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Patterns of Arctic Extractivism

Past and Present

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How can we understand the “big picture” of Arctic mining? As a backdrop to what follows in the rest of the volume, this chapter provides an outline of the resource extraction history of the Arctic. We focus mainly on historical resource extraction in the European Arctic, with brief comparisons with Arctic North America and Russia. The chapter is also an attempt to reinterpret and reconfigure the extractive past and present of the Arctic using *extractivism*, presented in the previous chapter, as a framing concept and theoretical tool. What were the main patterns of Arctic extractive history during the industrial period and are there deeper historical patterns that can be identified in this moment of intensifying resource extraction?

We explore this question along four main themes: the *extractive frame of mind* in Western thought and Arctic visions; the *material and social impacts* of historical extractivism; the *ties of extractivism to Arctic colonialism* and modern “development”; and the emergence of *debates around contemporary and future extractivism* and its implications for Arctic territories and peoples.

Natural resource extraction has grown to global significance as the basis for industrial modernity (Sörlin, 2023, see Chapter 1). This modernity emerged with the Industrial Revolution, accelerated dramatically during the twentieth century, and is now changing rapidly because of new growth in East Asian and other economies beyond the Euro-Western world. It may be argued, as currently takes place in a growing literature in innovation and transition studies, that it is undergoing ruptures and stands at a crossroads (Kanger et al., 2022). Extractive industrial modernity produced particular kinds of societies, based on values linked to gender, ethnic, and social hierarchies and with largely unsustainable economies. This modernity is increasingly being challenged, and political and cultural tensions around extractive industries have grown far beyond those we saw in past controversies around preservation and conservation. It is in this emerging, uncertain world that we must locate Arctic extractivism. Is the latter on the crest of the wave of change or caught up in a region resistant to change, bogged down in extractivist patterns of the past?

There are multiple framing narratives of extractivism, and Arctic stories represent just some of these. In contrast to the singularizing “New North” narrative that we have often heard from policy and media since the end of the Cold War, the Arctic holds, and has always held, several distinct potential pathways with different trajectories, chronologies, and politics (Stuhl, 2016). Indeed, the fact that the future is undetermined has spawned notions of “competing Arctic futures” (Wormbs, 2018) but also, as transformational change is increasingly likely worldwide, the possibility for a plurality of “dynamic sustainabilities” (Leach, Scoones, & Stirling, 2010). Extractivism – particularly mining and oil and gas activities – has been a fraught issue for a long time and remains disputed in many of these narratives. To make things even more complicated, critics and advocates of extractivism may be located on “both sides” of the divide for or against mineral and oil and gas extraction. Extractivist advocates can be found, perhaps most usually, among settler residents and external actors (capital, extractive industries, government). But they also exist among some Indigenous groups (typically those with co-ownership to either land or infrastructure such as native corporations in Alaska), political activists, and scientists, although these groups typically would also be well represented amongst opponents to extraction that exceeds the artisanal, Indigenous, and/or small-scale.

Extractivism in the Arctic is changing, as we can start to discern the contours of a post-fossil fuel society and as the future of traditional mining is uncertain in many places of the world. That said, the transition toward a low carbon future will require tremendous investment in mineral extraction including rare earth minerals (Prior et al., 2012; Gilberthorpe & Hilson, 2014; Rossi et al., 2021; Sörlin, 2021, 2023, see Chapter 1; Lien, 2023, see Chapter 12). Extractivism itself is connected to post-fossil fuel futures: certain minerals are central to electrification, renewable energy infrastructure such as solar panels and wind turbines, and extractive elements may be detected in the seemingly post-material versions of Arctic economies, such as tourism, education, science, and culture (Sokolíčková & Eriksen, 2023; see Chapter 3). This phenomenon implies that extractivism should perhaps be seen as a *socio-economic formation* in deep resonance with these ongoing transformations just as much as it is a historical “hole in the ground” tied to certain waning commodities or forms of energy.

The roots of these contemporary debates around extractivism, this chapter argues, are located in the overarching dynamic of Anthropocene transformations in which diverse histories of extractivism in the modernizing Arctic are nested. The overall argument, which is based on conclusions from recent research on resource extraction in the global north, is that extractivism over a long period of time grew into the predominant framing concept in relation to the Arctic (Southcott et al., 2018). Shaped by largely Western attitudes to non-human nature as resource and

property, extractive thinking propelled European expansion and colonization all through the circumpolar Arctic, though with varying historical trajectories and geopolitical consequences. Indigenous peoples, long the occupants and stewards of Arctic territories, were largely marginalized in this process, though they engaged in various forms of accommodation, co-option, and outright resistance.

The legacies of modern extractivism – as economic modality, as material practice, and as mentality – continue to shape debates and developments in the region today, as well as informing contested visions for its future.

Extractivism: A Framing Western Concept

Extraction of mineral resources has been a preoccupation of Arctic states for centuries. Antecedents of modern extractive development stretch back to the early modern period (especially in Scandinavia), and Indigenous metals technology and trade predate colonial forms by thousands of years (Knudsen, Keeling & Sandlos, 2022). Extraction has also been part of annexation and colonization policies, and worked in tandem with the formation of Arctic nation states, territorially as well as politically (Coates, 2018). Arctic Indigenous communities with considerably longer histories in the region did not engage in modern capitalist forms of mineral extraction, but some Sámi, Inuit, and others did occasionally work in mines, sometimes as forced labor. An almost universal feature of Arctic extractivism is that it took place at a distance from major urban centers usually located in the southern portion of those Arctic states. At the same time, states, through colonization, trade, and military activity, sought to bridge that distance by extending infrastructure, social services, local government and authority (Adcock, 2008), and civic rights to Indigenous peoples and frontier populations within their territory. This has its challenges since people living in cities and towns add up to the large majority of the four million people (Arctic Centre, 2021) that inhabit the Arctic, an area much larger than Europe, which for comparison has a population of 750 million.

In seeking to make sense of the Arctic and its importance during the first two decades of the twenty-first century, historians and others turned to the notion of extractivism as a framing concept for these transformations wherever they occurred. It was never meant to indicate a predetermined form or stage of development, nor is it the only way one can imagine responsible resource extraction in the future. Indeed, the “wastelanding” (Voyles, 2015) and environmental racism that has frequently been the result of mining projects in different world regions, and certainly in the Arctic (Keeling & Sandlos, 2009; Wilson & Stammler, 2016; Kuokkanen 2019), are just some of several potential results of these activities. So, while alternatives exist, why are destructive consequences of mining so hard to avoid?

Part of the reason lies in the deeper historical roots to extractivism and how it has played out in colonial contexts around the world. In the Arctic, extractivism is underlain by a particular socio-cultural orientation toward the northern environment that conceives it as a distant storehouse of resources and an extractive frontier. This perspective has roots (particularly in the European Arctic) in deeply religious and cultural attitudes toward nature in addition to the incentives provided by the global manifestations of European capitalism. Even as we are moving into an economy that has already started de-coupling wealth and economic growth from the use of traditional mineral and fossil-based resources, resource extraction in the Arctic is still caught in the extractivist paradigm following long historical lines (McCannon, 2012; Josephson, 2014; Nuttall, 2017). What we see in the Arctic is a pattern of extractivism that keeps reinventing itself in new guises, adapting to changing circumstances, and increasingly in tension with multiple actors and with demands for less intrusive, genuinely consultative, socially just, and more sustainable solutions. How and when will this prevailing Arctic extractivism transform, if not discontinue? Will new extractivist patterns emerge in industries such as tourism, energy production, strategic minerals, and marine protein farming, or are other development pathways possible?

