

IN SEARCH OF BOREA. HOPES, HYPES AND REALPOLITIK IN RUSSIA'S ARCTIC STRATEGY

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INTRODUCTION

Long dismissed as a frozen wasteland, the Arctic has recently come under increasing attention, for good and for ill. Moving from the realm of the unknown to the known, from marginal to sometimes central, it has been interpreted as a new front-page story that has given rise to hyped-up analyses, fond of wielding superlatives: the most northerly region, the coldest one, the region with the longest nights and longest days, the world's most fragile ecosystem, the region richest in hydrocarbons, and so on. The hype is often backed up with multiple historical references, as though the new configurations of the twenty-first century need to be explained in familiar terms in order to be understood. Strategic issues are thus framed using journalistic historical parallels. These include the conquest of the West (Arctic as the *New Far West*), the Cold War (*the Ice Cold War*), or the Great Game in Central Asia at the end of the nineteenth century (Arctic as the *New Great Game*). The economic drivers, often presented without taking into account changes in the market, new technologies, and knowledge of private actors, are evoked using the filter of the Gold Rush (*the Arctic Rush*).¹

At the other end of the spectrum, that of environmental concerns, the messages target emotional sensitivity to nature and wildlife, such as a National Geographic photo of a polar bear, the quintessential symbol of the Arctic, trapped on a melting iceberg.² Expected climate change is indeed an important driver in the global picture of the Arctic. It already heavily impacts human activities in this region, and will continue to do so, either encouraging more human presence, or making the region increasingly inhospitable and unpredictable. The future of the Arctic in international affairs is not, however, limited to debates on climate change. Once the hype is over, the Arctic is certainly going to remain an issue of world affairs. Various countries' warships and submarines will continue to cross paths in the Arctic Ocean; the fragile ecosystems of local populations and wildlife will need international oversight and protection; potentially profitable exploitation of the subsoil or of water resources could begin despite extreme conditions; and the "Trans-Arctic Air Corridor" in the air traffic linking North America, Eurasia, and Asia will increase because the route via the polar area saves time and fuel. Since the publication of one of the pioneering books, *The Age of the Arctic: Hot Conflicts and Cold Realities* by Gail Oreshenko and Oran R. Young (1989), the situation in the polar regions has drastically changed, notwithstanding the "hot conflict versus cold realities" paradigm remains one of the main keys to understand the current challenges in addressing Arctic issues

The many actors of the Arctic debate

The Arctic debate has several distinctive features. Like discussions on climate change, it is a globalized debate. Interested parties come not only from North America and Europe, but also from Asia, Latin America, and Africa. The Arctic debate is even more multidisciplinary than that on climate change, with climatologists, geographers, oceanologists, scholars from the human and social sciences, and security specialists all in the mix. The public voices on the Arctic also epitomize the wide diversity of people involved in the debate: scientific groups, indigenous communities, politicians and the military, NGOs with environmental agendas, and private businesses are all invited to hear and take into account other

points of view. The growing dissonance between environmental protection and natural-resource development is but one aspect, perhaps the most media hyped, of a wider, more complex debate.

But the Arctic is also distinctive in the way that it stimulates our imaginations. As the last *terra incognita* of humanity—after the great marine depths—it is apt to evoke romantic and utopian clichés. The two poles remain still largely unknown and untamed spaces. Everyone has its own vision of the Arctic region, influenced by readings from childhood and the accounts of the great polar expeditions of the nineteenth and early twentieth centuries.³ The Arctic is also eminently visual. Sometimes more than words, photos play a key role in raising public awareness and demanding respect for “Mother Earth.” Another striking visual element of the Arctic is maps. To understand the region, one must look at the globe from a very different and unusual angle. Visual representations have a direct impact on self-perceptions of identity, place in the world, and security. But they are also capable of distorting reality and power relations.⁴

A great number of arguments and viewpoints must be taken into account in order to discuss the Arctic. As such, collecting information is sometimes challenging. Journalistic reports are plentiful, and they tend to overshadow any academic works, which are usually very rooted in their own disciplines with little cross-referencing. Interdisciplinary connections between the natural sciences, human sciences, and security studies are still largely underdeveloped. Moreover, most of the information is presented from a national point of view. American and Canadian publications are largely focused on their bilateral issues (Northwest Passage, Beaufort Sea, and Alaska), and Scandinavians and Russians focus likewise on their own such issues. The importance of the Arctic in the transatlantic partnership is as yet rarely discussed, and Russia is conspicuous by its general absence in Western discussions. All the Arctic states have published their own strategies in regard to the Arctic, with Norway and Canada being the first, and the United States the last, to do so, but civil society’s productions on Arctic related-subjects are almost exclusively Western. Non-Arctic states like China also want to promote their points of view, and many international organizations are part of the picture: the International Maritime Organization (IMO) and other UN entities, NATO, the European Union, the Arctic Council, and the Barents Euro-Arctic Council (BEAC). Everyone—states, institutions, individuals, firms, and civil society—wants to participate in the Arctic narrative, making it a truly globalized issue.⁵

Defining the Arctic: a geographical, political, and institutional landscape

There is currently no universally accepted definition for the spatial scope of the Arctic. Climatologists, oceanologists, historians, and security experts all lay out their own criteria. Some definitions only take into account the Arctic Ocean, which is the smallest of all the oceans with only 3 percent of the world’s total ocean surface area and 1 percent of its volume. Although it is classified as an ocean because of its size (14,000 million square kilometers), it is also reminiscent of the Mediterranean Sea, being mostly surrounded by land. The Arctic Ocean’s distinctive feature is a very extensive continental shelf, covering about one-third of the seabed and reaching a width of 1,200 kilometers in Siberia. A vast number of islands rise up from the shelf, considerably limiting opportunities for deep draught vessels.⁶ Even Arctic maritime borders differ. The U.S. National Oceanic and Atmospheric Administration (NOAA) has defined seventeen large marine ecosystems in the Arctic,⁷ while the Food and Agriculture Organization (FAO) classifies the Arctic waters in a different way, according to the purposes of fisheries.⁸

Other definitions are land based, in which case the criteria of delimitation are even more complex. Bio-regions are often the leading argument, taking into account the natural borders where vegetation ceases to grow (the tree-line) or the zones whose temperatures do not exceed 10 degrees Celsius in July. The range of possible definitions is therefore very large. The Arctic Monitoring and Assessment Program (AMAP) and the Arctic Human Development Report (AHDR) consider as belonging to the Arctic zone parts of territories which lie below the Circle, like Greenland and the Faroe Islands, as well as the Aleutian Islands. The AMAP-defined borders are larger than the AHDR ones, except in some places where the AHDR definition includes some areas of the Quebec province and Alaska's islands along the Canadian coastline. This inclusive definition, which thwarts all attempts at precise boundary delimitation and accepts a multiplicity of possible borders, is the one that has been accepted by the Arctic Council.⁹ However, if one takes into account the criteria of extreme climatic conditions, especially permafrost, then almost all of Siberia, a large part of Canada can also be classified as Arctic. The borders could extend still further; China tests its polar scientific advances in the high plateaus of Tibet, which it considers its own "High North." Everyone seems therefore to have their own set of definitions. The question of the Arctic's southern borders is not a matter of a simple debate between scientists: it may have direct consequences on the level of analysis and on the decision-making process. Even the terminology used to describe the Arctic differs, such as High North, Circumpolar North, and Polar regions. The differences are often poorly defined and depend primarily on national traditions.¹⁰

However, the Arctic is not merely a geographic space. It is also a political space, with its already fuzzy borders further distorted by state-centric mindsets. Five states, known as the Arctic Rim, have coastal Arctic waters: the United States, Canada, Denmark, Norway, and Russia. For two of them—the U.S. and Denmark—the coastal waters are not geographically contiguous with the mainland. While Alaska is still part of the North American continent, Greenland is a specific, isolated component of the Kingdom of Denmark. Three other states have part of their territory beyond the polar circle but are without access to the Arctic Ocean: Iceland, Finland, and Sweden. Although used to cooperation, the five coastal states and the three non-coastal ones have divergent views on the importance or not of geographic criteria of access to the Arctic Ocean. Hence, in the 2008 Ilulissat Declaration, the five Arctic Rim countries announced their cooperation on high-level ocean policy issues without the participation of the three other states, which protested against their exclusion from the decision process.¹¹

These eight states are all members of the Arctic Council. Established in 1996, it is an intergovernmental forum designed to build consensus on issues concerning the environment and sustainable development, as well as to monitor pollution, disseminate information, and promote cooperation among the eight Arctic nations. It was born from the Arctic Environmental Protection Strategy (AEPS), which was founded in 1991 to deal with the threat of polar pollution. It includes the four initial AEPS working groups¹² and two additional groups: one on sustainable development (SDWG)—particularly active after the 2004 Arctic Climate Impact Assessment—and the other on the Arctic Contaminants Action Program (ACAP). The Arctic Council has worked in particular to improve the membership status accorded to the Arctic's indigenous peoples, making their NGOs permanent participants equal to the states. The Council works mainly on issues related to environmental protection and sustainable development and excludes matters linked to hard security.¹³ In the absence of a permanent secretariat, the work of the Arctic Council is heavily influenced by the priorities of whichever state is chairing the two-year rotating presidency.

A second regional organization has been established for part of the Arctic region, the Barents Euro-Arctic Council (BEAC). The foreign affairs ministries of Finland, Norway, Sweden, Russia, Denmark, Iceland, and the European Commission, formally instituted the BEAC in 1993. Today, Canada, France,

Germany, Italy, Japan, the Netherlands, Poland, the United Kingdom, and the United States participate as observers. The BEAC engages in manifold activities, such as managing spent nuclear fuel and radioactive waste, simplifying border crossings, cooperating on the environment and emergency and rescue, and strengthening the history and cultures of the region with the involvement of indigenous peoples.¹⁴ To this day, the Barents region remains Europe's largest in terms of interregional cooperation with non-EU actors, and is a driver of interaction with Russia. A third, regional organization ought to be mentioned, namely the Nordic Council, which includes Iceland, Norway, Sweden, Denmark, and Finland, and welcomes as observers the three post-Soviet Baltic states (Lithuania, Latvia, Estonia), as well as the Faroe Islands, the Åland Islands, and Greenland.

Moreover, a great number of larger institutions are involved in the future of the region: The North Alliance Treaty Organization (NATO), the European Union (EU), and the G8.¹⁵ All the Western Arctic Ocean states are members of NATO (the United States, Canada, Iceland, Denmark, and Norway). The joint presence of the United States and Russia in the Arctic and the memories of the Cold War may complicate the Arctic debate, as well as perceptions of threat in the region. The EU is also represented. Although Denmark, Finland, and Sweden are EU members, Norway is not, which means that the EU encompasses Arctic territory but has no Arctic coastline. The geographical absence of the EU on the shores of the Arctic Ocean also has consequences for policy-making processes, since some states have been very reticent to endow the EU with fully-fledged member status in the Arctic Council, although the European Commission is set to become a full observer in 2013.¹⁶ And whereas Iceland and Norway are members of the European Free Trade Association (EFTA), Greenland is not; it opted out of the European Economic Community (EEC) which preceded the EU. In addition, the situation is evolving since Greenland and the Faroe Islands may well proclaim their independence from Denmark in the years to come, becoming new independent players and thereby reducing Copenhagen's role. Eventually, three Arctic states are members of the G8: the United States, Russia, and Canada. The same three are federations that have given some autonomous rights to their sub-administrative units and their indigenous peoples.

The Arctic is often presented in the media and public opinion as a new "Far West," in which international law is either nonexistent or not applied by the rival players. However, the Arctic has many complex legal charters, which sometimes overlap, and some specialists think on the contrary there is too much rather than too little legal framework. Since the Arctic Ocean possesses no particular status, it is subject to the decisions of the International Maritime Organization (IMO). Moreover, it also comes under the United Nations Convention on the Law of the Sea (UNCLOS), which was signed in 1982 and came into force in 1994. The Convention has been ratified by more than 150 states including all the Arctic coastal states except the United States, and therefore has significant legal influence over the region.¹⁷ According to UNCLOS, all states, coastal or not, possess legitimate rights and interests regarding the high seas as well as the deep seabeds, in the Arctic as in the other oceans, and are therefore able to participate in decision-making, a fact which some states have been quick to point out. Accordingly, the European Union, China, Japan, and South Korea have been accepted as *ad hoc* observers in the Arctic Council, some of them having applied for observer status, others for permanent observer status.¹⁸ Obtaining such a status will not give them a right to vote, however it will allow them to be present in all the debates and, over the longer term, to hope for a greater role.

The three Asian countries are striving to become institutionalized Arctic players, for multiple reasons: first, they hope that their power aspirations will be confirmed through an Arctic status ; second, they want to gain access to Arctic shipping since all are greatly dependent from the geopolitical risks associated with energy shipping through Hormuz and Malacca; and third, they are interested in Arctic

fishing resources. So far their visibility in the region derives above all from their scientific polar activities, which are effectively follow-ons, of lesser scale, of those they have undertaken in Antarctica for many years. They are also involved in strategies to enhance their technological knowledge on the Arctic, and both the Korean and Chinese shipping industries are booming.¹⁹

If the ambitions of Japan and South Korea are no cause for concern, China's are perceived as ambiguous. Not being a coastal state, China is now presenting itself as a "near-Arctic state" and claims to be a stakeholder just like any other, on the pretext that the melting icecap will have an environmental impact of global dimensions. Beijing is anxious about the rapid evolution of the situation in the Arctic: the progressive attribution of the continental shelf to the coastal states could drastically reduce its prospects of gaining access to Arctic resources. The Chinese strategy has thus been to internationalize the region in order to weaken the oversee right of the eight Arctic states, and to obtain legal recognition of the rights of non-Arctic states.²⁰ This aggressive stance has perturbed some members of the Arctic Council, in particular Russia and the United States,²¹ but Oslo supports China's candidacy.

