropocene"; Steffen et al., "The trajectory of the Anthropocene."
31. Gearhard, *The Meaning of Ice*; Krupnik, *SIKU*.
32. Chu, "Mapping Permafrost Country."
33. Paglia, *The Northward Course of the Anthropocene*.
34. Ångström, "Teleconnections of Climatic Changes in Present Time."
35. Ahlmann, "Polarforskningens värde och berättigande"; See also Sörlin, "Ice Diplomacy and Climate Change."
36. Macis-Fauria, "Eurasian Arctic."
37. Overland and Wang, "Large-Scale Atmospheric Circulation Changes"; Francis and Vavrus, "Evidence Linking"; Barnes, "Revisiting the Evidence"; Jakobson, "Atmospheric Teleconnections."
38. ACIA; Wormbs, "Bellwether." The results from ACIA and the policy report were presented in 2004 but the scientific report was not published until 2005.
39. *Arctic Climate Issues 2011; Arctic Resilience Report*. Also of interest in this regard is the *Arctic Ocean Review*.

40. Crutzen and Stoermer, "The Anthropocene"; Steffen, "Commentary."
41. *Arctic Resilience Report*, 18.
42. *The Arctic in the Anthropocene*, 13.
43. Warde and Sörlin, "Expertise for the Future."
44. Pálsson, *Travelling Passions.*
45. I have developed this theme further in a book on the Anthropocene in Swedish, Sörlin, *Antropocen*.
46. The full citation is, "It is equally true, I should add, that as some countries have too much history, we have too much geography." W.L. Mackenzie King, Prime Minister, House of Commons Debates, 18 June 1936. See Campbell, "Pragmatism and Poetry," 104.
47. Emmerson, *The Future History of the Arctic*, 4.
48. Stefansson, *The Northward Course of Empire*; Nansen, *In Northern Mists*; Rasmussen, *Polarforskningens saga*.
49. Many such works have been cited above.
50. Hastrup, *Thule*; Cruikshank, *Do Glaciers Listen*?; Grant, *Polar Imperative*; Stuhl, *Unfreezing the Arctic*.
51. Krupnik, "Social Sciences and Humanities."
52. A couple of examples, among several that could be cited, of how some of even the best work now is infused by climate meta-narratives and their sometimes cliché tropes: Petrov, "Arctic Sustainability Research"; Harriss, "Epilogue."
53. The trend was strong already in the running up to the IPY, Hovelsrud and Krupnik, "IPY 2007–08."
54. Jónsdóttir, "Scaling Climate."
55. Heise, "The Environmental Humanities."
56. Some of the analyses that have been undertaken in the Assessing Arctic Futures project have addressed precisely these, typically often un-reflected properties of the assessment genre. For both details and perspectives, see other chapters of this volume, and Wormbs, "The Assessed Arctic"; Wormbs and Sörlin, "Arctic Futures."
57. Hulme, "Reducing the Future to Climate," 265.
58. Pyne, "The End of the World," 650.
59. Hulme, "Reducing the Future to Climate," 266.
60. An attempt to assemble a transnational regional approach to Arctic historiography is Sörlin, ed., *Science, Geopolitics and Culture in the Polar Region*.

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