Changing human–nature relationships requires rethinking historical, cultural, and religious definitions of Man’s superiority on Earth and the perceived human “right” to its resources. In contrast to “nature,” “resources” is a redefinition of “natural things” into objects that are somehow deemed more or less useful for humans, and which in the capitalist era can be monetized. What these objects are and what their value is, even that they constitute “resources,” objects of extraction, has changed with time and will continue to do so (De Gregori, 1987; Bridge, 2009).

Already, the Early Modern revolution of natural philosophy has legitimized the sense that Man’s destiny is to dominate and exploit a nature “out there,” a mechanized nature in which humans had no part. Man replaced God and put himself in a position *beyond nature*. This represented no shift from the Judeo-Christian tradition, however, as Man was seen also in biblical times as being the steward of Creation, and the benefactor of all goods that could be drawn from it (as in for instance Genesis 2:19). The combination of the Christian anthropocentric notion of the world, where Man is regarded as God’s representative on Earth, and the Athenian focus on the nature of Man and his ability to make sense of the world constructed a reality where “Christianity absorbed the anthropocentric dominance views of Platonic-Aristotelian Greek philosophy” (Sessions, 1977: 486). This, in turn, helped pave the way for the future rationalization of man’s utilization of the resources of the planet. Influential feminist thinkers (e.g., Merchant, 1980) have argued that it would be reasonable to ascribe the subsequent appropriation of the natural world to the premise that the observing and acting human subject was

firmly placed – both epistemologically and morally – *outside of nature*. In a colonial frame of mind, “nature” thus turned into objects of value (“resources”) or “marvelous possessions” (Greenblatt, 1991) that could be controlled, owned, and exploited.

The appropriation of the Arctic by representatives of this Christian culture and mind frame stands in a long line of confrontations, literally around the world, with what colonialists perceived as pristine, untamed nature that could be appropriated and mastered in new ways. Frontier landscapes were the manifestation of God’s gift to humankind, and the solution to the ever-increasing needs of societies for natural bounty. Men of Western science also played an important role as missionaries of the Christian faith in conquering the North. As Andrew Stuhl has argued about later incarnations of these colonizers in Alaska, “ their concepts and research practices have accompanied efforts to conquer, cajole, civilize, capitalize, consume and conserve the far north since the late 1800s” (Stuhl, 2016: 2), and further back if we consider the European Arctic. Extractivism, as an extension of Man’s God-given right to utilize the planet’s resources, was deeply embedded in the rationale for a push to the north, as an expression of the century-old endeavor to “find the world’s remaining unclaimed lands” (Stuhl, 2016: 3).

More recent and more secular ideas about land and resources followed that underlay colonial extractivist philosophy in the broadest possible traditions of political theory: Locke on labor, property, and the ethics of resource appropriation; Marx on labor, transformation of nature, and existential freedom. The ethical and philosophical foundations of extractivism are found in the very core of Western ideas of modernity, and the Arctic is no exception. Over time, they coalesced into broad developmental narratives that became embedded in extractivist thought, in the physical domination of landscapes and its riches, and in the relations to the people who inhabited it (Bridge, 2009; Richardson & Weszkalnys, 2014).

These ideas sharpened under industrial colonialism, resting on an assumption of virtuous transformation of raw materials to goods and societal value with little harm of any kind. The unquestionable harm wrought on local communities was justified with progressivist ideologies, articulated by several thinkers and, as extraction grew, by theorists of resource-centered imperialism (Hobson, 1902) and ideas about “control of the tropics” (Kidd, 1898), which also included “control of the Arctic.” One of the key arguments in this literature was that since Indigenous populations neither would nor could exploit natural resources at this scale, it was both the right and a duty of the “civilized peoples” to do so. Civilization, as articulated by John A. Hobson, a progressive British economist and in fact a critic of imperialism, was ultimately characterized by a supreme capacity to extract and develop natural resources. According to this early version of the “gospel of efficiency” (Hays, 1959), wealth was going to spread across society, including,

presumably, the far north, perceived by the most wishful visionaries as the future epitome of human civilization, justifying continued hopes and projects to populate, promulgate, and excavate the Arctic in a noble “northward course of empire” (Stefansson, 1922).

Impacts on nature and on cultures, transforming both beyond recognition, were in the extractivist ideology considered largely favorably. “Landscape scars” (Storm, 2014) were the terraformed evidence of progress in an extractivist version of the “improvement of the world” idea that had been an ultimate legitimizing imaginary to guide British imperialism since the seventeenth century, long referring to agriculture and plantation economics, but in the nineteenth century turning decisively industrial and resource oriented (Gascoigne, 1998; Drayton, 2000). Similar ideas were advanced in French colonial thought (Rosenblum, 1988).

The Material Impacts of Extractivism

The extractivist mentality, as rendered in the previous section, provided the underlying rationale for the rapid industrial transformation of Arctic regions during the late Industrial Revolution and into the twentieth century. In a region defined – by many southern-based governments and industrial actors – in terms of remoteness, sparsity of population, and extremity of climate and landscape, mining, in particular, provided the catalyst for frontier development and colonization by modern states. Mining was a “frontiering” activity in the sense that it advanced the physical and social transformation of far away “wilderness” regions into resources for modern industry and governments, while implanting southern technologies and settlement forms into (largely) previously Indigenous territories (Knudsen et al., 2022). Indeed, extractivism materially reconfigured Arctic societies and spaces through the logic of resource extraction, whether undertaken via forms of “primitive accumulation” such as gold rushes, advanced industrial capitalist enterprises, or authoritarian, state-led development, as in the Soviet Union.

Industrializing markets, spurred by nationalist ideologies, as well as both capitalist and communist ambitions regarding the conquering of frontiers, led to a “race” for the Arctic and its resources. For instance, the large-scale iron mining complexes of northern Sweden emerged at the end of the nineteenth century after the completion of a rail line from Malmberget and Kiruna to tidewater (at Luleå and Narvik, Norway) opened the region’s rich iron resources to European markets. The logistics created by the mine, with hydroelectric power stations and power lines, built, in the early 1900s, what was then the largest single infrastructure system in northern Fennoscandia (Hansson, 2006). Other large developments followed as the Swedish Arctic rapidly industrialized and new settlements were established in this multilingual, culturally rich region, also the home of the Sámi.

Although on a smaller scale, Norwegian and Finnish mining also expanded as part of concerted efforts to extend state control over Arctic territories and with similar tensions.