Beyond self-assertive declarations, China remains an Arctic actor of modest proportions. The vast majority of its polar expeditions take place in the Antarctica, even if Beijing's activities in the Arctic are on the rise. Since 2004 it has acquired a polar base for climate research in Ny-Ålesund, Norway. In 2010, the main Chinese polar research vessel and the world's largest icebreaker, the *Xuelong*, carried out a mission of almost three months in the Russian Arctic,²² a mission that was repeated in summer 2012. A new, high-tech polar expedition research icebreaker is expected to be operational in 2013. Further, an international Arctic cooperation and research institute is soon to open in Shanghai, with backing from Iceland.²³ Chinese firms are also seeking, albeit timidly, to make their presence felt in the Arctic, or sub-Arctic, regions (Alberta oil sand, iron ore mine in Greenland, geothermal production and eco-resorts in Iceland), and each attempt they make, whether successful or not, provokes worried commentaries in Western media. China seems to target a privileged partnership with Iceland but Chinese massive investments could also be of interest to Russia and Canada. Even in terms of fishing, the China Ocean Shipping Company (COSCO) has thus far shown little interest in Arctic shipping, but in 2010 China leased the right to use North Korea's Rajin port, which provides it direct access to the Sea of Japan and in theory it could become China's northern base for Arctic shipping.

In spite of the existing Arctic legal framework, many experts stress the fact that these regulatory systems and supervising institutions are founded on soft-law status, an *ad hoc* funding system, and consensus. The 2011 report *A New Security Architecture for the Arctic. An American Perspective*, published by the Washington-based Center for Strategic and International Studies (CSIS), thus speaks of "an abundance of governance, [and] a scarcity of capabilities" to describe this paradox.²⁴ Indeed the legislation and institutional mechanisms do not seem fit to handle any serious tensions that may arise. For instance the Arctic Council has no regulatory mandate and cannot enforce its decisions on member states. To date, only two genuinely circumpolar agreements have been signed—the 1974 Agreement for the Protection of Polar Bears, and the 2011 Maritime and Aeronautical Sea and Rescue System (SAR). Impending climate change pushes all participants to consider a more consistent normative framework, since the Arctic Council is currently unable to do much for the sustainability of the region. The EU and an increasing numbers of states are questioning whether the Council is able to perform the tasks expected of a forum in charge of managing a region that is undergoing such significant transformation. However, in Ilulissat, the five states of the Arctic Rim stated that they saw no need in forming a new comprehensive international legal regime for the region, and deal with the potential challenges of the Arctic Ocean by virtue of their sovereignty, sovereign rights, and jurisdiction in large areas of the ocean.²⁵

For several years, the idea of an Arctic Treaty based on the model of the 1959 Antarctic Treaty and the 1983 Madrid Protocol on Environmental Protection to the Antarctic Treaty has been suggested by some experts and politicians as a means of giving the region a strong institutional structure, but without leading to anything precise. As of now, only the Antarctic is governed by a legally binding regime. It is clear that the Arctic and the Antarctic are fundamentally different geographically; one is largely an ice-covered ocean, the other is an ice-covered continent, one has human inhabitants, the other does not. But they are also very different in legal terms. Much of the Arctic falls under the sovereignty of various states, while claims on the Antarctic have been frozen.²⁶ The Antarctic model is therefore not particularly relevant for a regional legally binding system in the Arctic, and other legislative ideas must be explored.²⁷

The Arctic: not a new geopolitical pivot, but a balance shifter?

The Arctic region feeds the strategic imagination. Some hasten to predict an Arctic completely altered by climate change auguring a sudden growth in population, providing an unregulated haven for international terrorists, and transforming it into the next Suez Canal in terms of shipping and the future Middle East in terms of hydrocarbons. However, this vision distorts drastically the realities of the Arctic, and it also neglects to compare the opportunities to be found there to those found in other regions of the world. Will the Arctic necessarily bring about a drastic change in the twenty-first century global balance of power? Is it a new geopolitical pivot similar to the one announced by Sir Halford Mackinder (1861-1947) centered on Siberia and Central Asia? While the previous *Heartland*—the pivotal point between so-called continental and maritime powers—was found in the expanses of Eurasia, will the new one be the High North? Will “whoever controls the Arctic controls the world” become the maxim of the twenty-first century?

The viewpoint defended here is that the Arctic is not the new geopolitical pivot point, but it could be one of the *balance shifters* in the global equilibrium of power. It does not change the fundamental order, but it adds new weight for various states. It could contribute to re-shaping some geopolitical axes such as transatlantic commitment, the Nordic Europe-Russia partnership, or Asia-Russia, and specifically the China-Russia pairing. But the Arctic above all offers new spaces for the expression of state power, of a type that no longer pertains to the assertion of classical military supremacy. The new Arctic power is going to be a soft type of power, based on logistics, technology, and science: the powerful will be those able to master the seas for shipping as much as of rescue systems, to launch observation and communications satellites, and to produce knowledge on the region. The Arctic is also an important nation-branding tool, as can be seen in the hyped-up, self-assertive declarations of some Russian and Canadian politicians. A state that has succeeded in well integrating private actors and civil society organizations in its management of the Arctic question will better promote its brand. The Arctic will thus partly set the tone for evolving relations between twenty-first century actors—states, private actors, NGOs, populations, and supranational organizations.

In the second half of the 2000s, the geostrategic uncertainty in the Arctic region gave rise to a proliferation of discourses predicting its transformation into a war-like zone. Having been a central area for U.S.-Soviet opposition during the Cold War and the site of numerous incidents that could have led to an escalation of the conflict, the Arctic could potentially be added to the long list of “hot” or “frozen”

conflict zones. Indeed, the great world powers—the United States, Russia, Europe, and Japan—have long rubbed shoulders here, while the rising Asian powers—China followed by India—do not conceal their interest in the region. The changing status of NATO, as it tries to redefine its missions in a post-Cold War world, combined with the ups and downs of NATO-Russia relations, certainly complicates the Arctic security debate. This conflict-oriented vision has been reinforced by the sometimes aggressive rhetoric voiced by some of the coastal states, particularly Russia and Canada. Accordingly, certain politicians and public figures have fanned the flames through statements such as “we will not give the Arctic to anyone”—attributable to Artur Chilingarov, the Russian president’s special representative for the Arctic and Antarctic—or the slogan “use it or lose it” by the Canadian Prime Minister Stephen Harper. Although their rhetoric was aimed primarily at domestic public opinion, it may have international repercussions.

In 2008, NATO expressed the view that the North Alliance needed to expand its military activities in the Arctic and discuss the issue of securitizing this quickly evolving theater. The same year, the U.S. Northern Edge exercise, led by the Alaska Command, was widely discussed in Russia as a symbol of the resumption of the United States’ “aggressive activities” in the Arctic.²⁸ Russian military exercises were thus organized close to Svalbard involving the cruisers *Marshall Ustinov* and the *Severomorsk*, and the plan is now to hold these exercises at regular intervals. In 2009, Russia organized military exercises at the Pemboy test range in the Komi Republic, while NATO conducted “Cold Response” training in Northern Norway, its biggest exercise that year involving more than 7,000 soldiers from 13 countries.²⁹ Russia also continues to undertake large-scale military exercises in the Western part of its Arctic, such as in Ladoga in 2009, with scenarios involving the protection of oil and gas installations in northwest Russia.³⁰ The same year, the U.S. Navy released a new roadmap for its activities relating to the Arctic for the next five years.³¹

However, the global tendency has very clearly been one of de-securitization, as the Arctic region no longer forms part of the precarious nuclear balance of the Cold War. Despite the reprisal of a modest level of military activity, the region is increasingly viewed as a space of cooperation where the central stakes pertain to soft security, environmental challenges, and human security.³² There are multiple patterns of cooperation: in 2013, Russia’s Northern Fleet took part in several international exercises, especially the POMOR one, the most extensive joint action involving Norwegian and Russian forces. No littoral state has expressed a desire to redraw the Arctic land boundaries. Claims on the continental shelf have all been presented peacefully within the framework provided by UNCLOS. Additionally, more than 80 percent of the coveted offshore resources are located in the exclusive economic zones of each state, and therefore do not present any potential for conflict.³³ As Alison J. K. Bailes rightfully notes, since Arctic challenges are cross-sectoral, multi-functional, and multi-institutional,³⁴ they push toward geopolitical cooperation and legal innovation.

Although the Arctic faces no risk of conflict, it is a legitimate security concern.³⁵ First, a global geo-strategic uncertainty may push states toward a proactive policy in order to diminish this uncertainty. Second, the potential for accidents—collisions between ships or submarines, with oil platforms, or oil spills—, small-scale localized tensions over mineral or fish stock resources that could suddenly escalate, and the possibility that different players’ actions may be misinterpreted, has to be taken into account. Finally, some states may have subjective feelings of being marginalized or of having been robbed of their international rights. Perceptions of threats and projections of power therefore constitute major elements in the Arctic security debate. All of these elements combined confirm that Arctic security, understood as an “inter-subjective speech act,” is definitely an issue.³⁶

Russia: the least known Arctic actor, but the most determined

Russia is probably the least known Arctic actor. The literature devoted to it and available in Western languages is still minimal. Two monographs by Pier Horensma and John McCannon are devoted to the Soviet Arctic,³⁷ and two collective volumes edited by Helge Blackkisrud and Geir Hønneland and Elana Wilson Rowe discussed post-Soviet Arctic situation, especially the center-periphery relations.³⁸ This situation is, however, in the process of changing thanks to the multiplication of transversal approaches to the Arctic, as well as the pioneering works that, for the most part, have been done in the Scandinavian countries, in particular in Norway, and by individual scholars such as Elana Wilson Rowe for political aspects, Timothy Heleniak for the demographic ones, and Katarzyna Zysk for the strategic ones. Russian production is quiet obviously the most developed beyond compare, but it is largely carried out within disciplinary divides, such that there is no comprehensive assessment enveloping all aspects of the problem in a holistic way.

Despite this partial absence in the literature, Russia dominates the region geographically, conquered it historically very early on, and is setting the tone on strategic issues. Geographically, it encompasses half of the Arctic coastline, 40 percent of the land area beyond the Polar Circle, and three quarters of the Arctic population—about three millions on a total of four. Economically, as much as 20 percent of Russia's gross domestic product (GDP) and of its total exports is generated north of the Arctic Circle.³⁹ In terms of resources, about 95 percent of its gas, 75 percent of its oil, 96 percent of its platinum, 90 percent of its nickel and cobalt, and 60 percent of its copper reserves are found in Arctic and sub-Arctic regions. To this must be added the riches—often estimated but rarely proven—of the continental shelf, seabed, and the water itself, ranging from rare earth minerals to fish stocks. Historically, Russia is far from being the first European power to have ventured to the north and to have controlled both the Arctic land and sea routes.

In the twentieth century Moscow has played a key role in the Arctic strategic balance. During the Cold War the Soviet Union, on a par with the United States, was an engine of the region's militarization, but it has also facilitated strategic de-escalation and the promotion of international cooperation. Mikhail Gorbachev's famous speech in Murmansk in 1987 inspired the negotiations (that began two years later) for an Arctic environmental protection strategy. He called for a series of wide-ranging proposals to be adopted on regional cooperation, including restrictions on naval activities, the establishment of a nuclear weapons-free zone in Northern Europe, and the development of trans-border cooperation.⁴⁰ Russia disappeared from the Arctic security landscape in the 1990s, subsequent to the Soviet Union's collapse and its withdrawal into domestic issues. With the country's reassertion in the 2000s, once again it occupies a major place in all Arctic debates, even though it is still a modest player in terms of environmental questions and those related to indigenous populations. Today the Arctic is still considered vital to the Russian Federation's national security. It constitutes its most dynamic border with NATO (much more than the Bering Strait); it forms a large part of the border with the EU; provides it access to the Atlantic Ocean; and offers convenient locations for nuclear and other strategic deterrence systems.

Since the traumas of the 1990s, Moscow has viewed the world through the prism of its fear of being confined to the periphery of international decision-making. Russian decision-makers think—probably

rightfully—that maintaining the status quo in terms of strategic equilibrium has largely been unfavorable to Russia over the past two decades. For this reason, although its foreign policy is fundamentally reactive, Russia’s policy in the Arctic is pro-active—a new approach for Moscow thought to be better suited to advancing its interests.⁴¹ Nation-branding, prestige on the international scene, and acknowledgment by the main Western powers and especially by the United States of Russia’s status as a great and respected power, thus have particular importance in Russian perception of Arctic issues. In the forthcoming decades the country will have to face many dilemmas in defining its strategic priorities. As stated by John W. Parker,⁴² Russia can either be a “mediocre power,” an international player *by default* due to its nuclear capabilities, its veto power in the UN Security Council, and its size and location, but without the capacity to promote a “Russian voice” in the world order; or it can become a bit more European-centered and partly Asia-centered, medium-size power, with limited ambitions and regional capacities. In this context the Arctic region opens up new options, and could furnish Moscow with a more dynamic and innovative role on the international stage.⁴³

Moreover, the Kremlin interprets the Arctic as fostering a potentially drastic shift in Russia’s long-term geostrategic identity. The frozen Arctic Ocean constituted a key element of geopolitical containment for Russia’s competitors, while at the same time forming a major domestic route for the Soviet Union’s shipping and navy. Despite U.S. submarine traffic in Arctic waters and regular encounters with the Norwegian navy, Moscow felt the High North was secure and could thus focus on securing its western, southern, and eastern frontiers. Today, the balance has altered. Russia could present itself, at least on the paper, as a maritime state, breaking its encirclement in a direction until now underused, but at the same time find itself with a new border to protect.⁴⁴ By transforming the Arctic Ocean into a sea transit route Russia’s immense Siberian continental hinterland, hitherto cut off from the southern routes of the Trans-Siberian, could connect to the rest of the world. Improved access to the Pacific North would shift the geopolitical and economic domestic order by emphasizing the strategic value of Russia’s Pacific façade, which opens onto the dynamism of Asia. The spatial projection of Russia in general and of landlocked northern Eurasia in particular would therefore emerge drastically changed by the prospect of changes in the Arctic.

In addition, at least on paper the Arctic offers unique opportunities which would enable the Russian economy to guarantee itself several decades of ample revenues. Moscow is thus planning somewhat optimistically to transform the region into the “Russian Federation’s leading strategic resource base.”⁴⁵ Russia’s strategies are therefore far from being only one element of the relationship to the main international powers or regional institutions. The Arctic is above all a domestic stake for Russia: it is an economic resource, a strategy for Siberian regional development, an opportunity for new population settlement and human capital. Russia’s reading of the Arctic is therefore based on *potentialities*: seen from Moscow, the Arctic is not the country’s back door, but rather its potential twenty-first century front door. However, what may seem obvious on a map or on paper is not necessarily destined to become a reality. At the beginning of the twentieth century, the Norwegian polar explorer Fridtjof Nansen (1861-1930) called the Russian North “the land of the future.”⁴⁶ A century later, Russia stands on the cusp of multiple potential Arctic futures.

The aim of this book is to offer a comprehensive assessment of Russia's strategy in the Arctic. It investigates the multiple facets making Arctic questions a revelatory prism through which to view Russia's current changes and future challenges, and try to bring them in a coherent whole. The first chapter analyzes the Kremlin's formulation of its Arctic policies and the place of the region in its new nation-branding on the international scene. The second chapter discusses the place of the High North in Russia's statehood, especially the issue of a specific status for the Arctic regions and their population. The third investigates Russia's main domestic challenges, i.e., a fragmented territory and demographic crisis, and their implication for Arctic developments. The fourth looks briefly at expected climate change in the Arctic globally, and in Russia specifically, and at Moscow's ambiguous stance on climate change in international debate. The fifth delves into the Russian position on territorial delimitation in the Arctic and the juridical conquest of the continental shelf. The sixth discusses the hard security issues and Russia's options for enhancing its strategic presence in the Arctic theater. The seventh examines the Arctic as a new economic Eldorado and the relevance of Russian strategy in terms of hydrocarbons, minerals, and the fishing industry. Lastly, the eighth scrutinizes hopes for transforming the Northern Sea Route into an international shipping line and an engine of Siberia's revival.

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CHAPTER 1. RUSSIA'S ARCTIC POLICY AT THE INTERPLAY OF DOMESTIC AND INTERNATIONAL

The Arctic does not make up a specific domain of Russian policy. The region—in contrast, for example, with the North Caucasus—has not been singled out for special treatment and is largely integrated into country-wide processes. Arctic policy is even a very relevant example of the general evolutions underway in contemporary Russia: a recentralization of political authority to the detriment of the regions; collusion between political and economic interests in Putin's inner circle; an oscillation between the use of hard power and soft power tools; and a large interplay between the domestic and international scenes. If Russia's policy for the Arctic is somehow unique, this is due to the high degree of symbolism that the region assumes for the authorities. Being an Arctic player is considered a matter of prestige, and of recognition, often undermined, of Moscow's aspirations to a great power status. The Russian state-produced narrative on the role of Russia in this region of the world is therefore, like Janus, double faced: on the one hand, the rhetoric addressed to domestic public opinion relies on older ideological sources, inspired by the Soviet legacy and the Cold War decades; on the other, that aimed at abroad seeks to capitalize on the Arctic as a brand. This brand enables the Kremlin to position itself as an actor in touch with the international community, to renegotiate bilateral relations with the other Arctic players, and to advance mechanisms of legitimization pertaining to soft power.

Discursive production and decision-making mechanisms

In the 1990s, Moscow lost interest in the Arctic regions. Boris Yeltsin's offer to "take as much sovereignty as you can swallow," the first war in Chechnya, and the collapse of revenues and of authority of state, gave rise to a massive, chaotic, and quasi-spontaneous process of decentralization. The regions were forced to learn how to organize themselves.⁴⁷ Those that had the advantage of having extraction industries – for example, Tyumen – were able to generate some public financing, while the others watched their budgets collapse and the industrial crisis transform into a global, social, and demographic crisis. The Arctic regions continued to receive the Northern deliveries (*severnnyi zavoz*), albeit markedly downsized in volume, and the state remained in charge of managing the railway system, but the majority of other state services vanished. At the administrative level, the State Committee for the Socio-Economic Development of the North, the *Goskomsever*—created in 1992 but derived from an older Soviet structure—was set the task of reformulating Russia's Arctic policy in the context of the transition to the market economy. Lacking in influence, its administrative fate was revealing of the authorities' continual hesitations. The State Committee was quickly downgraded, in 1993, to a simple Committee, *Roskomsever*, then integrated into the Ministry of Nationalities and Regional Policies, then reestablished as an autonomous entity, and even abolished for a few months between 1998 and 1999.⁴⁸

During Vladimir Putin's first two mandates (2000-8), Moscow brought to heel regional elites deemed to be bucking the system, and reasserted "the vertical of power" as the central mechanism of state functioning.⁴⁹ For the regions, the first concrete consequence was the end of the reign of the provincial barons, but equally a shifting of tax revenues to the federal state. The administrative recentralization led to a certain bureaucratic rationalization and to the progressive disappearance of the Ministry of Nationalities and other bureaucratic entities in charge of nationalities policy, also a legacy of the previous regime. The management of affairs in the High North was then essentially the portfolio of the

Ministry of Economic Development and Trade, before being transferred to the Ministry of Regional Development in 2004. Within this latter body, different administrative entities—committees, agencies, ad hoc groups—all share responsibility for various Arctic issues.⁵⁰ In the day to day, they work to manage the Soviet legacy and are therefore not influential as sites in the production of a new strategy.

Since 2000, the Kremlin's revival of interest in the Arctic region essentially manifested itself through a great deal of technocratic activity, resulting in a profusion of policy guidelines that were complemented by detailed programs under various ministries and governmental agencies. Russia's main Arctic policy documents above all took strategic and economic considerations into account.⁵¹ A first state strategy for the Arctic was published in 2001, and although it was not really implemented, it signaled that the region was once again included in Moscow's global security concerns. During his second term, Vladimir Putin re-emphasized the Arctic's strategic importance for Russia, with among other things a report completed in 2004 by the Russian State Council Working Group on National Security Interests in the High North. Finally in September 2008, a second Arctic Strategy of the Russian Federation through 2020—drafted under the auspices of the Security Council—defined the main goals and strategic priorities of Russia in the Arctic, including socio-economic development, military security, environmental security, science, technology, and population challenges.⁵² In this document the Arctic is explicitly presented as “the main strategic base for Russian natural resources” in the twenty-first century.⁵³ The National Security Strategy of the Russian Federation through 2020, released in May 2009, also underlines the quest for energy resources, which are considered to be the potential means for Russia to remain a great power. The document confirms Russia's interest in the Arctic, which is elevated to the status of the Caspian Sea and Central Asia as one of the main energy battlegrounds of the future.⁵⁴

Russian projections of power in the Arctic progressed rather distinctly throughout the 2000s.⁵⁵ The first Arctic Policy of 2001 outlined traditional military tensions in the region, projected as a new zone of conflicts of interest and of rivalry for spheres of influence between great powers. The 2008 second Arctic Policy departed from the belligerent rhetoric of its predecessor. It notably mentions the multitude of non-traditional risks and the need for international cooperation between coastal countries, in particular in terms of search and rescue systems.⁵⁶ Under the auspices of the project launched by then President Dmitri Medvedev for a revised European security architecture, the Arctic is presented as a region requiring cooperation between Europe and Russia.⁵⁷ Potential tensions with NATO are relegated to the background, and only materialize in terms of the nuclear deterrent, and to a lesser extent naval capabilities. The New Conception of National Security for 2020, which was adopted in May 2009 to replace that of 1997 and modified in 2000, also advances more nuanced and subtle arguments, reflecting Russia's changes of perception within the international security environment.⁵⁸ The concept defines security much more broadly, and includes energy security, soft security challenges, the environment, health, education, technologies, living standards, and so on. A large part of the concept is devoted to the domestic dimension of security, to energy security, and to the growing competition for resources in the Middle East, the Caspian Sea, and Central Asia, as well as in the Arctic region.

As a result of these renewed strategic interests, several other legal texts were adopted: a new Russian maritime doctrine through 2020; many decrees on the modernization of the Russian Armed Forces, development plans for naval construction, maritime transport, and the fishing industry; a state policy for maritime military activities; and a defense strategy for state borders, inland waters, territorial seas, the continental shelf, and Russia's exclusive economic zones. Moscow has therefore elaborated a real comprehensive security system for the Arctic, including coastal defense infrastructure, navigation aid, satellite and radar surveillance, protection of economic activities, and early warning and crisis management capabilities. Russia's Arctic strategy can be compared to Norway's by its holistic character,

a feature that is less evident among the other Arctic players.⁵⁹ Russia's main economic and energy policy documents also make profuse mention of the importance of the Arctic.⁶⁰

However, as often in Russian history, this bureaucratic production only impacted in a marginal way on the realities on the ground, and many of the texts remained dead letters. Despite the creation of a Russian Arctic Council in 2007, tasked with coordinating the multiple policies toward the region, federal ministries, agencies, committees, and region-level administrations and programs still face difficulties in interacting with one another.⁶¹ However, the recentralization of the administrative authority among federal bodies, the fundamental changes of the center-periphery relation, the revival of key sectors linked to the military-industrial complex, and the dynamism of the Russian economy in the 2000s, boosted by the elevated prices of hydrocarbons, altered the Arctic order. If there have been many failures, several projects have borne fruit and the gulf has widened between Arctic regions in development and Arctic regions in crisis.

Four key elements define the current functioning of the decision-making process on Arctic affairs in Russia.

Arctic policy is a centralized process. It relies mostly on the presidential administration and the Security Council of the Russian Federation, thus confirming the priority given to a strategic reading of the region. Economic considerations are also central, but the input from the Ministry of Natural Resources is limited. The major Russian firms all have direct access to Putin's inner circle without any need for mediation by the ministry. Regional development, social, indigenous or environmental questions are situated far lower on the list of priorities. They are not ignored, but instead have to find a place within the grand design decided by the Kremlin. The input of the regional elite, as well as circles of experts, is even more limited.

Although centralized, Arctic policy is plural. Several different Arctic policies coexist, often poorly coordinated. For Arctic affairs, as for everything else, the Russian decision-making chain is complex. Decisions made in high places do not necessarily come back down the administrative pyramid. The local elite along with their bureaucracies have a strong power of inertia, which is a way for them to resist changes they do not support. Conversely, local needs are difficult to make heard higher up the administrative chain, and are often not properly taken into account. The guarantee of success in implementing efficiently any decision therefore happens through personal connections: those regions with their own associates within Putin's inner circle and/or the presidential administration are able to make themselves heard and have their needs considered. The autonomous republic of Yakutia-Sakha has, for example, been able to assume a privileged status thanks to Mikhail Nikolayev, its president from 1991 to 2002, who was a close associate of Boris Yeltsin. In the 2000s, the "feudal presidents" were progressively replaced and access to the central administration went through the oligarchs: Russia's fifth fortune, Roman Abramovich, was governor of Chukotka from 2000 to 2008, and the former Norilsk CEO Aleksandr Khloponin was governor of the Krasnoyarsk region from 2002 to 2010. Thanks to them, both regions were able to be heard in Moscow. But the political game in some Arctic regions is shifting: the presidential party United Russia, already weakened in Moscow and Saint-Petersburg is no always in a position of strength. Influential in Yamalo-Nenets, it will likely come up against social discontent in the

regions of Murmansk and Arkhangelsk.⁶² These political shifts intensify the absence of policy coordination.

At least two Arctic strategies can be singled out. Schematically speaking, the first one focuses on a “security-first” reading of the region. This is the one defended by the Security Council, the Armed Forces, and the military-industrial complex, as well as by security services such as the FSB (Federal Security Service, successor of the KGB), and it enjoys Vladimir Putin’s direct patronage. This “security-first” strategy endorses the Arctic as the main outpost of Russia’s reassertion as a great power; that is to say, as a theater where Russia’s revival of great power status can be expressed and seen. The exploitation of resources is not forgotten in this strategy, but it is subjected to security imperatives, and foreign presence must be curbed. The second approach, “cooperation first,” is essentially motivated by an economic reading of the Arctic. In order to develop its potential, it is said, Russia has to open up to foreign influence, to its investments, and its know-how; and private actors, whether Russians or foreigners, have to play an increasingly important role, since the state cannot provide for all needs. This is the view promoted by the Ministry of Natural Resources, by several Russian economic actors, and has the support of the least influential Arctic circles, such as the Ministry of Regional Development. During Dmitri Medvedev’s presidency (2008-12), one may have been led to think that the new president embodied this second strategy, given his greater sensitivity to issues related to Russia’s need for “modernization.” However, his return to the subordinate status of Prime Minister has deprived this second strategy of its herald.

Arctic policy is driven by leading figures and their personal or corporate strategies. In this, Arctic affairs are by no means specific and on the contrary are part of the mainstream of Russia’s current political system. The societal sectors considered as non-strategic, i.e., those that do not risk the country’s sovereignty, security, or political stability, function in a relatively democratic, decentralized way. Domains judged strategic are tightly controlled and are ordered according to informal pyramids of power.⁶³ Numerous parallel institutions created in the 2000s - what Richard Sakwa has called the Putin regime’s para-constitutionalism: the seven districts affiliated to the presidency, the State Council, the Presidential Council for the realization of national projects, the Public Chamber⁶⁴ - make it possible to give important positions to figures from the private sector or from specific domains such as the security services, without their having to go through an elective function. Putin’s inner circle maintains close supervision over economic activities in multiple ways: this can occur via their occupying government positions, but also by being board members of energy companies, as well as through family networks or informal schemes.