The Soviet Arctic, too, saw large-scale settlements develop around extractive sites, particularly in the Kola Peninsula region and, to a lesser extent, in the Russian Far East. These industrial centers, however, emerged out of authoritarian state initiatives (such as Stalin's Five Year Plans) to develop Arctic resources and infrastructure, rather than flows of mining capital (Josephson, 2014; Wilson & Stammler, 2016). The infamous Kolyma gold mines were integrated into the brutal Gulag system of forced labor and, to some extent, forced and induced settlement was a feature of many Soviet Arctic mining communities. Today much activity in Arctic Russia is fly-in-fly-out, and the future of mining in these areas must be considered alongside phenomena such as the thawing of permafrost, which, ironically, can be exploited for a new version of Anthropocene tourism in the Pleistocene Mammoth Park in the Yamal region, Siberia (Wrigley, 2020).

In the North American Arctic and subarctic, gold rushes to Canada's Yukon territory and the Alaskan territory acquired by the United States in 1867 were catalytic events, bringing non-Indigenous migrants and settlers, and leading to further industrial transformations of the vast, hitherto Indigenous-controlled region. Unlike the diverse economies and settlements that emerged in the Scandinavian Arctic, however, the region's transportation and settlement geography centered on small-scale, remote, and often ephemeral and unstable extractive sites (Keeling & Sandlos, 2015). Similarly, Greenlandic mining remained a highly sporadic, yet at times influential, driver of colonial extractive activity. Mining settlements were founded around cryolite and coal deposits, promising the potential for re-orienting the hunting-based Greenlandic economy toward industrialism (and, for some Greenlanders, a path to self-determination). Nevertheless, unlike other Arctic regions during the twentieth century, Greenland remained largely at the margins of sustained mining activities due to the transportation and environmental challenges of its Arctic location, and because it was defined as a zone of strategic interest dominated by the American military rather than as a commercial development (Doel, Harper, & Heymann, 2016).

For all their diverse histories and material circumstances, the many mineral developments around the circumpolar region collectively illustrate the broad trends and processes of extractivism – with an Arctic flavor. Consider the Black Angel Mine: situated near a former marble quarry at Maarmorilik in the Uummannaq district of Greenland's north-central west coast (Figure 2.1), the remote site attracted interest for its lead-zinc deposits during a boom in demand for these minerals in the 1960s. Through its Danish subsidiary Greenex, and with the strong backing of the Danish government, the Canadian mining giant Cominco brought

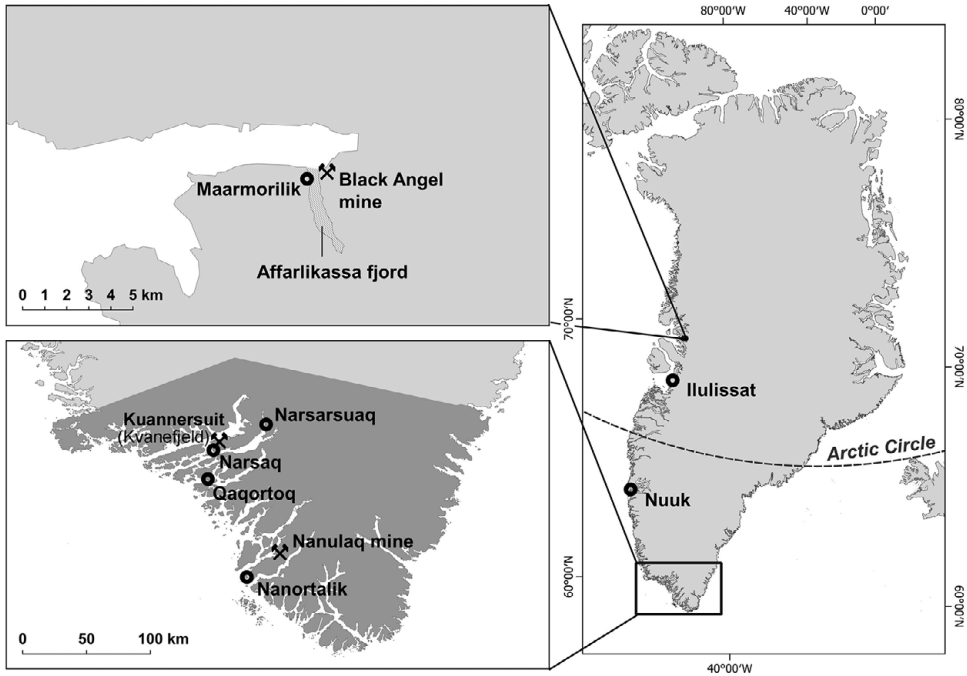


Figure 2.1 Location map of Greenland. Drawn by Christian Fohringer.

its considerable experience in northern mining (including contemporaneous efforts to develop a High Arctic mine near Resolute in Canada) and sulphide ore processing technology to exploit this deposit. The mine was accessed rather dramatically some 600 meters up the side of a mountain via cable car, which also transported ore to a processing facility by the Affarlikassa Fjord. When it opened in 1973, the mine promised employment opportunities for Greenlanders, although most workers were employed on a fly-in-fly-out basis, and local Indigenous labor participation remained low. In fact, Greenlandic workers went on strike in 1977, protesting against unequal wages and the strict social controls of the company mining camp (Knudsen et al., 2022).

The mine also proved controversial for its impacts on local environments and livelihoods: along with enduring smoke and dust from the refinery, hunters in the area blockaded an ore ship in 1975 to protest the impact of spring icebreaking on sea ice travel. It left a legacy of water pollution resulting from the disposal of tailings into the fjord, contaminating nearby waters and marine organisms, including harvestable fish, with lead and zinc for decades after the mine's closure in 1990 (Eberling et al., 2002). As with so many remote Arctic sites, while the economic benefits of mining (and its associated infrastructure) proved ultimately

fleeting, its effects on society and environment reverberated for long after closure. In particular, in spite of its short life the mine nurtured the vision of increasing self-determination by Greenlanders, a vision that has persisted in debates around uranium mining and offshore oil development (discussed later; Bjørst, Sejersen & Thisted 2023, see Chapter 7).

Of course, the Black Angel story is not that of every Arctic mine. Some mining regions flourished for decades, either from new mineral opportunities or diversified economies. Much of Arctic Fennoscandia, while embracing the industry, in fact relies very little on it for employment while benefiting from the associated investment and infrastructure, a legacy of an earlier commitment to populate mining regions and build functional communities (Malmgren et al., 2023, see Chapter 11). Towns and cities in North America with their origins in mining booms – Yellowknife, Whitehorse, and Juneau, for instance – have matured into administrative centers while continuing their role as transportation and service hubs for extractive industries (Piper, 2009). While the Arctic remains, in a global context, a resource periphery or “primary commodity supply zone,” new economic and political arrangements, most notably the growing influence of Arctic Indigenous peoples, have shifted the balance toward the capture and retention of mining’s benefits by the region’s population.

Nevertheless, the “landscape scars” (Storm, 2014) of previous rounds of largely settler-colonial forms of extractivism remain, along with “imperial debris” (Stoler, 2013) in a lingering volumetric and vertical environment (Dodds, 2021). They are frequently invoked in the disputes over modern open pit “mega-mines” and power infrastructures that disrupt surface-level reindeer herding (Röver, 2021) and other traditional lifestyles, the impact of Arctic ore shipping disrupting the solidity of sea ice, or contemporary efforts to address the toxic subterranean legacies of abandoned and un-reclaimed mine sites around the region. The toxic experiences and lessons of this extractive past are frequently invoked as Arctic communities today continue to debate the merits and pitfalls of minerals-led development for their region (Nuttall, 2017; Dale, Bay-Larsen, & Skorstad, 2018).