Many facets of the Arctic make it part of Putin’s “personal business,” which in part explains the renewed interest for the region and the centralization of decision-making. First, the main figures of Putin’s inner circle, Viktor Zubkov, Sergei Ivanov, Igor Sechin, Sergei Naryshkin, and Dmitri Medvedev, all have multiple relations with the main corporations, including: in the energy domain, Gazprom, followed by Rosneft and Rosneftgas; in the electricity sector, Inter RAO-UES and Rosatom; in the defense industries, Rostekhnologii, the military holding company Almaz-Antey, and United Aircraft Corporation; in the transport domain United Shipbuilding Corporation, Aeroflot, and Sovcomflot. Several of these companies are active in the Arctic region. Second, Putin’s personal circles, built around the Ozero cooperative on Lake Komsomolsk near the isthmus of Karelia in the second half of the 1990s, also include Vladimir Yakunin, CEO of the Russian Railways—a key actor for the Arctic transportation—and some personalities like Gennadi Timchenko, and Yuri and Mikhail Kovalchuk.⁶⁵ This node is the most “business-oriented”, the most connected to the private sector, and also the least bureaucratic, in the sense that its key figures, Kovalchuk and Timchenko, do not have any position in the

government. Through the Rossiya Bank, they have personal, both direct and indirect, assets on Nord Stream AG, which manages Gazprom's North European Gas Pipeline project; Lentransgaz, a Gazprom subsidiary currently in charge of the very strategic Yamal-Europe gas pipeline; the Vyborg shipbuilding yard; the Clearlake Shipping company, the oil terminal in Ust-Luga; Russia's largest operator in oil transportation by rail, Transoil; Russia's largest contractor in the construction of gas infrastructure Stroytransgaz; and some assets in the Surguteks oil trader, and in Novatek, Russia's largest private gas producer.⁶⁶

The Arctic as a flagship for Putin-style statehood

The Russian state's renewed interest in the Arctic is also part of a larger context, which is to say the reassertion of patriotism as a tool for political legitimacy. During Vladimir Putin's first two mandates (2000–8), the Kremlin institutionalized patriotism as the new ideological matrix of the presidential party, United Russia.⁶⁷ State patriotic education programs and the return of large historical commemorations have worked to cultivate a sense of national pride, and the revival of the Russian *derzhavnost* (great powerness) has been presented as a unifying political program. In an address to the Federal Assembly in April 2005, Putin recognized that “the collapse of the Soviet Union was the greatest geopolitical catastrophe of the century,”⁶⁸ a statement approved by more than three-quarters of Russians, and long regarded as politically incorrect during Yeltsin's decade in power. While the desire to regain the geopolitical power lost in 1991 is openly stated, Soviet symbols have not been restored for their ideological value—communism itself has not been rehabilitated—but because they are part of a cultural background common to a large part of the population and are seen as an indication of normalcy. The Soviet Union indeed enjoys a positive image in Russian public opinion.⁶⁹

From the Kremlin's viewpoint, the return to a great power status materializes via Russia's reassertion of its role in the international arena, and via the revival of sectors that classically define a great power, such as the military-industrial complex, in particular aviation and the navy. This Soviet-style greatpowerness (*derzhavnost'*) model goes hand-in-hand with the domestic legitimacy strategies set in place by Putin since the start of the 2000s. Kremlin-fostered patriotism promotes masculine and virile values, embodied by Putin, himself who, in a wholly Soviet glamour, presents himself as a hardened sportsman, a military man, and a man who appreciates the harshness of nature.⁷⁰ However, under the presidency of Dmitri Medvedev, state propaganda changed its tact by emphasizing the need for “modernization.” This narrative essentially underscored Russia's need for innovative industries, information technologies, nanotechnologies, and also implied that changes in Russia's economic structures would naturally impact its political system.⁷¹ This modernization narrative did not really come to life, however, and from Putin's third mandate starting in 2012 has in any case been set aside, since the new/old president is again giving priority to the classical, militarized symbols of power. For the Arctic focus, this change has little bearing: the two competing paradigms—that of triumphant military industries and that of new technologies, that of hard power or soft power—both accord very well with the Arctic, which can be pointed up through the classic symbols of the industrial-military complex as much as through the modernization narrative.

Transforming the Arctic into a flagship for Russia's new nationhood crystallized as a Kremlin strategy in the second half of the 2000s, at the same time as increasing international debate came to focus on the

region. The Kremlin first chose to favor a bellicose discourse in which the Arctic was presented as the future site of a new cold war. This strategy was embodied in the president's special representative for cooperation in the Arctic and Antarctic, the famous polar explorer Arthur Chilingarov, a member of United Russia and close associate of Putin. During the Polar Year in 2007, he organized an helicopter flight to the South Pole and the Amundsen-Scott station in the company of Nikolai Patrushev, then director of the FSB, and led the highly publicized Russian expedition to the North Pole. The nuclear icebreaker *Rossiia* and research ship *Akademik Fedorov* reached the North Pole, where two deep-water submersibles, *Mir-1* and *Mir-2*, were launched to plant a Russian flag on the Arctic seabed, at a depth of about 4,300 meters.⁷² Chilingarov stated that "we have exercised the maritime right of the first night,"⁷³ while in 2009, he again bluntly asserted that "we will not give the Arctic to anyone."⁷⁴ Although his remarks do not correspond with the legal position of the Russian state, whose claims strictly respect the norms of international law, they have never been rejected by the Kremlin. Putin is in fact perfectly happy with the provocative character of Chilingarov, whose declarations are essentially addressed to a domestic audience.

Presenting the Arctic as the scene of a new race among great powers makes it possible to portray once again Russia as a besieged fortress, caught in a vise-like grip by the advance of NATO. The comments of Russian officials on the Arctic are thus stamped by old patterns of resentment toward the West and especially the United States. In 2009 the FSB director Nikolai Patrushev stated that "The United States, Norway, Denmark, and Canada are conducting a united and coordinated policy of barring Russia from the riches of the shelf. It is quite obvious that much of this doesn't coincide with the economic, geopolitical, and defense interests of Russia, and constitutes a systemic threat to its national security. ... Further into the future it will be simply too late, they will drive us away from here."⁷⁵ The idea that there is a "united and coordinated" alliance of the other Arctic coastal states against Russia is part of a conspiracy narrative that is widespread in Russia.⁷⁶ In 2010, Dmitry Medvedev himself mentioned, without qualifying what he had in mind, that "Regrettably, we have seen attempts to limit Russia's access to the exploration and development of the Arctic mineral resources. ... That is absolutely inadmissible from the legal viewpoint and unfair given our nation's geographical location and history."⁷⁷

The Cold War memory is broadly prevalent in all the publications devoted to the Arctic.⁷⁸ Russian experts on issues of maritime territorial delimitations all harbor feelings of resentment. The dominant opinion among them is that Russia lost or ceded much more territory than it had to. According to some of them, about 3 million square kilometers of land in North America (including Alaska and California) had been sold for a negligible amount in the nineteenth century.⁷⁹ A large area of the Bering Sea was also ceded too easily to the United States in 1990, as were territories in the Barents Sea to Norway in 2010. According to Alexander Oreshenkov, "the sphere of Russia's jurisdiction over the continental shelf within the limits of its polar sector could be expanded by about 1.5 million square kilometers even without any request if it used the norms of international law and national legislation more expediently."⁸⁰ Other researchers, such as G.K. Voitlovsky, a member of the Scientific Advisory Council of the Maritime Board under the Government, have asked that Russia withdraw its 2001 claims to the CLSL and refuse any territorial restrictions as long as the United States does not play by the same rules and the coastal states have not settled their border disputes—this so that an international Arctic zone does not appear that would encroach on potential Russian territory.⁸¹

The will to turn the Arctic into a component of the patriotic narrative was reinforced in 2009 by the decision to revive the Russian Society of Geography, itself born in 1845 as part of the imperial drive for geographical expansion and exploration of the country's natural resources, and to turn it into one of the Kremlin's flagships. The then-minister of emergency situations, Sergey Shoigu, was appointed its

president, while Putin assigned himself the post of Council of Trustees' chairman. Putin has not concealed his desire to have the activities of the Society of Geography focus on the main state-sponsored projects: "The Society can offer practical support to our plans to develop Eastern Siberia and the Far East, Yamal and the north of Krasnoyarsk region, to participate actively in further research projects in the Arctic and Antarctica, as well as environmental support of the Olympic Games in Sochi."⁸² As it is directly connected to the Kremlin, the Society benefits from privileged grants, and is seeking to coordinate scientific projects on the Arctic. Its mission is not so much to engage in basic research as it is to perform applied research on projects that have been decided upon by the authorities. It also has become a media platform aimed at Russian and international public opinion to promote knowledge of nature, a kind of Russian version of the U.S. National Geographic Society.⁸³

Despite this institutional enhancement via the Society of Geography, the Arctic remains a theme that is little discussed in Russian public space. Between the Kremlin's media hype on the "Arctic race" and the articles of specialists published for confidential circulation in specialized academic journals, cultivated public opinion does not have much to read. General yet serious articles are far and few between, and the journal *Russia in Global Affairs* run by Fedor Lukyanov is practically the only one that regularly discusses the issue's importance for Russia.⁸⁴ The formation of public opinion that is correctly informed and able to decide if it wants to engage in a financial, technological, and human commitment to Arctic conquest has not yet taken shape. The Arctic continues to be a concern of the state elites, not of the Russian society as whole.

An internationally recognized "brand" for Russia

During Putin's first two mandates, Russian leaders have openly voiced their disillusionment and frustration with their European and American partners. They have also desired that Russia be resurrected and counted as a great power, with no obligation to limit its own interests in the name of any solidarity with the West. As with other international issues, President Vladimir Putin has been sending mixed messages on the Arctic to the international community. Moscow played an undeniable role in the escalation of self-assertive rhetoric when the Russian flag was planted on the Arctic seabed in 2007, and gave voice to Artur Chilingarov and his provocative speeches—even though the Russian state itself had not made any illegal claims on the continental shelf. However, since 2008–9, Moscow has been noticeably focused on creating a highly cooperative "Arctic brand" and positioning itself as co-leader of international cooperation on the region. At the time of the Arctic Forum in September 2010, then Prime Minister Putin stated that:

while we are taking care of a steady and balanced development of the Russian North, we are working to strengthen our ties with our neighbors in our common Arctic home. And we think that preserving the Arctic as a zone of peace and cooperation is of the utmost importance. It is our conviction that the Arctic area should serve as a platform for uniting forces for genuine partnership in the economy, security, science, education and the preservation of the North's cultural heritage.⁸⁵

The creation of this Arctic brand is part of a more general reflection on the question of nation-branding. In Russia the general feeling is that formerly the Soviet Union, and now the Russian Federation, has systematically lost the information war and has been unable to succeed in its "conquest for hearts and minds". This has led to the consideration of new mechanisms of influence and soft power, something

which the country has not mastered since the great era of Soviet propaganda. The idea that the West's appeal is in decline throughout the world, and that the global competition between world powers has acquired a "civilizational dimension," as it is expressed in the Foreign Policy Concept of 2008,⁸⁶ have structured logics of promoting Russia abroad. This can be seen with the English-language TV channel *Russia Today*, the Paris and New York-based Institute for Democracy and Cooperation, and the *Russkii Mir* foundation headed by Kremlin-connected Viacheslav Nikonov, which promotes Russian language and culture beyond Russia's borders and tries to associate the Russian-speaking diaspora with the "revival" of the state.⁸⁷ This idea of Russia as a *brand* that can be capitalized on abroad among countries and peoples that are critical of "American domination" is particularly present among the pro-presidential youth movements. One of the pro-presidential youth movement Nashi's affiliates, *Stal'* (Steel), has for instance made its main objective to "develop pro-Russian networks abroad, with the goal of creating a positive image of Russia, and this will give us a strategic superiority. We will change the world, turning ignorance and incomprehension of Russia into respect and even into a fashion for [Russia]."⁸⁸

In this context, the Arctic presents itself as an opportunity not to be passed up. The media focus is considerable with the issue enjoying international visibility, involving countries from the West, rising powers, first and foremost China and India, but also Latin America, the Middle East, and Africa. The Arctic also makes it possible to modify Russia's image as a polluting industrial power for which environmental issues are unimportant, and that has no definite public stance on climate change. It offers unique possibilities to turn its competition with the United States to its advantage, particularly given the latter's non-ratification of the Kyoto Protocol. In this vein, the polluting Russia is cast as a thing of the past, something that was part of the Soviet heritage, whereas the new Russia, the Russia of the future, projects itself as a clean power. The need to participate in a world narrative about preserving nature is visible in the growing interest that the Russian Geographical Society grants to these questions, clearly inspired by the model of the US National Geographic Society. In 2010 Putin has announced the creation of a "Russian Arctic" national park to develop ecological tourism in the High North.⁸⁹

The Russian official narrative has thus evolved toward a celebration of the Arctic region as a space of international cooperation. Putin, Medvedev, and the Minister of Foreign Affairs, Sergey Lavrov, have continuously strived to cultivate a discourse promoting a "dialogue of cultures" in the Arctic. This can be explained by the evolution of the international context (the Obama administration's "reset policy" or Medvedev's softer discourse as compared to Putin's during its presidency), but also because the Kremlin has understood the potential of the Arctic topic as a strategic communication tool. The first international forum "The Arctic: Territory of Dialogue," held in Moscow in September 2010, was an occasion to play this card with success, in particular thanks to the international presence of Prince Albert de Monaco and President of Iceland Ólafur Ragnar Grímsson, who have guaranteed the event will be in the media spotlight.⁹⁰ This media operation is now repeated every year in the hope of promoting not an *Arctic Race* between great powers, but a *Polar Saga* of humanity, among others, under Russian co-leadership.

This cooperative pattern is based on the already long and positive role played by Russia in the Arctic institutions. Even though Moscow has traditionally been disdainful of multilateral organizations with exclusively consultative functions,⁹¹ Russia is a determined actor both of the Arctic Council and the Barents Euro-Arctic Council. It played a constructive role in the discussions on joint research and sea rescue systems (SAR).⁹² In the framework of international debates related to the delimitation of the

continental shelf, Russian scientists have shared the charts, maps, and data used in their 2001 submission to the UN Commission on the Limits of the Continental Shelf, and have declassified some materials collected by the Armed Forces. Despite state competition, Russian and Canadian scientists are exchanging information on the Lomonosov Ridge. In 2007, Canadian, Danish, and Russian officials, all of them representatives of their respective ministries or departments of natural resources, discussed the possibility of collaboration in the Arctic.⁹³

If cooperation patterns are clearly dominant and Russia has succeeded in building, at least partly, an internationally recognized *brand* for itself on the Arctic issue, it remains an actor whose agenda is not fully in harmony with that of the other Arctic players. Russia indeed defends its own strategic and political objectives and considers it has no reason to yield to the majority opinion on several points. First Moscow remains negative about NATO's potential role in the Arctic region. Regular declarations by Sergey Lavrov on NATO's having no-role in the region illustrate the Russian viewpoint,⁹⁴ just does the 2009 National Security Concept, according to which NATO involvement in the region would amount to a return to a bloc to bloc logic.⁹⁵ Second Russia's position is conservative concerning the status granted to non-Arctic states and institutions within the Arctic Council: it is reluctant to provide full observer member status to the European Union and is even more disturbed by the growing role demanded by China. Moscow is a *statu quo* power in the Arctic in terms of institutional design and does not desire to strengthen the portfolio of existing regional organizations.

Third, Russia's position is at odds with the international community's concerning indigenous peoples' rights and voices. For reasons that are as much historical as demographical and political, Russia's perception of the Arctic pays little attention to indigenous peoples and does not see them as actors who should enjoy any privileged status.⁹⁶ The Russian Association of Indigenous Peoples of the North (RAIPON) is the main institutional body, working as an umbrella for smaller associations representing 41 indigenous groups whose total population is around 300,000 people. RAIPON enjoys significant international visibility, which is not always to the liking of the Russian authorities. It has permanent participant status in the Arctic Council's Indigenous Peoples' Secretariat, is a member of the United Nations Economic and Social Council, the United Nations Permanent Forum on Indigenous Issues, the UN Expert Mechanism on indigenous rights, the UN Working Group on the issue of human rights and transnational corporations and other business enterprises, and is an observer in the Governing Council/Global Ministerial Environment Forum of the United Nations Environment Program.⁹⁷ RAIPON thus has several international platforms through which to apply pressure on Moscow and to express its concerns about environmental degradation and insufficient indigenous autonomy. Relations between the Russian authorities and RAIPON are difficult and have deteriorated over recent years. In November 2012, the Ministry of Justice ordered the legal closure of the association on the grounds that it does not fulfill the new and very strict conditions imposed by Russian legislation on NGOs.⁹⁸ If RAIPON's difficulties are indeed part of the general context of Russia's hardening stance toward civil society, they also have specific motives: the association is criticized off the record for its high levels of corruption, and it seems to have voiced its concerns a little too loudly against certain large Russian companies involved in developing new industrial infrastructures in Southern Siberia.⁹⁹

The Arctic: a soft power tool for bilateral relations?

Russia's bilateral relationship with other Arctic players is built on a game of mirrors. The gamut of its positions is therefore very wide, ranging from the reciprocally bellicose exchanges with Canada, its competition/collaboration with the United States for the title of Arctic knowledge power, up to its multitude of pragmatic local forms of cooperation that it has put into place with European countries. Globally, the Arctic is positioned as one of the regions in which the opportunities for cooperation between Russia and Western countries are the greatest: the feeling of having contradictory geopolitical agendas here is far less than in the other post-Soviet spaces (Ukraine, the Caucasus, and Central Asia), and the perception of long-term threats there is largely similar.

The Canada-Russia relationship has become increasingly focused on the Arctic question in recent years. In the 1990s and early 2000s, Ottawa took it upon itself to integrate Russia more firmly into the concert of Arctic nations working on environmental issues and the participation of indigenous people.¹⁰⁰ In 2007, however, Canadian politicians took a dim view of the planting of the Russian flag on the Arctic seabed and the provocative declarations of Artur Chilingarov. Canadian Foreign Affairs Minister Peter MacKay stated that humanity was no longer living in the Middle Ages and that it was not sufficient to plant a flag to lay claim to the possession of a territory, while Prime Minister Stephen Harper declared in Nunavut that "Canada's new government understands that the first principle of Arctic sovereignty is: use it or lose it."¹⁰¹ In the Canadian press, discourses on Russia's warmongering have multiplied, in particular when reporting the flights of Russian bomber planes above the Arctic, regardless of the fact that they do not violate Canadian airspace. The legal debates concerning the belonging of the Lomonosov and Mendeleev Ridges to the North American or the Eurasian continent have sharpened this conflictual reading of things, and the Nanook military exercises in the Canadian High North have been revived at a steady rate.

As a new flagship of Canadian nationhood, the Arctic issue led Ottawa to take a more assertive position on the question of ownership of the Northwest Passage. In 2009, the decision—approved almost unanimously by the House of Commons in spite of protests from Inuit communities—to change the name of the Northwest Passage to the "Canadian Northwest Passage" confirmed state sensitivity in respect of territorial sovereignty in the Arctic.¹⁰² The narrative on the Arctic as Canada's last frontier has not gone unnoticed in Russia, most of whose self-assertive discourses are targeted at Ottawa, whether by name or not.¹⁰³ This deterioration of the bilateral relationship in the name of nation-making symbols is especially harmful as the two countries have never had strong geopolitical antagonisms. Canada is seeking to assert itself on the international scene independently of the United States,¹⁰⁴ and both Russia and Canada have a shared reading of the question of the Northwest and Northeast Passages as national waters. Far from the narrative posted up for domestic public opinion, Russian-Canadian cooperation in the Arctic has developed in recent years and should continue to improve further in the years ahead.

Russia's relationship with the United States is by definition more ambivalent since several elements external to the Arctic as such intervene to disrupt the discussion. The old Cold War antagonisms have not yet left the collective mind. Several current elements can be added to this. On the Russian side, a refusal to ratify the treaty of territorial delimitation in the Bering Sea keeps alive tensions with Washington and fuels the memory of the humiliating years of perestroika.¹⁰⁵ On the US side, the non-ratification of UNCLOS by the world's foremost maritime power confirms Russians in their idea of the United States as a unilateral power that refuses to apply any binding agreements to itself, but is bent on applying them to the rest of the world.¹⁰⁶ The Russian elites also consider that the refusal of Western capitals and of NATO to discuss openly questions of Arctic security, soft and hard, opens the door to a

strategic uncertainty that obliges Moscow to react in a defensive way. Moreover, the state of Alaska voices itself loudly against any enhancement of US-Russia cooperation in the Arctic and this impedes the White House and fuels anti-American narratives on the Russian side. Eventually the very few bilateral activities, such as Russia-U.S. cultural exchanges in Alaska and Far East, could undermine the atmosphere of cooperation, despite common projects such as the Joint Russian-American Long-term Census of the Arctic (RUSALCA).¹⁰⁷ However, the United States cultivates its image as a knowledge power on the Arctic, a title that Russia also aspires to. Fields of cooperation in this domain are therefore multiple, and Moscow hopes for the United States' to truly appreciate its academic and applied knowledge on the High North.

With Europe, and more precisely with the Nordic countries, Russia has managed to construct a more privileged and pragmatic relationship. This is a notable departure from the Cold War when the North Sea-Baltic Sea zone constituted an area of considerable tension between the two blocs. The Scandinavian countries are far from being pro-Russian, for historical (old historical rivalry between the Czarist empire and the Kingdom of Sweden; tensions with Helsinki relating to the low level of autonomy in Finland during the Soviet period and memories of the war of 1939-40; and for Norway, geopolitical tensions between NATO and the Warsaw Pact), political (criticisms of Putin's regime), and geopolitical reasons (debate around Nord Stream in Sweden). Nonetheless, Norway, Finland, and Sweden have all succeeded in developing multiple bilateral cooperation projects with Russia, as much at the state level as between border regions; this is the case despite some clashes of perceptions.¹⁰⁸

Finnish and Norwegian experiences from border management and cross-border cooperation with Russia are considered as best practices which can be exported to other European border regions.¹⁰⁹ The cross-border flows between Karelia, Murmansk and Arkhangelsk on one hand, Finnmark, Lapland, and Finnish Karelia on the other, have grown rapidly and have positively altered the daily relations between border populations. Both Norway and Finland issued a record peak of Schengen visas to Russian border populations in 2012. The small Norwegian city of Kirkenes became an important touristic and shopping place for Russians on the other side of the border. Furthermore, cultural exchange programs, including student exchange programs (for instance between the Arkhangelsk-based Northern Arctic Federal University and Tromsø University), and regional collaboration in the environmental, shipping, and fishing domains have all flourished.¹¹⁰ For Russia, the Nordic dimension constitutes an increasingly important element of its relationship with Europe, not least as the Scandinavian countries have become familiar and predictable neighbors. For Europe as a whole, which is to say, the European Union, its member states, and non-EU European countries like Norway, the capacity to build partnerships with Russia in the Baltic Sea-North Sea-Arctic regions are a positive engine of the global Europe-Russia partnership, which many other aspects have served to weaken.

Within the space of only a few years, the Arctic has become a component—one among many others—both of Kremlin-led domestic policies and legitimacy strategies, and of Russia's renewed international brand. The authorities' difficulties in giving reality to the numerous policy documents adopted for the development of the Arctic region highlight more global problems, mainly the state's inefficiency in

implementing decisions. It often happens that the projects decided by the central authorities only see the light of day thanks to personal, business-related connections. To confront these problems, Putin's inner circle has engineered micromanagement mechanisms for the issues it considers crucial, whether Arctic projects, the preparation of Vladivostok for the APEC summit in September 2012, or of the site of Sochi for the Winter Olympics in 2014.¹¹¹ The Kremlin's management of the Arctic has thus nothing specific about it, since it has come up against the same troubles experienced by all Russian policy, and has had the same solutions affixed to it.

But the Arctic is also an ideological symbol for the Kremlin both on the domestic scene and in the international arena. The thundering declarations of Artur Chilingarov on the "Arctic race" and the flexing of muscle by the main figures of Putin's inner circle are part of the classic arsenal of political communication in Russia today. The region provides a magnificent theatre on which to stage these tools of communication. In the international arena, Russia's stance is more nuanced, and varies depending on the topics under discussion. As it is in an awkward position on some elements, on which it has a divergent agenda from the other Arctic players (the role of NATO, indigenous issues, the claims of non-Arctic players), Russia otherwise aims to harmonize with the international community by displaying its support for polar knowledge, the need for a sea and rescue system, and its concerns for preserving the fragile Arctic ecosystems. Multilateralism and sustainability have thus come to comprise part of the Russian thematic arsenal on the Arctic, even if questions can be raised about Russia's real desire to take environmental issues into account. The Arctic framework, more cooperative than confrontational, has probably acted as a process of "socialization," defined in international relations as the transmission of the rules and guidelines to states and their leaders concerning how they are supposed to behave in the international system.¹¹²

Russia's Arctic policy also makes it possible to renegotiate its bilateral relations. In this process, Moscow seems to decide its strategy by mirroring its partners, as evidenced by its bellicose rhetoric against Canadian self-assertiveness, its hesitation toward its American ally/rival, and its constructive neighborhood partnerships with Nordic countries. Why this multiplicity of facets? Russia's main agenda in the Arctic is to be recognized as a key stakeholder. As long as it perceives that it is not being marginalized, it privileges a cooperative rather than a competitive framework with the other Arctic states, an approach which is less costly and from which Moscow indeed stands to gain some advantage. Arctic issues therefore occupy a paradoxical position in new Russian statehood, both overestimated and under-discussed. It is a way of simultaneously affirming Russia's uniqueness and its desire to be viewed as a "normal" country by the international community, repeating old patterns of being the *other* Europe.¹¹³

CHAPTER 2. A TERRITORY OR AN IDENTITY? THE HIGH NORTH IN RUSSIA'S STATEHOOD

If the Arctic is at the intersection of the domestic and the international, this is also because the region enjoys a paradoxical identity for Russian statehood. The Arctic is at once overvalored in the state-run ideological production, and undervalored in many other regards, especially social, economic and demographic. This disjunction is rooted in the importance often accorded, in Russia, to the territory defining the identity of the state. Vladimir Putin has worked this vision in his own way and has not concealed the direct link he sees between the revival of Russian great power and geography: "When we say great, a great country, a great state—certainly, size matters. ... When there is no size, there is no influence, no meaning."¹¹⁴ Putin's emphasis on the link between *size* and *meaning* highlights the messianic paradigms still present in the political rhetoric of today's Russia.¹¹⁵ Russia's territorial immensity, and above all its continental nature, landlocked and northern, have been apprehended both as a burden and a blessing: a blessing for the classic affirmation of superpower status, for the reserves provided by its subsoil, for the autarkic policies of the authoritarian previous regime; a burden for developing connectedness within one and the same country, due to its harsh climatic challenges, and to the costs it presents for human activities. This paradox of the Russian Arctic, already manifest in the imperial and above all Soviet treatment of the region, is being amplified today. This point is amply illustrated by the hesitations of Russian federal policy around attributing a particular status to the High North, the handling of the question of the indigenous peoples, and the role of the region in the Russian nationalist imaginary.

The Imperial and Soviet memory of the Arctic

The Arctic is fully part of Russian history. Throughout many centuries, it was seen as the northern shore of Siberia and conceived exclusively in relation with the conquest and development of the Siberian mainland. From the medieval republic of Novgorod, Russian merchants ventured deep into Karelia, toward the White Sea, and the Urals, searching for fur to sell to Hanseatic traders. Since the capturing of Kazan and Astrakhan by Ivan the Terrible, in 1552 and 1556 respectively, Moscow has sought to "reunify" Russian lands through its endeavor to conquer the ancient territory of the Golden Horde. The Urals were crossed in 1581, the Yenissei River in 1628, the Pacific Ocean was reached in 1680, and Alaska fell under Russian authority in 1741.¹¹⁶ This multidirectional advance, to the north, the east, and the south, was not actually driven by the Russian state itself, but by diverse groups of influence: the Arkhangelsk region was conquered by merchants who were after fur; the Pomors, the Russians from the White Sea region, navigate in Arctic waters since the seventeenth century; Siberia by the Cossacks and some important merchant families; and Alaska was run by the Russian-American Company.