Extractivism and European Arctic Colonialism

While coloniality and colonialism is the evident frame for resource extraction in North America and Greenland, there has been a lot of debate about whether the relations to northern regions should be termed colonial in the European and the Russian context. In the wake of 1960s and 1970s dependency theories (e.g., Samir Amin, André Gunder Frank, Raúl Prebisch) explaining underdevelopment in the former colonial world after the Second World War (Blomström & Hettne, 1984; Munck & O’Hearn, 1999), this framing was often suggested for Arctic regions

as well. Extractive industries were presented as a main contributor to the onslaught against remote areas in northern Fennoscandia, in Greenland as part of the Kingdom of Denmark, and in imperial and Soviet Russia. An argument against this claim, besides opposing its intellectual content and explanatory capacity, was that Russia, Sweden, Norway (after being part of Denmark until 1814), and Finland (after being part of Sweden until 1809 and a principality of Russia until 1917) were Arctic states in their own right, with much of their territory north of the 60th parallel. Resource extraction took place in their own northern hinterland territories and hence could not, by definition, be “colonial” or imperialist. Also, was not the building of infrastructures and the influx of capital, largely provided by states and empires, necessary for modernization?

Arctic resource exploitation was far from fair. It was based on dominant “southern” ideologies of race, civilization, and religion that put Arctic Indigenous peoples in a subordinate position. Models of extraction were disturbingly similar to those that were used in overseas European colonialism. Theorists of “internal colonialism” (Chaloult & Chaloult, 1979; Calvert, 2001; Pinderhughes, 2011; van de Grift 2015) also suggested that colonialism was deeply related to “hinterland” exploitation, and that exploitative resource extraction could just as well be part of domestic practice and politics. After all, expanding settler communities had infringed on Indigenous populations, turning them into subjects without consultation and then disregarding what has only recently been acknowledged as their rights. Extractive industries mattered in this, although in the sixteenth and seventeenth centuries multi-national exploitation of maritime resources such as whale and seal was still more intense (Sörlin, 2017; Demuth, 2019).

In the long, often dark history of extractive industries in the European Arctic (Naum & Nordin, 2013), ethical and political constraints on mining were weak and mining practices often oppressive and cruel. Early examples of such impacts can be found in the Fennoscandian region (Figure 2.2) in the seventeenth and eighteenth centuries, such as the Swedish Nasafjäll mining case (Bromé, 1923; Awebro, 1983), or in the Torne River Valley on the current Finnish–Swedish border (Nordin & Ojala, 2015, 2020). The silver mine in Nasafjäll on the Arctic circle, close to the border with Denmark–Norway, was opened in the 1630s. It would have been an unattainable project if Sámi had not been forced to work in the open air mine and, in particular, with the long-haul transportation of the ore with reindeer and *akkja* (the Sámi sled) to a smelting site in Silbojokk (Sámi for silver creek) some 100 kilometers away. They were paid with flour, salt, tobacco, and liquor. Two more silver mines (Kedkevare, Alkavare) were also started, both short lived, ending in 1703 (Awebro, 1983; Abrahamsson, 2009). The harsh conditions for extraction in some of the northern mines were known to the authorities but not much debated, even after a critical report in 1908 covering the Early Modern

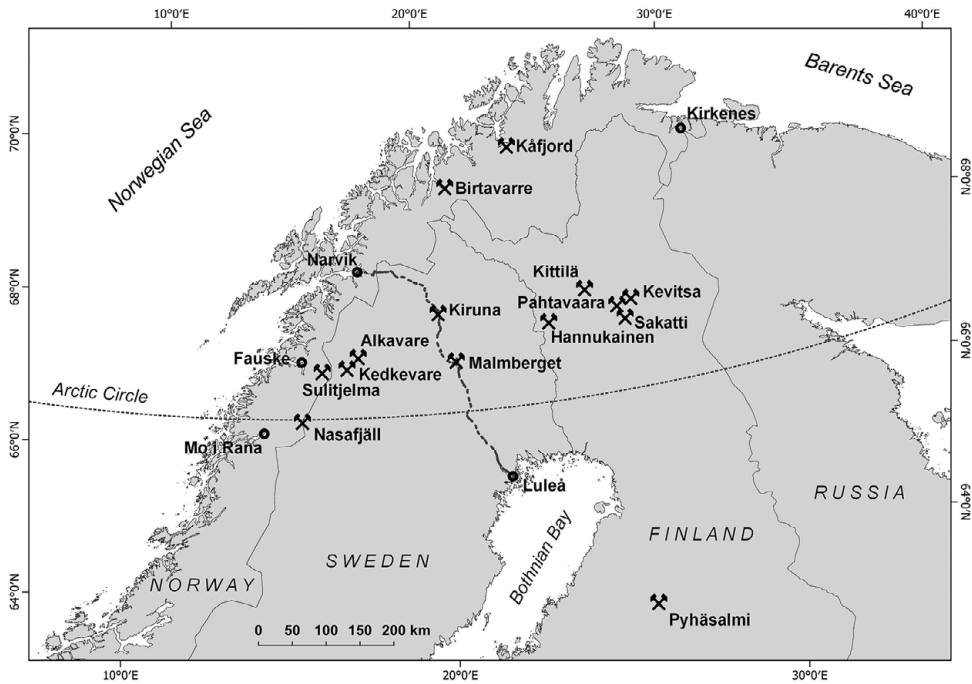


Figure 2.2 Location map of Fennoscandia. Drawn by Christian Fohringer.

Swedish mining experience (Sommarin, 1908). In the eighteenth and nineteenth centuries, Fennoscandian Arctic mining interests turned toward iron ore, but the regard for Sámi interests remained marginal. Sámi were generally avoided as mining labor because they were considered to be unreliable and too attracted by their traditional way of life, a persistent trope. By the same token, the Sámi tried to avoid work in mining (Figure 2.3).

In the nineteenth century, mining gained a foothold and grew rapidly in the Norwegian north, based on investments from English and Norwegian/ Danish capital. Historian Einar-Arne Drivenes' classic analysis of the multiple income/ subsistence economy of Northern Norway, entitled *Fiskarbonden og gruveslusk* [fisher-farmer and miner] (Drivenes, 1985), depicts life and industrial development in some of the many mining towns in the region. Examples include the Kåfjord mine in Finnmark county, and the Birtavarre copper mine in Troms; its ore was supposedly found by a Sámi reindeer herder in the 1890s but commercially developed by Norwegian and English capital. The Sulitjelma copper mine in Nordland was also supposedly discovered by a Sámi, Mons Petter Uren, in 1858, and again developed by Norwegian and English owners. Drivenes assessed the number of workers to number a few hundred on each site, but many worked outside of the fishing and

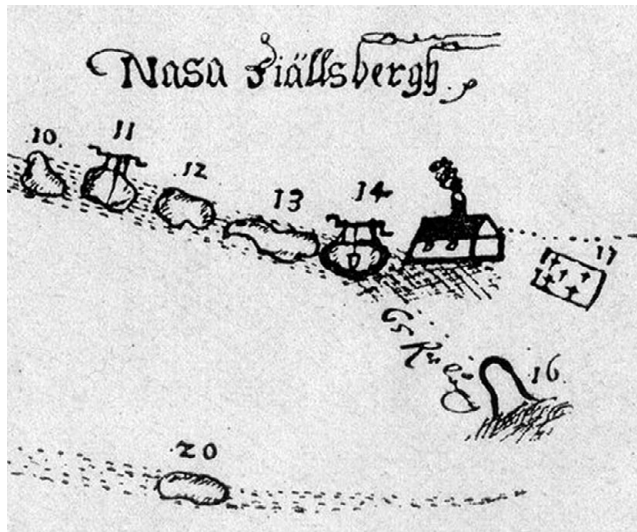


Figure 2.3 Detail of a map from 1646 of the Nasafjäll silver mine in Swedish Lapland by mining officer Hans Fredrik Lybecker the elder. The numbers refer to pitholes, except 17, which refers to the cemetery. Source: Bromé, J. (1923). *Nasafjäll: Ett svenskt silververks historia*. Stockholm: Nordiska bokhandeln

harvesting seasons, and were thus not fully employed; the numbers varied with global demand for the metals extracted (Drivenes, 1985: 43–67).

As the twentieth century drew closer, mines in Sør-Varanger, Mo i Rana, and Svalbard were opened, meaning that the relative importance of mining activities – and jobs – grew steadily in northern Norway. Asbjørn Jaklin describes the mine in Sulitjelma as “a mining sensation,” employing more than 1,700 workers in 1907 (Jaklin, 2006: 61, our translation). These mines were part of a general trend in the region at the time where subsistence work on a farm was combined with (partial, but also for-cash) work in the fisheries and labor in the mines on and off, either in seasons or merely because mines would open and close irregularly. The mines also served to “Norwegianize” the region, as capital, the development of a labor force (with political ambitions), and urbanization (like in Mo i Rana, Kirkenes, and Fauske/Sulitjelma) increased state presence. Mining also favored Norwegian culture, competence, and economic advantage, further marginalizing Sámi culture and influence, in parallel with other state initiatives for cultural assimilation and “Norwegianization” (Minde, 2003), for instance through forced relocation and Norwegian-language education in government-run schools for children.

Similar assimilationist objectives supported and legitimized extractivism in Sweden. From the perspective of southern centers and national capitals, mining was regarded as the epitome of civilization and progress, and a necessary source of

resources for the burgeoning urbanization accelerated by the industrial revolution. By the eighteenth century, it had become a state priority in the spirit of resource-oriented cameralism (Koerner, 1999), and strong central mining institutions linked to the state were organized to support the systematic discovery and use of valuable minerals and other resources. As described in the examples from Norway, capital from the national centers (all geographically far from the Arctic) also dominated and controlled the development of mining towns in the Swedish Arctic.

Extractivist ideologies underlay this appropriation of northern resources. These included mercantilism in the eighteenth century with import substitution and export income as a key goal underpinning national economies and expansionist northern strategies (Magnusson, 2015). Economic liberalism and, later, industrial socialism were equally confident in the virtues of mineral exploitation. The Fennoscandian north gradually developed a long-standing status as a “resource region,” akin to but not similar to a “resource frontier” (see Van Alstine & Davies, 2017). The north was part of the national territory where wealth and prosperity could be found: a “land of the future” (Sörlin, 1988). When such hinterland visions started to circulate in the late nineteenth century it was as a “timber frontier.” Industrial forestry began in southwestern Norway, rolled across northern Sweden from about 1850, then into northern Finland and by 1900 northwestern Russia. By the early twentieth century, most Arctic states had introduced and enforced mineral legislation, mostly to secure possessions, and presented ambitious schemes for large-scale resource extraction, terrestrial as well as marine. Regulation, including health and security, was slack, based on the assumption that the long-term positive effects of mining were overwhelming.

An unresolved issue that kept coming back was, for what purpose and whose benefit resource extraction was to occur? The interest of the state for war and wealth creation was of course central, so too were the commercial interests of investors and entrepreneurs. As industrialized extractivism and resource use spread from mining to forestry, fisheries, and energy resources (first turf, then hydroelectric power and oil and gas in the twentieth century) that were also abundant in the north, a legitimacy crisis grew. Public opinion gradually emerged suggesting that resources should benefit the region where they were extracted. This stood in contrast to repeated instances of intense but brief spurts of resource extraction (designed to address a national need or priority elsewhere) that had been the case with minerals but also with whale and seal blubber, coal and oil in Alaska, Svalbard, and North-Western Russia (Avango, Nilsson, & Roberts, 2013). These episodes were often short lived and ill-planned for the building of community. Again, it resembled the quest for colonies during high imperialism, which was a point often made in the critique of extractivism.

In retrospect, it is easy to see how this regime worked in parallel with other characteristics of industrial modernity such as a high valuation of technology, rationality, and an anthropocentric logic. It was underpinned by an emerging

resource nationalism that was no less forceful in the Arctic than elsewhere (McCannon, 2012; Childs, 2016). Extractivism linked natural resources to the prowess and prosperity of the nation as a whole and the overall welfare of its citizens. Throughout most of this long period, generalized racism and ideas of Western and white supremacy were common, with little or no respect for Indigenous populations and their interests and livelihoods. This was not well articulated in previous research but has been rectified in recent years (Gaski, 1993; Fur, 2013; Fur & Hennessey, 2020). It sides with a longer history of discovery of problematic dimensions of Nordic welfare modernism, abusing minorities in public health and social care (Broberg & Roll-Hansen, 1996). A case can be made that this amounted to “resource colonialism” in the Scandinavian countries (Vikström, Högselius, & Avango, 2017; Avango, Högselius, & Nilsson, 2018). This kind of colonialism has been used to describe global forays into resource commerce and exploitation by major Swedish companies in Turkey, China, Africa, South Africa, Azerbaijan, Georgia, and elsewhere in the industrial period since the middle of the nineteenth century. But resource colonialism had started earlier, within Arctic Scandinavia, and it kept extending into the North Atlantic and Greenland.

These observations of changes in the extractive approaches can help us nuance the relation between resource extraction and colonialism in the European Arctic. Early modern extractivism was decisive, conscious, and underpinned by military and state-building interests in Europe. It started several hundred years ago to foster an instrumental state-centered interest in northern natural resources, explicitly – and perhaps even more implicitly – suggesting that their primary use was to strengthen the nation, defined as “south,” rather than the future prosperity, freedom, and independence of northern regions and their populations. It was based on a staple trade commercial frame of thought. To this should be added an important element that distinguished Fennoscandia and to some extent Russia from Greenland and North America. In Fennoscandia, extractivism was accompanied by agriculture and fishing. It was colonialism in the literal sense, a population politics that stimulated an influx of southern farmers and settlers whose job it was to secure the sovereignty of the state (Sörlin, 2019). At the time, state power was still predominantly based on territorial control and largely conceived of as legitimized through an *agro-colonial regime* of extractivism.