In the eighteenth century, Peter the Great (1672-1725), impassioned by the great European maritime discoveries, financed numerous expeditions to the Kamchatka Peninsula. Led by Danish Captain Vitus Bering (1681–1741), who passed away before the end of the voyage, the Great Northern Expedition, which lasted from 1733 to 1743, was one of the greatest maritime expeditions of its time. It resulted in the mapping of most of the Arctic coast of Siberia and some parts of the North America, and confirmed to Peter the Great's descendants that it was indeed possible to reach the American continent via the Arctic seas along the Siberian coast.¹¹⁷ St. Petersburg's interest in the Arctic, however, was subject to

vacillations, and often disappeared in the face of more pressing stakes in Central Europe, the Balkans, the Caucasus and in Central Asia.

In the second half of the nineteenth century, and despite the discovery of Franz-Josef Land in 1872, Russian popular and scientific fascination for the polar regions remained relatively muted. Whereas European public opinion was exalted at the expeditions to the North and South Poles, the topic was not very popular among the cultivated Russian classes.¹¹⁸ But the Swedish advances at Spitzberg, and Germany's on Bear Island forced the Tsarist authorities to defend their interests in the region. In 1899, Saint-Petersburg sent the first sea-going icebreaker in the world, the *Yermak*, to Svalbard, in order to assert its rights over the archipelago. Russian jurists also sought to demonstrate the status of the partially enclosed Kara Sea, with the aim of declaring Novaya Zemlya a Russian territory. The vice-admiral of the Imperial Navy and oceanographer Stepan O. Makarov (1849-1904) and the famous chemist, D.I. Mendeleev (1834-1907) fought to try to convince the Tsarist authorities to build an icebreaker fleet in order to secure the Arctic route during the summer months, but without success.¹¹⁹ Their disinterest bore great costs during the Russo-Japanese war of 1904-5, since the Russian navy stationed in the Baltic had to traverse the globe in order to defend the Pacific shores of the country by lack of an Arctic navy.

All this changed radically in the Soviet period. From the start of the 1920s, the Bolshevik elites developed a robust interest in the High North, endowed the indigenous populations with cultural and linguistic rights, tried to cement their sovereignty which was under threat in the Far East, and sought to enhance the Northern Sea Route (NSR, or *Sevmorput'*). The Murmansk research station, which was chiefly concentrated on fishing, was rapidly transformed into the Northern Scientific Industrial Expedition (*Sevkepeditsiia*), and a Floating Sea Research Institute (*Plavmornin*) was tasked with taking a census of all Siberian rivers and their connections to the Arctic Ocean. Rapid aeronautical progress fostered Arctic discoveries and the young Soviet Union did not want to be outdone on prospects for developing a trans-Arctic airline. The rescue expedition organized by the *Krasin* in 1928 to save the Italian Polar expedition, however, acted as confirmation of the effectiveness of Soviet icebreakers and boosted Moscow's interest in taking control of the Northern Sea Route.¹²⁰

Moscow's interest in the Arctic grew steadily during the first five-year plan, launched in 1928, which signaled the entry of Stalin's Soviet Union into a period of forced collectivization and massive industrialization. The latter presupposed having a large quantity of mineral resources, which marked the beginning of a reading of the Arctic as mainly a zone of resources. In the 1930s, priority was given to the exploitation of coal from Vorkuta, metals from the Kola Peninsula, and oil and gas from Ukhta. In the 1940s, the metals from the Norilsk region became Moscow's priority. The Committee of the Northern Sea Route, the *Komseveroput*, then developed its use of Arctic navigations first around the Kara Sea, and then to the east. The first shipping of timber and minerals was organized along the Northern Sea Route; the port of Igarka was developed, as was the Kolyma-Indigirka region.¹²¹ Cruelly lacking in manpower, the regime used the penitentiary industry as the engine of Arctic development: from the *Gostroy* project which built the town of Norilsk from scratch to the infamous *Dalstroy* – the Main Administration for the Construction in the Far North – of Kolyma, the Gulag was at the core of the system for the conquest of the Arctic regions.

The idea that the Arctic is a specific region, to be run by a sole organ gathering together all powers in order to exploit it in conformity with Stalinist standards, gave rise to the Chief Administration of the Northern Sea Route or *Glavsevmorput'* (*Glavnoe upravlenie severnogo morskogo puti*), which John McCannon has very appropriately presented as “one of the Soviet Union's greatest experiments in

hypercentralization.”¹²² The *Glavsevmorput'* was a state within the state, controlling a territory of two million square kilometers, and employed as many as 100,000 persons.¹²³ It was responsible for Arctic research, shipping, mineral production, shipyards, aviation, agricultural development, and population management—Russians as well as indigenous groups. The experiment, however, did not last long. In 1938, *Glavsevmorput'* was dismantled.

The years of High Stalinism resulted in numerous technical and human feats in the Arctic. In 1932, the international polar year, the Soviet icebreaker *Sibiriakov* became the first vessel to cross the Northern Sea Route in a single summer. His captain, Otto Schmidt, became a Soviet hero, and was subsequently put in charge of all the major Arctic exploration projects. A Soviet flag was planted on Victoria Island for the occasion. In 1934, Soviet polar aviators rescued passengers from the *Cheliushkin* as it sank in the Chukchi Sea. Between 1934 and 1937, Soviet Arctic flights multiplied and became part of the legend of world aviation. In 1937, Soviet planes set the world record for long-distance aviation by crossing the North Pole from Moscow to the United States. In the same year, the Soviet Union became the first nation to land aircraft at the North Pole as part of the Papanin expedition, and therefore the first to establish a scientific outpost there.¹²⁴ These incredible years of discovery gave rise to a central myth of Soviet popular culture, that of the “Red Arctic”. Stalin himself considered Arctic literature as a central propaganda tool. Exulted in newspapers like *Vokrug sveta*, novels, films, and radio broadcasts, the epic of the “Red Arctic” deeply marked Russian culture, both the elites and broader society. The Arctic came to be presented as the forepost of Soviet civilization, an authentic *tabula rasa* on which to build socialism. It made it possible to celebrate the Stalinist values of patriotism (Russia was portrayed as having been an Arctic power since the Varangians, without historical discontinuity), heroism, human and technological prowess, and to underscore the extraordinary industrial capacities of socialism, as it conquered one of the world’s most extreme natural environments.¹²⁵

The Red Arctic topic faded from view with destalinization. From the 1950s on, the great Soviet pioneering fronts shifted further to the south: the Bratsk aluminum smelter in Buriatia in the 1950s, western Siberia for oil and gas in the 1960s, and Angara’s industrial center and the Baikal-Amur Magistral (BAM) railway in the 1970s.¹²⁶ The management of the High North was decentralized, each ministry given a share of the portfolios, and the Northern Sea Route was more modestly turned into a section of the Ministry of the Marine Fleet, with the Far East and Murmansk shipping companies in charge of its commercial aspects.¹²⁷ The Arctic workforce policy was no more Gulag-related, but involved giving financial incentives to attract labor force to the area—the so-called Northern benefits (*severnnye l'goty*) could be as much as 250 percent higher than the average Soviet salary.¹²⁸ Growing human settlements in the Arctic and their normalization after the Stalinist excesses were taken care of by Northern deliveries, which came to constitute the main supplies of fuel and food during winter months. After de-Stalinization, the “Red Arctic” motive fell into discreet oblivion—neither rejected, nor exalted—and was only revived on specific occasions, such as the construction of the BAM.¹²⁹ But the memory of this Soviet past has left deep imprints in contemporary perceptions and was revived in the 2000s with the Kremlin’s “resumption” of Arctic mythology.

What administrative status for Arctic regions?

As of the Soviet period, Moscow's policy toward its Arctic regions has always been hesitant and shifting. First, the geographical definition of what constitutes Russia's Arctic is fuzzy: if the western and eastern borders are easy to define (borders with Norway and Finland on one side, and the Bering Sea on the other), and the northern border is naturally that of the Arctic Ocean, the southern border remains imprecise; however it is the one crucial, where the interconnections with the domestic territories and economic logics bear out.

The terminology itself is uncertain. In Russian tradition, the "North" (*sever*) defines the regions extending from Karelia to the White Sea, thus enveloping Arkhangelsk, the first Russian Arctic port, built in the sixteenth century, and sometimes, depending on the definitions, Kotlas and Perm further to the east. Although this region is historically populated by Finno-Ugric peoples largely assimilated with the Russians, it occupies a particular place in the national imaginary. Considered as a reservoir of Russian authenticity in terms of folklore legends, and arts and crafts, the region is often labeled the "Russian North" (*Russkii sever*). This created many memory debates between Finno-Ugric groups, who wish to point up their status as indigenous peoples, and Russian populations, in particular the local elites aiming to create commercial and tourist brands promoting the Russian North.¹³⁰ As far as the regions further to the east were concerned, the Soviet regime defined an area stretching from the Urals to Chukotka as the "High North" (*Krainyi Sever* or *Dal'nii sever*). Although the boundaries of what has come to be included in it also shift, the "High North" and the "Russian North" are often seen as distinct entities, as the latter is judged peripheral and remote, while the former is better integrated into "mainland" Russia. Until recently the term Arctic (*Arktika*) was reserved for the Ocean of the same name and its shores. The situation changed progressively in the 2000s as the Kremlin sought to be recognized as a key actor of Arctic affairs. To speak on a par with the international community, it is indeed necessary to speak its language. The term Arctic, as a noun as much as an adjective, thus entered into Russian usage, and today tends to replace the High North, and to include the Russian North, as seen in the 2008 Arctic policy, which speaks about "Russia's Arctic zone".¹³¹

Multiple administrative definition of the Arctic/High North coexist today. In the 1960s Moscow provides a first geographical definition of what constitutes the "High North."¹³² It has never attributed this status according to purely climatic criteria, but one notes that the further to the east one goes, the further south the southern border of the Arctic extends. The permafrost cover thus constitutes an important criterion, but it is accompanied by other more economically-shaded elements, such as distance from more densely populated regions of the country and transportation remoteness (being inaccessible by land for at least half of the year). Regions classified as belonging to the "High North" received prioritized deliveries and specific benefits (wage increments, earlier retirement age, higher pensions, rehousing priority, and so on). Until the fall of the Soviet Union in 1991, the "High North" only continued to grow geographically, as many regions and municipalities lobbied for their inclusion in it. A second status of so-called "territories equivalent to those of the High North" (*mestnosti, priravnennye k raionam Krainego Severa*) also took into account remoteness and climatic conditions. In practice, it means almost all the immense Siberian mass from the Urals was and is still considered as the "High North" or assimilated to it, even when it extends well below the Polar Circle and runs along the borders of Mongolia and China.

In its 2008 Arctic policy, the Russian government gave a more restrictive definition of "Russia's Arctic zone", based on the definition provided by the 1989 URSS Council of Ministers' State Commission on Arctic Affairs. It mentions three autonomous republics (Karelia, Komi, and Yakutia-Sakha); two provinces (*krai*: Kamchatka and parts of Krasnoyarsk); two regions (*oblast'*: Murmansk, and Arkhangelsk); and three autonomous district (*okrug*: Chukotka, Nenets and Yamalo-Nenets). Added to them are also all the islands of the Arctic Ocean, as well as those of the Bering and Okhotsk Seas mentioned in the 1926

law.¹³³ Some regions are therefore considered as “High North” (Irkutsk, Magadan, Sakhalin, Tuva, Khabarovsk) or are assimilated to it (Altay, Amur, Perm, parts of Tomsk, and Tyumen provinces), but not as “Arctic”.

Even in the more restricted definition in force in the 2008 Arctic policy, there is no unified administrative entity encompassing all Russia’s Arctic regions, which straddle multiple federal districts: the North West, the Urals, Siberia, and the Far East. Both their names and borders reflect a history of conquest and a Moscow-centric view, since the administrative criterion used is the degree of distance from the capital. This territorial division intersects more or less with geographical givens, in particular the watershed. The Urals, Siberia, and the Far East districts intersect with the three major river basins—the Ob, the Yenisei, and the Lena—which link the Arctic coasts to the Ural mountains, Kazakhstan, and Mongolia. As all Siberia is drainage-based, the large amount of coordination required between the rivers and the Arctic Ocean has been an element driving forward all local economic development.

A division in accordance with population and economic patterns would insert a border between the north and the south of the Siberian hinterland, separating “Trans-Siberian Russia” from the “Northern Sea Route Russia.” The relatively highly populated Siberian south has some larger populations of indigenous ethnic groups as well as ancient Russian rural settlements. These settlements follow the Trans-Siberian, and run along the borders with Kazakhstan, Mongolia, and China as far as Vladivostok. They are also, to a greater or lesser extent, better developed economically, better integrated in terms of transportation, and today involved in the trade and investment dynamics emanating from the Asia-Pacific region, especially growing inter-linkages with China.¹³⁴ Conversely, Arctic and sub-Arctic Siberia has a very human dispersed settlement. It is the least populated region in the country, with a population density of less than one inhabitant per 100 square kilometers. Indigenous populations pursuing traditional ways of life are in the minority compared to European populations residing in urban environment. Economically, the north of the Eurasian continent is an immense isolated mass, which can be considered as an enclave, as its only opening is onto the Arctic Ocean. However, this north-south division has no historical tradition in Russia.

The administrative complexities do not stop there. The federalism in force in Russia is just as ambiguous and shifting. Imperial Russia was not federal properly speaking, but it attributed a wide variety of statuses to the conquered territories and to the populations living in them, in accordance with the modality of their integration into the empire, with the existence of national elites able to formulate autonomy claims, and with what was considered the state of advancement or backwardness on the ladder of civilization.¹³⁵ The Soviet regime turned federalism into one of its central mechanisms for managing national diversity and center-periphery relations. All federated republics, autonomous republics, and autonomous districts granted throughout the existence of Soviet history were founded on the recognition, by the central administration, of the existence of a specific ethnic group, classified on the Marxist-Leninist scale then in force according to a status of tribe (*plemia*), nationality (*narodnost*), or nation (*natsional’nost*).¹³⁶

Upon the fall of the USSR, the Russian Federation thus inherited a very complex administrative fabric, the chaotic character of which intensified with the Yeltsin years and the “parade of sovereignties.” In the 2000s, the Kremlin extolled a recentralization of powers and was not inclined to start endowing regions with new specific statuses. They did not provide greater success in implementation issues—quite to the contrary—and the memory of the 1990s, when the “sovereignties” acquired during perestroika were transformed into fiefs controlled by local governors, weighs very heavily in Moscow’s apprehensions.