In a more recent period, gradually emerging during the twentieth century, the demographic, territorial, and agricultural missions associated with resource extraction have weakened. The decoupling of the mining site from the use of its content became more pronounced, a tendency that has only been reinforced and is now almost complete. We may think of this period from ca. 1900 as an *extractive colonial regime*. It rested on global markets and commodities as the default logic. It required southern investment, risk sharing between state and private capital,

state intervention and support, but also a massive input of technology to save dependency of expensive, hard to find labor. This regime made its way into all Arctic countries, in Russia, North America, Fennoscandia, Svalbard, and Greenland, albeit at different pace and with different political solutions.

The shift was not absolute and instant, rather it was gradual. For example, government support for opening up new land for cultivation in the north of Sweden remained until the 1950s, but, in reality, it had not been very important for several decades prior to that point. The new regime was legitimized, just like the agro-colonial, by a “rhetoric of emptiness” (Stuhl, 2016; Lien, 2021), arguing for an opening for extractive industries in regions defined as “empty,” as lacking people, whereas in the past colonialism was a way to put people there to fill the dangerous void.

Debating Extractivism

In recent decades, the growing realization of the negative social, economic, and environmental effects, along with growing resistance from Arctic communities, has spurred critical debate on extractivism’s uneven benefits and consequences. Controversies have followed extractive activities in the Arctic from the very start, but they have grown in intensity and tend to shift the balance of public opinion and policy more profoundly than in the past. Against the historical backdrop of stop and start Arctic extractivism and its predominantly instrumental, interest-driven use of natural resources, is it at all possible to think of sustainable development? The kind of development that meets the needs of the present generation without compromising the wishes and interests of future generations?

What is it that needs to be fulfilled or transformed for sustainability to seem realistic or at least unsustainability to be ruled out or minimized? The very nature of the Arctic economy under capitalism makes the goal of sustainability difficult to achieve. For many local communities, visions for the future tend to center on a good quality of life, meaningful and stable employment, and opportunities for young people in situ. At a more general level, Arctic economies share a number of distinct features that challenge sustainability, such as remoteness, a narrow natural resource base, external decision-making, changes in governance structure, demographics, environment, and climate. Smaller local communities, urban centers, and industrialized cities in the North all feel the impacts of increased global connections, which have now become key forces in shaping the path of socio-economic development in the region (Larsen & Fondahl, 2014). The strength and increased importance of these connections, as manifested in the ever-growing force of globalization and the expanding economic integration across market and non-market economies, has meant a direct transmittal of global market volatility to the North, particularly in resource-based economies. Economic consequences are

many and include impacts on employment and economic opportunities, distribution of income and wealth, traditional livelihoods, and environmental costs.

The net effects of regional investments in resource extraction in the Arctic may be limited when income, profits, and rents leak out of the region in cases where ownership and control over resource use are located elsewhere. The solution is to find better ways to capture and manage resource wealth and to ensure that it is invested for lasting benefits in support of local and regional and economic development (Duhaime, 2004; Bone, 2009). Extractivism is viewed by many Arctic residents as undesirable or a risky venture. The reasons are many: negative net-benefits related to sunk costs, the “resource curse” phenomenon (loss of activity in other sectors after a major growth in a single sector such as extractives), local economic leakages, the dependence on external labor and other capital, the lack of inclusion of locals, and, not least, environmental and human health impacts (Larsen & Huskey, 2020).

This skeptical attitude is corroborated by observations made in economic and social research in many parts of the Arctic. In his work on hinterland economic conditions, David Leadbeater (2009) argued that conditions have changed fundamentally and adversely since the 1970s, particularly in single-industry mining communities. This has led to a “new crisis of hinterland economic development” (Leadbeater, 2009: 90), where population shrinkage is tied to the fact that gains of productivity are being exported, and mining communities and labor are receiving diminished benefits from resource development (Lawrie, Tonts, & Plummer, 2011; Markey et al., 2019; Carson, Nilsson, & Carson, 2020). A redistribution of power toward communities and labor with community mobilization is needed to mitigate and counteract this trend, Leadbeater argued. Likewise, case studies conducted in Scandinavia, Northwest Russia, and Greenland showed considerable skepticism toward the intent behind and consequences of incentives to mine in Arctic locales by capital and political interests from elsewhere (Dale et al., 2018). A frequent suggestion to remedy this shortage of local influence on the emerging resource economy has been the implementation of legislation and governance structures, including clear principles and guidance on public consultations and social licencing (e.g., Wilson, 2016: 75), although as several chapters of this book demonstrate, it will be far from sufficient.

Using a capitals framework, Brenda Parlee (2015) investigated how the possible symptoms of a resource curse are experienced and managed by Indigenous communities in northern Alberta, Canada, with a focus on the case of the Athabasca oil sands. She found that symptoms of the resource curse are present, with many Indigenous communities suffering disproportionately from resource development, and that social capital is important to sustainable resource development (Parlee, 2015: 434). While potential benefits from resource extraction

and export to foreign markets of fish, timber, or minerals may include improved utilization of existing factors of production, expanded factor endowments, and economic linkage effects, economic weaknesses from extractivism may result. This can happen when external markets grow slowly or experience downturns, when resource earnings are unstable due to price fluctuations, and when local expectations about diversification around an export base are non-existent or limited. Hence, benefits to local and regional economies may fall far short of expectations, and net-benefits may turn out to be negative when regional economic linkages and multiplier effects are weak or non-existent (Horowitz et al., 2018; Larsen & Huskey, 2020).

Similarly, investigating post-staple downturns in a frontier economy and using a case study of the Yukon economy, Andrey Petrov (2010) presented an analysis of the economic effects of mine closures and post-mine demographic shifts in Yukon Territory, Canada, during the economic crisis of the late 1990s. During this period, its staple economy sharply declined with the closing down of the Faro and Beaver Creek extraction sites (Figure 2.4), and fiscal instability and transfer dependency increased. Based on input–output and demo-economic modeling to simulate direct, indirect, and induced effects of mass mine closures and subsequent population



Figure 2.4 Location map of North America. Drawn by Christian Fohringer.

change, the study suggests that significant employment losses were experienced in the resource and high-tech and high-salary industries. These industries were those that suffered most from the “post staple syndrome” and were the most favorable for the future of the region. At the same time, service and administrative sector employment grew, and Yukon in a sense became more “welfare dependent” (Petrov, 2010: 39–61, at 41).

In contrast to these, the case of the Red Dog zinc mine in northwestern Alaska provides an example of Indigenous ownership and control in northern resource extraction, and with economic net-benefits accruing to the surrounding communities. The Red Dog mine, located above the Arctic Circle, north of Kotzebue, and by the Chukchi Sea (Figure 2.4), started operating in 1989 and is developed under agreement between a native corporation – the NANA Regional Corporation – owned by the Inupiat of Northwest Alaska, and a resource company, Teck Resources. It has been an important source of employment and income for the predominantly native local community, and a source of revenue for NANA and other Alaska Native corporations. The mine has made significant investments in the local communities, including in education and health. In his analysis of the unique relationship between the mine and the region, Bob Loeffler (2015) evaluated the Red Dog mine’s effects on eleven remote, predominantly Inupiat Native communities in terms of jobs and income, governance, education, and subsistence activities. He found that significant positive community effects can be attributed to institutional relationships between organizations within the region, and to goals, strategies, and leadership. A direct result of the high local hire rate and benefit sharing with native corporations throughout Alaska has been an increase in economic and employment opportunities locally (Loeffler, 2015: 30).

The case of the Red Dog mine is an example of positive net-benefits to locals. However, the frequent lack of real benefits to local residents from resource extraction has fueled a keen interest in finding robust and sustainable alternatives, such as other land-based trades, knowledge and the creative economy, tourism, and agriculture. While increasingly viewed as a good alternative, and in some cases an industry that may coexist with mineral extraction, the question can be raised whether tourism may itself slowly transform into another form of extractivism (Sokolíčková & Eriksen, 2023, see Chapter 3). Tourism can have significant negative impacts, as illustrated by the fast-growing tourism sector in Iceland. Smaller local communities may receive few benefits relative to costs when cruise ships arrive, and the local area is quickly flooded by large numbers of tourists. Nevertheless, in Iceland tourism has contributed to economic recovery and stabilization following the economic crisis and the financial sector collapse in 2008, although challenges remain, including effects on the housing market, prices, and the environment (e.g., Wade & Sigurgeirsdottir, 2012; Iceland Chamber of

Commerce, 2017; Larsen & Huskey, 2020). Tourism has also been a successful non-resource dependent alternative in other parts of the Arctic.

The economic future of the Arctic continues to depend on the direction of economic and global change processes and the ability to mitigate the negative effect of resource supply shocks, changes in world prices, and the general economic volatility associated with the limited economic diversification that characterizes many local and regional economies (Larsen, 2004a, 2004b, 2010). The Covid-19 pandemic has also demonstrated that growing sectors such as tourism are no panacea for a stable local economy. Like a sudden change in the world price of minerals and the closure of a mine, the flow of tourists can stop at a moment's notice. A sustainable economy, then, is based on diversification around natural resources and ecosystem services and the build-up of a mix of resources, capital, and capacities that enables an internal resilience even in the face of change.

Greenland provides a range of controversies as it grapples with the challenges and contradictions of extractive development in the context of its political economy and national aspirations (Rasmussen & Gjertsen, 2018). Becoming a self-governing part of the Danish Kingdom in 2009, the large Arctic self-governing nation of only 55,000 inhabitants has explored ways of achieving greater economic independence from Denmark, and the possibility of future sovereignty (e.g., Nielsen, 2013; Hansen et al., 2016). Large-scale resource development, especially hydrocarbon exploration, rare earth, uranium, and iron ore mining may offer greater economic independence and a more self-reliant economy (Andersen, 2015; Wilson, 2016; Bjørst, 2017; Poppel, 2018; Trump, Kadenic, & Linkov, 2018). For Greenland, as for other parts of the Arctic, the benefits of resource production for residents depend on their participation as owners of capital or as labor and the share of government revenues flowing to the region. Because Arctic resource production is often a net importer of capital, labor, and technology – as it has been for most of Arctic history – income produced locally will flow out of the region to pay for these imported factors of production (Larsen & Huskey, 2015). This is also descriptive of the relationship between Greenland and Denmark, and as Greenland remains dependent on annual transfers from Denmark (the block grant), the question remains at what cost greater independence can be achieved.

The proposed rare earth and uranium project (Kvanefjeldet) in Narsaq, Kujalleq municipality (Figure 2.1), now officially voted to not proceed, is a case in point. During the construction, operation, and closure phases of the proposed project, obligatory social and environmental impact assessments (SIA and EIA) were performed, and they showed that economic opportunities would include both earnings and labor directly created by the mine and indirect activities supporting the extraction (Greenland Minerals A/R, 2020). According to the impact assessments, potential benefits for Greenland would include huge capital

investment, corporate taxes, royalties, and direct labor income tax as well as increased employment (direct and indirect). At the same time, the mine would run the risk of creating inequitable benefits across society, with potential risks that included concerns over the distribution of mineral revenue at a national and regional level. As a result of a shortage of skills nationally, only a proportion of local jobs were expected to be filled by Greenlandic labor. A mining project of this scale and nature also has the potential to impact the livelihoods of households which derive an income from the land as a result of a combination of the physical footprint, and environmental impacts generated. Land-based livelihoods in the local area include: farming (cattle, sheep and reindeer), gemstone collection (*tugtupit*) on the Kvanefjeld plateau, and tourism activities using Narsap Ilua (Greenland Minerals A/S, 2020).

In 2021 a new government was elected that opposes the Kvanefjeld mining project, and a bill was soon drafted to ban uranium mining. Public hearings were held in various locations in South Greenland in September 2021 despite these developments and the local resistance to the project. In and around the same period, the chief executive of the mining company argued that the company still held the “valid right to pursue an exploitation license for the project in compliance with Greenland laws,” and a potential lawsuit against Greenland may be filed. Concerns about such a lawsuit and how it could hurt future opportunities to attract foreign investors to the mining sector were expressed by some Greenlanders. In early November 2021 the Government of Greenland voted to ban uranium mining and exploration, thereby blocking further development of the Kvanefjeld project. In the time leading up to this ban locals had expressed their concerns over their voice losing strength in the debate, but many remained united in their stance: “We will all leave Narsaq if the mine goes ahead”; “Nobody will buy our fish, or meat of our cattle and sheep, or come as tourists” (Larsen & Ingimundarson, 2023).

In contrast to Kvanefjeldet, in the case of the Nanulaq gold mine in Nanortalik further south in the municipality of Kujalleq, and scheduled to start operating in 2022, community support has been generally positive. The mine is expected to provide a significant number of jobs to locals with steady employment in transportation services and mining. However, asked about the overall economic impact for the town of Nanortalik located about 35 kilometers from the mining site – a town that has been largely in decline and stagnation since the late 1980s – some locals, while generally positive, also point to abiding concerns. They talk, for example, about the 2009 municipality amalgamation and the subsequent reduced control over resource revenue, hence a more wait and see frame of mind (Larsen & Ingimundarson, 2023).

While mining development in Greenland represents a key source of potential income, important questions arise about ensuring that economic gains of this

development accrue to the people of Greenland. Demands for more equitable distributions of income and wealth remain pertinent, as is the prospect of mining being integrated into narratives of hope and future for the fledgling nation, as it moves on to possible independence (Sejersen, 2021; Thisted, 2021). Mining activities, oil exploration, and large-scale industrial development plans have provoked political and social debates within Greenland for decades. These debates concern the nature of such development for society and environment. It is about the absence (so far) of appropriate forms of public participation and consultation, decision-making, and regulatory processes, as well as the impacts of extractive industries on hunting and fishing, the shortcomings of social and environmental impact assessments, and the possible influx of thousands of foreigners to work in the construction and operational phases of megaprojects (Nuttall, 2012, 2013).