For the Arctic regions, Russia's federalism is therefore challenging. Did an Arctic identity exist which ought to be reflected in the Russian administrative division? If yes, then based on which criteria: that of the autonomy of indigenous peoples, that of great administrative regions, or that of modalities of economic development? The majority of Russian experts on the Arctic who have campaigned for years to have the Arctic recognized as a new federal district put forward socio-economic arguments. The stake here concerns the question of the state's access to resources. The acquisition of an administrative status guarantees a better access to public subsidies, at the very least to channels of influence.¹³⁷ At the start of 2013, the Duma was still discussing the issue of passing a state program on "Regional Politics and Federal Relations" which might recognize the Arctic regions as having a specific status.¹³⁸ A rather timid Arctic lobby organized itself at the Duma, demanding a special law be passed to provide assistance to Arctic regions, but this has been blocked by lobbying from the southern regions, especially the North Caucasus federal district, whose livelihoods depend on massive handouts from the federal budget.¹³⁹

The scope of a potential Arctic federal district stretches far beyond the conquest of public budgets. It would be interpreted as having an identity signification. Some experts and high-ranking officials do not hesitate, off the record, to question the pertinence of the considerable financial support provided to the North Caucasus, insofar as the region seems to be "lost" to Moscow. They assert that refocusing on the Arctic would allow Russia to escape from the North Caucasus quagmire and give the current Russian nationhood a more peaceful and Europeanized space on which to project itself.¹⁴⁰ Regardless of the territorial definition of the Arctic by the Russian authorities, and the likely occurrence of future changes, the Russian Arctic is above all continental and not maritime. This takes into account the historical, economic, and social specificities of the region and pointily differentiates Russia's strategies as compared to those of the other Arctic states, whose prism is essentially maritime and coastal.

Indigenous peoples as marginalized stakeholders?

Russia's Arctic policy affords little importance to the ethnic identity of the region, although it is home to indigenous peoples. The European Arctic region, which stretches from the Kola Peninsula to the Ural Mountains, hosts Finno-Ugrian peoples with populations numbering in the several tens of thousands or even hundreds of thousands. These include the small Sami population on the Kola Peninsula close to the Norwegian border, more numerous Karelians along the border with Finland, Mordves, Udmurts, and Mari around the Urals, and the Komi in the autonomous republic of the same name. In close contact with Slav populations for several centuries, these groups are largely Russified linguistically – rates of upkeep of their national languages are low and Russian is dominant – and religiously – many of them are Orthodox Christians even if some of them, such as the Mari, also practice traditional Shamanic rites. Whether they live in an urban milieu or work the land, their ways of life is closer to those of Russians than to those of the Siberian peoples, who still practice reindeer herding, fishing, and hunting.¹⁴¹ Further to the east, ethnic groups range from a few tens of thousands to just a few individuals. Khanty and Mansi reside in the Khanty-Mansi autonomous district; Nenets in the Yamalo-Nenets autonomous district; Dolgans, Nenets, Nganasan, Evenk, and Enets in the Taimyr autonomous district; Chukchi, Koriaks, Inuits, and Yugakirs in Chukotka and on the Kamchatka Peninsula.

However, Moscow does not consider the Arctic as an "ethno-region." The indigenous peoples living there are clearly in the minority and have been acculturated to an ethnic Russian population; the life

style of the region is mostly urban, not “traditional”; and the stakes are economic and strategic, therefore falling within Moscow’s remit. The fact that RAIPON depends on the Ministry for Regional Development is revealing of this order of priorities. Moreover, Russia’s reading of the Arctic is still very much shaped by the imperial past and memory of the Russian State’s and its population’s advance into the east, that is, into territories deemed “unpopulated.”

During the Soviet regime, central policies towards indigenous populations varied greatly, in keeping with the twists and turns of the Soviet nationalities policies. Massive phases of acculturation to Russian/Soviet culture, seen as superior and civilizing of backward peoples, were followed by phases when a larger degree of autonomy was granted and traditional ways of life could be better preserved.¹⁴² In the 1920s, Goskomsever was tasked with protecting the rights of the first national districts and aiding the indigenous peoples to become fully-fledged citizens, mainly through literacy. In the second half of the 1930s, the idea of preserving national specificities faded, the autonomous districts were abolished, and Russification made obligatory. In the 1960s, Moscow made a show of its desire to change the traditional modes of economic production and pushed for collectivization. At the end of the Soviet period, only the Nenets still had schools in their national language. Today, these indigenous populations are essentially left to themselves. They resumed their traditional activities in the 1990s when the subsidies sent from Moscow abruptly ceased. Indigenous peoples’ life expectancy is often around ten years less than the Russian average, and they suffer from many more diseases, including psychological ones.¹⁴³ Alcoholism is the major social scourge, unemployment is very high, and youth seek to escape to the large towns.¹⁴⁴

The Russian Federation comprises more than 80 administrative subjects, including 20 autonomous republics and ten autonomous districts bearing the name of a titular population, even if that population often forms only a minority.¹⁴⁵ These administrative entities have been granted an autonomy which is limited to the cultural and linguistic rights of the titular populations – local identity symbols are promoted, schools offer courses in national languages, the national language can be used in administration, and titulars are given priority in the civil service. But as regards all political and economic decision-making, Russia is a centralized state that leaves little margin for maneuver for the regions. Where some have managed to negotiate with the center and obtained a certain degree of autonomy, they have mainly been those primarily populated by ethnic Russians. Among the national territories, only Tatarstan and the North Caucasus republics have been given greater autonomy: Tatarstan’s, though, is being drastically reduced today, while the ongoing autonomy of the North-Caucasus can essentially be explained by the Kremlin’s inability to manage the local political situation and its delegating of power to the local elites in a zone adjudged highly problematic.¹⁴⁶

HERE TABLE 2.1.

For the Arctic region, only the Sakha, the Komis and the Karelians have their own autonomous republic. Four other groups also have their own autonomous districts: the Chukchi (Chukotka autonomous district), the Khants and the Mansi (Khanty-Mansi autonomous district), and the Nenets (Yamalo-Nenets autonomous district and Nenets autonomous district). The Dolgans, Evenks, some Nenets, and the Koriaks lost their entities during Putin’s administrative recentralization, the aim of which was to merge entities deemed not economically viable. Hence, in 2005 the Komi-Permiak district merged with the

Perm region; and in 2007 the Taimyr (Dolgan) and Evenk districts joined the Krasnoyarsk region, and the Koriak district joined the province of Kamchatka.¹⁴⁷ The process of merging administrative entities could proceed further in the years ahead but it seems to have slowed down so far.

Moreover, this ethno-federalism is hampered by several factors. First, the titular populations in the region are almost all systematically minorities and ethnic Russians the majority. Only Yakutia-Sakha can claim an almost equivalent number of “Russians” and of “Yakuts.” Second, many indigenous groups straddle several administrative entities or are a minority of an entity supposed to represent another titular group. Third, for the most part these entities only have very restricted decision-making powers, and have to accept rationales decided at the federal level, rationales which essentially revolve around the exploitation of resources.

The fuzziness of ethnic categorizations and their administrative territorialization works to reinforce the limitations of promoting the Arctic as an area with an indigenous identity. As the inheritor of sophisticated categorizations from the Soviet tradition, contemporary Russia distinguishes many between different population groups. From the 1920s on, the key concept was that of small-numbered indigenous peoples (*korennye malochislennye narody*), a concept validated by the Russian government in 2000, insofar as it passed several decrees guaranteeing these peoples a specific status, such as the right to organize as a community (*obshchiny*), and the right to a traditional use of nature.¹⁴⁸ The list compiled in 2000 includes forty-five groups, of which twenty live in the Arctic zone, while the others are spread throughout the regions of Sakhalin-Khabarovsk-Vladivostok, in south Siberia, and the north Caucasus. Aleuts, Alyutors, Itelmens, Kamchadals, Kereki, Koriaki, Chuchki, Chuvantsy, Inuit and Yukagirs all live in the province of Kamchatka; the Evens and Evenks in Yakutia-Sakha and in neighboring regions; the Dolgans, Nganasan, Selkups, and Entsy in the Taimyr Peninsula and further to the south toward Krasnoyarsk; the Mansi and Khanty in their own eponymous district; the Nenets in their autonomous districts of Yamalo-Nenets, Nenets, Khanty-Mansi, and the Republic of Komi; and the Saamy around Murmansk, and Veps in Karelia. All these groups meet the criteria defined by the Russian law for so-called small-numbered indigenous peoples: they live in their historical territory, preserve their traditional ways of life, define themselves as separative ethnicities, and do not exceed 50,000 persons.¹⁴⁹

The Komi, Karelians, and Sakha populations are all far larger in number and so are not included in this categorization. They belong to the bigger set of indigenous peoples (*korennye narody*), but in this case it is a matter of a usage and not of legal status. The Sakha, although the largest in number with close to half a million persons, have even a much more precarious symbolic status. Contrary to the Komi and the Karelians, Russian historiography and ethnology considers them as colons—similar to the Russians themselves—and not as natives of the territory on which they live today. In fact, the Yakuts originally came from southern Siberia and are Turkic-speakers, and thus related to the Altay-Mongolian world. Being recognized as having the particular status of “native of the north” has therefore turned into a political stake. This situation leads to tensions between the Yakut establishment, which wishes to be recognized as indigenous, in order to promote national revival and the autonomy of the republic, and smaller groups classified who are protected by the Russian legal system.¹⁵⁰

The term “indigenous peoples” is not specific to the Arctic and includes all the groups who are recognized as national minorities, i.e., non-ethnic Russians, from the Tatars to the Chechens. Moreover, its semantic reach is more complex than the term *native* in English. In fact, the distinction between newcomers and natives is made difficult by the history of Russian conquest, which stretched out over several centuries. Hence the Russians settled in the Altay and around the perimeters of Lake Baikal from

the seventeenth century also consider themselves to be *korennye*, and define themselves as Siberians, *sibiriaki*. Moreover, for some years now, with the growth of xenophobia in Russia, the term “native population” (*korennoe naselenie*) is used increasingly in the media and by politicians, with Vladimir Putin leading the way, to define all Russian citizens in opposition to migrants, or else all Russian citizens living in their “traditional regions” in contrast to internal migrants, in particular North Caucasians.

Russia has not ratified the 1969 ILO convention on Indigenous and Tribal Rights – which is binding for only 17 countries, mainly in Latin America. It is opposed to the clause on property rights, which would necessitate long negotiations about the territories occupied by the great industrial consortiums and would undermine the assets of the Russian state or of its administrative subjects.¹⁵¹ Contrary to what its federal structure might lead some to believe, and in contrast to Canada, Denmark, and Norway, Russia does not grant its indigenous peoples any political autonomy, nor does it consult them about subsoil exploitation. Traditional knowledge, patterns of land use for traditional means of subsistence like reindeer herding, and access to non-polluted rivers are not respected by major extraction companies, whether public or private. Decision-making in the energy and mineral sector is particularly centralized, resting in the hands of a few figures from within Putin’s inner circle. The regional administrations obtain good subsidies from large companies, often primary resources (low-priced gas and oil), or are transferred considerable taxes. Thus, Khanty-Mansiisk, the capital of the autonomous region of the same name, has a higher GDP per capita than Moscow of close to US\$40,000 in 2007, which is on a par with that of the United States.¹⁵² But those who stand to gain from it are mostly the Russian urban populations, not the indigenous ones.

The indigenous problem is rather acute in two regions: the former Taimyr autonomous district (today merged into the Krasnoyarsk region), where the vast range land for reindeer surrounds the mining complex and city of Norilsk; and the Yamalo-Nenets autonomous district, where indigenous groups have to herd their reindeer between the gas wells and pipelines. In both cases, Nenets have had regular confrontations with Gazprom and Norilsk Nickel. Their associations have organized protests thanks to which they have become among the most widely media-covered indigenous population in all of Russia.¹⁵³ Given Moscow’s participation in the Arctic Council and international pressures surrounding the question of indigenous peoples, the Kremlin has had to soften its position and encourage Gazprom, Norilsk Nickel, and Rosneft to show a certain interest in the issue. Today relations have improved and the main consortiums have developed contacts with indigenous representatives.¹⁵⁴ Shareholders of Sakhalin-2 have committed to supporting the Sakhalin indigenous people, the Nivkhi,¹⁵⁵ while Gazprom provides compensation to the Nenets for pasture degradation and land withdrawal and employs some of them. The main extraction companies also offer specific study grants, housing facilities, schooling of children, and helicopter transport. But the subsidies from intense subsoil exploitation continue to be essentially soaked up by the local government.¹⁵⁶ And as the 2012 crisis within the Arctic Council showed, the Kremlin does not consider RAIPON to be an essential interlocutor. As seen from Moscow, the indigenous component of its Arctic policy is minimal and is often viewed with disdain as a “fashion” from the West.

The nationalist reading of the Arctic: Russia’s new *Lebensraum*

The dominant Russian view is one of a Russian national territory and not of an “ethno-region.” This view is strengthened by the maintenance of historical memory about the conquest of Siberia, the revival of *Red Arctic* symbolism, and the recent enthusiasm of Russian nationalist movements for the Arctic theme. These movements have seized upon the myth of the High North, something they did soberly in the 1990s, before becoming more vociferous in the 2000s. Since the Soviet collapse, they have actually produced many discourses that can be defined as “geographical metanarratives.”¹⁵⁷ These metanarratives advance a supposedly comprehensive and teleological explanation of Russia through a master idea – territorial size and location in space are the drivers of Russia’s mission in the world, and of the nature of Russia’s state and culture. Three main geographical metanarratives circulate in contemporary Russia, all of them arguing that a specific element gives the country its uniqueness among nations: Russia’s territory is *larger* than other countries in the world and forms a specific continent (Eurasianism); Russia is going *higher* in the universe (Cosmism); and Russia is going *further north* (Arctic mythology). In their own ways, these three metanarratives play on some spatial criteria: the territorial dimension and the location between Europe and Asia for Eurasianism; the conquest of space as being a new way of continuing territorial expansion and as having a messianic meaning (Cosmism); and the Nordic location of Russia as the revenge of territory over history and of space over politics (Arctic mythology).