Conclusion: Legacies and Trajectories of Extractivism

In this chapter we have claimed that extractivism has been a predominant mentality and *modus operandi* in the Arctic. Extractivism has deep roots in modern Western thought and has grown and consolidated into an ideology of resource extraction over centuries. In practice, extractivism has become more elaborate and technologically sophisticated, but it has not in any comprehensive way diminished, despite critique, especially in the last fifty years. We have also argued that it mutates and extends beyond traditional resources. Extractivism is an amalgamation of ideology, epistemic habit, and material practice in combination with economic, institutional, and legal arrangements. An essential part of it is the taken-for-granted right of way for extractive projects, regardless of whether they bring much of value to the place where the resources are extracted, their communities, and their more-than-human co-species.

Arctic extractivism has not grown in a vacuum. States, geopolitical actors, companies, and, with time, emerging local and regional interests have advocated it and helped it grow (Figure 2.5). Economic and political ideas have become part and parcel of extractivism, including modernizing development theories and, more recently, neoliberal globalization theory. The latter has helped liberalize extraction as market-based projects rather than projects of regional or national development, thus deepening the exogenous/instrumentalist character of extractivism. Exogenous control is also characteristic of the global networks of capital, technology, trade, and markets, captured by the planetary mine metaphor (Arboleda, 2020; Sörlin, 2023: see Chapter 1). These developments stand in sharp contrast to a more endogenous/sustainable approach that has been advocated by critics of extractivism.

While this is the overall pattern of Arctic extraction, several important qualifications remain. To begin with, the pattern is not universal. There seems to be a differentiation related to the remoteness and accessibility of the mining sites



Figure 2.5 Was the Atomic Bomb Arctic? Arctic minerals had global connections, here illustrated by uranium from the Port Radium Mine, in Canada's Northwest Territories that supplied the Manhattan Project during the Second World War. Photo: NWT Archives photo N-1979-052: 4877.

and the size and numbers of existing communities, particularly where agriculture has been involved. Northern Fennoscandia, parts of northwestern Russia and Iceland in this regard tend to have experienced a comparatively less extreme version of extractivism, with more focus on community development and an integration of extractive projects with colonization and welfare state goals. The early and more comprehensive agro-colonial approach to the north in Fennoscandia is an underlying cause of the distinctly more integrated and larger communities that formed in the European north compared to other Arctic states. In the latter, significant settler communities came later, and their demographic density has remained low and with more vulnerability (showed in this book in e.g., Malmgren et al., 2023; see Chapter 11). The relatively successful population and colonization politics for the north in all three Fennoscandian countries led to strong national integration of the northern parts of Norway, Sweden, and Finland, as well as in Iceland, which in turn provided a sense of cohesion and equality of life expectations and welfare. Still today, on most social and public health indicators, Fennoscandian Arctic populations stand out with very favorable data, including Indigenous groups with social and health indicators more like the average in these countries and also more favorable than those in Greenland and Arctic North America (Larsen & Fondahl, 2014).

This prompts the question: Is extractivism so prevalent in the Arctic precisely because of its low population density, remoteness, and isolation? The fact that it seems poised to remain demographically thin, despite earlier visions (Stefansson, 1922) and despite more recent speculations of a cold “new North” serving as a refuge for an overheating planet (Emmerson, 2011; Smith, 2011, discussed in Sörlin, 2018), both by and large futile, suggests that this general situation will likely remain. Does that mean that Arctic extractivism will continue, even in a world where it becomes increasingly untenable where human settlement is more widespread, cities bigger, and alternative low-carbon futures more urgently required? We don’t know. It is certainly possible. The fossil fuel-driven world as we know it is still with us, but increasingly questioned and partly curtailed. Peak oil, a concept coined in 1947 by Marion King Hubbert (Priest, 2014; Warde, Robin & Sörlin, 2018), was passed in 2006 according to the International Energy Agency, and the IEA more recently have been vocal in their support for the switch to renewable energy sources. Although predictions are contradictory it has seemed likely for considerable time that the decline will be propelled by the global concerns over climate change rather than any absolute scarcity of fossil fuels (Deffeyes, 2005). Coal consumption and production are already taking a downturn in many parts of the world, led by global ambitions to curb climate change and reach the UN Sustainable Development Goals, although the pace of progress is deeply uncertain.

The world is at a crossroads. While Russia shows no sign of tempering its fossil fuel and mineral extraction, the prospect of, at least, slowing down extractive development in the Arctic is, finally, on the political agenda in Norway following the 2021 election, and coal extraction has all but ended in Svalbard. Expansion of extraction into the Arctic offshore has largely failed, mainly on economic and logistical terms. The extreme liberalization of the Trump administration for natural resource extraction in Alaska has been rolled back by US President Biden, although by and large resource extraction continues unabated on the North Slope, if not at the speed that was projected only a decade ago. As for rare earth elements, this development has only just started and is now propelled by decarbonization efforts. The Arctic is already figuring hugely in the race for extraction sites. Natural Resources Canada officially released the federal government’s “Critical Minerals List” during the virtual Prospectors & Developers Association of Canada’s (PDAC) 2021 Convention. Accompanied by endorsements from mining industry leaders and at least one Indigenous business development organization, this list identified thirty-one minerals with a capacity to be produced in Canada, which are considered cornerstones of the transition to a green, low-emissions economy. In formulating this list, Canada joined the EU and United States in linking mining to a green discourse framing minerals as central to global energy

transitions and climate mitigation – as well as domestic economic priorities (Natural Resources Canada, 2021).

Extractivism as “business as usual” may, at the end of the day, serve as an excuse to leave the Arctic in a position to remain one of the (ever fewer) parts of the planet where the remaining dirty extraction work can take place – largely out of sight of global public scrutiny. This suggests that the Arctic – already a place with a very high density of unsustainable activities – may be even worse off. When the rest of the world transforms and grows greener during this century, hopefully responding finally to the urgent challenge of climate change and reducing carbon and environmental footprints, the Arctic may be relegated to the position of planetary dump and dirt-hole, in company with Saudi Arabia, Libya, and remote parts of authoritarian states (China, Russia) and the global South. Perhaps not too far off from the extractivist role it already played, but in comparison worse when the rest of the world moves in another direction.

Extractivism in a world of transformation may also mean – indeed already means – that seemingly non-extractive activities form growing parts of the Arctic economy and while doing so take on extractivist features. Tourism, adventure travel, events such as sports, and other “experience” oriented activities but also science and education, learning of environmental and climate change in situ, and getting close to local communities – all of these and possibly many others may play out in the Arctic in ways that they do not in more populated areas. Indeed, we might say that there has been a long history of outsiders harvesting the Arctic aesthetically, imaginatively, and visually, and this has had and continues to have ramifications for extractivist logics.

The question naturally arises whether sustainability and improvements in quality of life in the north are derived best from gearing resources toward industrial development, or alternatively, from investing in the small-scale economic development of local communities. This would involve local participation and decision-making, and benefits that accrue more directly to local stakeholders, with economic leakages to outside markets and economic interests minimized. As an alternative to extractivism there is an increasing body of literature that argues for the development of more economic diversification of local and regional economies, with non-extractive alternatives, including the implementation of legislation to help protect the interests of local communities.

Now, well into the twenty-first century, we see not so much a “new Arctic” but an Arctic that is struggling to find its way under increasing and multiple pressures and a legacy of extractivism that will certainly be a continued force to reckon with. New and alternative trajectories cannot easily be sketched without taking account of this wide-ranging and volumetric presence.

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