Some nationalist groups see the Arctic above all as a crucial element in the revival of Russia’s great power status and are therefore focused on geopolitical competition with the West, and in particular with the United States. Popularizations such as Artur Indzhiev’s book *The Arctic Battle: Will the North be Russian?*, which was published in one of the major Moscow nationalist collections, have announced the onset of sort of Third World War in which a weakened Russia will have to prove its heroism in order to safeguard its rights in the Arctic against aggressive Western powers.¹⁵⁸ Others put forward a more spiritual view of the role of the High North in the construction of Russian identity and the pursuit of its traditional messianism. In both cases, the Arctic is presented as Russia’s “last chance,” and as a possible way to take “revenge on history.” The notion that Russian expansion into the Arctic could attenuate the consequences of territorial losses linked to the Soviet Union’s collapse has become a recurrent theme: the Arctic is presented as rightful compensation for the hegemony lost with the disappearance of the Soviet Union.

The famous geopolitician Alexander Dugin has been one of the most virulent in his defense of a Russian Arctic. According to his explosive formulation “[t]he purpose of our being lies in the expansion of our space. The shelf belongs to us. Polar bears live there, Russian polar bears. And penguins live there, Russian penguins.”¹⁵⁹ This passage, cited by *Der Spiegel*, became famous in the West both for its radicality as well as for its blunder (there are no penguins in the Arctic). Inspired by the Eurasianist tradition, Dugin also borrows from the Germanic one, especially the idea of Hyperborea as the last unknown continent. He states that Eurasia is giving birth to a new political and spiritual continent, which he calls *Arctogeia*, and bases his argumentation on Aryan references inspired by the European New Right, Nazi theories, and René Guénon’s esoterism.¹⁶⁰ He defines the Hyperborean continent as the birthplace of the Aryans of whom the Russians are the purest descendants. In his *The Mysteries of Eurasia*, he elaborates a cosmogony of the world in order to make Siberia, the last “empire of paradise”¹⁶¹ after Thule, the instrument of his geopolitical desire for a domination of the world, justified by Russia’s “cosmic destiny”.¹⁶² As for the Eurasianist Youth Movement that lay claim to Dugin’s thinking, it have organized several demonstrations in support of Russian territorial claims in the Arctic, calling for the Arctic continental shelf to be integrated into the borders of the Russian state and to be transformed into a new federal district. The then movement’s leader, Alexander Bobdunov, has claimed that “the North is not only a base of economic resources, our future in the material sense, but also a

territory of the spirit, of heroism, and of overcoming, a symbolic resource of central importance for the future of our country.”¹⁶³

The Arctic theme has not left the Communist movements indifferent either, and notably not their main theoretician, Alexander Prokhanov. In his will to legitimate Russia’s claims to lead the new Arctic race he combines pragmatic arguments with revivalist theories on the Russian nation. He remarks that “for more than fifteen years immense spaces have been excised from Russia to the south. The Russian people have become more and more northern. The Ukrainian black lands have been taken away, as has access to the seas of the south, and Belorussia.”¹⁶⁴ The new, post-Soviet Russia would therefore be destined to look north, no more south, to find its ‘radiant future’. But Prokhanov also sees a renewal of Russian messianism in what he calls “the Russian march toward the north” and the assertion that the Arctic Ocean is domestic water for Russia.¹⁶⁵ Not without humor, he designates Gazprom as “the corporation of all the Russias” (on the model of the “Church of all the Russias”) and notes that the Arctic is likely to become the source of Russia’s both material and spiritual power, since “the Arctic civilization requires an incredible concentration of force in all domains. It will become, then, a sanctified ‘common good’, in which the peoples of Russia will rediscover their unity, conceived by God as those to whom he destines great missions.”¹⁶⁶

A new movement of so-called “white world” doctrinaires has also developed in the 2000s.¹⁶⁷ It groups different theoreticians of a Northern/European/white race under one and the same umbrella in order to propagate the idea that Russia was founded by Aryans and that the imperial structure of the country constitutes the apogee of “white” political thought. The movement was able to develop some political connections through the Rodina party, leads a small but influential group called White World (*belyi mir*), hosts websites for white and Slavic audiences, and participates in neo-Slavophile literary circles, notably in the International Fund for Slavic Writing and Culture.¹⁶⁸ In 1999, it decided to start a collection, the Library of Racial Thinking (*Biblioteka rasovoi mysli*), which publishes works on physical anthropology of some Russian, but more so Western, authors from the turn of nineteenth-twentieth centuries, and openly claims the legacy of racial anthropology.

The High North has also become a fashionable topic among public opinion through a revival of interest in the history of Alaska. Since the 1990s, historical and fictional publications around the Russian conquest of Alaska and its sale to the United States in 1867 have multiplied. The idea of a former Russian Empire stretching from Finland to California fuels nationalist resentment, focused as it is on the importance of geography in the assertion of great Russian power. This makes it possible to cultivate conspiracy theories on the West’s supposed desire to fragment Russia. In this way, many works lament the corruption of the Russian elites who decided to sell California and then Alaska for financial gain, setting these historical events in parallel with Russo-American negotiations for the Chukchi and Bering Seas in 1990.¹⁶⁹ These texts elevate the natural character of the Russian advance in Alaska as the logical consequence of that into Siberia, the spiritual understanding between Russians and the indigenous peoples, and the key role of Orthodoxy in Alaska. These arguments are presented in counterpoint to American history, which is stamped by the destruction of indigenous peoples.¹⁷⁰ Regrets concerning the sale of Alaska are not only expressed by so-called nationalist authors, but can also be found among high ranking officials with links to Arctic questions.¹⁷¹

Lastly, the broad dissemination of Aryan and neo-Pagan themes in contemporary Russia contributes to familiarize public opinion with the idea of the Arctic as Russia’s destiny. The Russian version of the Aryan

myth stems back to the nineteenth century, but was strengthened in its neo-Pagan aspect during the interwar emigration through the debates on that false manuscript *The book of Vles (Vlesova kniga)*, presented by Russian and Ukrainian nationalists as an undisputable historical source evidencing Slavic pre-Christian antiquity, but also as a book of prayers and hymns to ancient gods to be adhered to in practice.¹⁷² Numerous ethnic faith movements (*Rodnoverie*) that are seeking to restore the pre-Christian and Aryan religion of the Slavs promotes this Aryan motif.¹⁷³ Moreover, since the end of the Soviet Union, numerous meta-historical publications on the Aryan past have flooded the shelves of Russian bookshops and libraries, for instance Valery Demin's works.¹⁷⁴ Because of the general public's interest in Slavic prehistory, Aryan doctrinarians have been able to permeate historiography, books for children, and textbooks. According to them, the Aryan homeland was located in ancient Atlantis, a bygone Nordic country whose descendants allegedly managed to migrate to Russia. Far from being marginal, this metahistory about Russia's Aryan past and future represents the basis for a form of popular knowledge of ancient history.

The Arctic metanarrative is well received in a Russian society marked by a growing xenophobia and identification with a 'White' identity.¹⁷⁵ The public discourse, fed by both politicians and the media, about "threats" coming from the South - that includes instability in North Caucasus, migrations from Central Asia and a form of Chinese yellow peril in Siberia and the Far East - contributes to reinforcing a spatial representation of Russia in which the "south" is the region from where all danger issue, while the "north" is the place where the Russian people will be able to preserve itself. The growing Europeanization of identity narratives in Russia therefore open new niches for a Nordic/arctic metanarrative to develop, in competition with the Eurasianist one.

The place of the High North in Russia's statehood may appear paradoxical, wedged as it is between technocratic debates on territorial divisions, vested interests fighting for the acquisition of state subsidies and specific rights, and the national imaginary of regeneration of great Russian power through a kind of Arctic rebirth. However, all these juxtaposed debates are rooted in longstanding ambiguities which have marked Russian history since the start of the eighteenth century and have widely influenced the construction of modern Russian statehood. The central question, in imperial times as well as, in an altered form, in the Soviet period, and indeed even more so today, is the following: ought the Russian territory be the defining feature of the identity of state and of the nation? If the response is affirmative, then which administrative structure is the most judicious: empire, federalism, or a centralized state? Moreover, should recognition, whichever form it takes, of the diversity of territories pass through ethnic criteria or through economic interests? If the ethnic criterion is taken into account, then should autonomy be founded territorially, or rather linked to individual identity, already a matter of debate between Austro-Hungarian Marxists and Russian Marxists?¹⁷⁶ In what way is any ethnic autonomy granted compatible with the dominant identity of "ethnic Russians," who represent more than eighty percent of the population, and is this not likely to lead to secessionist demands in certain regions such as the North Caucasus? Further, how is this autonomy to be materialized, for instance in the distribution of tax revenues, a sensitive topic which the Arctic regions consider to be crucial? If the Russian state decides to endow the Arctic with the status of federal district, what are the political and identity

implications of this move, and will it impact the priority that has been hitherto granted to the North Caucasus?

To all these questions, the state bodies and the political circles have no answer. An open debate, stating clearly the stakes of the federal identity of Russia and of its criteria, is not the order of the day. The Putin regime is built on consensus, the cult of the smallest common denominator, and a refusal to return to the ideological division of the 1990s, which imperiled state unity. Though the legitimacy of the regime is being increasingly contested, it is highly unlikely that the Kremlin will decide to table any such debate, insofar as it would probably incite polemics over the policies conducted in the North Caucasus. Moscow prefers instead to continue to manage the ambiguities and to postpone making any strategic decisions, even if this means losing in efficiency.

CHAPTER 3. RUSSIA'S SPATIAL AND DEMOGRAPHIC CHALLENGES

Not all the Arctic states share the same relationship to the Arctic part of their territories; for some it is marginal, while for others it is more central. For the United States and Denmark, their Arctic territories, Alaska and Greenland respectively, are geographically detached from the mainland. Excepting Svalbard and the islands of the Canadian Arctic Archipelago, the Arctic regions of Canada and Norway are territorially contiguous, but are granted diverse administrative levels of autonomy on behalf of their indigenous populations. For Russia, however, the polar lands form an integral part of the national territory. This feature is reinforced by the earliness of European settlement—the region was colonized in the sixteenth century—and the numerical importance of the populations living there. Taken in its maximal definition, Russia's High North totals about 30 million inhabitants; taken in a more restricted sense—that of the Arctic Council—it has a little less than 3 million inhabitants. Even the more modest figure, though, means Russia has the largest Arctic population in the world, with about three-quarters of the total (2.9 million out of four).¹⁷⁷ Another specificity is that indigenous groups only make up a very small percentage of the total figure. Indigenous peoples represent 80 percent of Greenland's population, 50 percent of Canada's, 20 percent of Alaska's, and 15 percent of Arctic Norway, but they make up less than 5 percent of that of Arctic Russia. The Russian Arctic is therefore populated by Europeans living in an urban environment. Five major towns stand out: Murmansk (320,000 inhabitants), Arkhangelsk (350,000), Vorkuta (80,000), Norilsk (130,000), and Novyi Urengoi (113,000), the latter being the last town of more than 100,000 inhabitants to have been built above the Arctic Circle in the 1980s. This urban feature presents totally different challenges to those of the other Arctic countries.¹⁷⁸

Moscow also faces its own set of issues related to larger trends affecting the country, mainly a population crisis and drastic changes in territorial management. The Russian Federation is a fragmented territory in terms of population, access to wealth, human development indicators, and economic strategies. Within the space of two decades Russia has become a de facto archipelago. While some modern and wealthy "islands" are developing among its immense landmass, other areas are being emptied of their populations, are economically impoverished, contain secessionist elements (the North Caucasus), or are increasingly disconnected from the rest of the country (the Far East). Russia is also the only country in the world to be undergoing such a demographic crisis in peace time, and the only developed country to be experiencing a crisis in terms of the lack of a skilled and educated workforce; this despite the fact that it is second in the world after the United States as a destination for migration flows. This immense demographic and territorial shake-up impacts directly on the viability of Russian strategies in the Arctic. How is it possible to make subsoil exploitation a viable proposition when the Arctic regions are depopulating? Where is the labor force—ranging from manual laborers to executives—going to come from? How does Moscow reshape the human geography of a country in the process of economic fragmentation?

"Archipelago Russia." A fragmented territory

Territory is a key, and long-term, element of state identity. It shapes geopolitical strategies and perceptions of the world; it is used as a symbol of the nation through cartographical representation; and

more concretely, it has a major influence on the economic capacities of a country. In Russia, the reference to territory has always been part of identity narratives.¹⁷⁹ Ever since the Church Chronicles were written in the Middle Ages, the geographical position of Muscovy, situated at the junction between Europe and Asia and to the north of Byzantium, has been presented as an explanatory element of its history. In the eighteenth century, the major historians of the Russian empire, such as Nikolai Karamzin (1766–1826), insisted on the unique dimension of the Russian territory. Such comments have been taken up and reformulated in the nineteenth century, in endless variations, by the Slavophiles and their descendants, for whom the psychological traits of the Russian people and the imperial nature of Russia owe much to geography. In Soviet times, the accent was put on Russia's feats in exploiting the soil and on its territorial diversity, which made it possible to present the homeland of socialism as humanity in miniature, including almost all the various climate-types and landscapes of the earth.

The Soviet Union's collapse accentuated the complex interplay between nationhood and territory. Although Russia remains the largest country in the world, with close to one-sixth of the earth's land surface, the feeling of territorial hypotrophy dominates current self-representations.¹⁸⁰ The splitting up of the Soviet Union deprived the Russians of fertile southern lands, mainly those in Ukraine and Kazakhstan, of access to ports in temperate seas like the Caspian and Black Seas, and has pushed back the western borders of the country further east, while at the same time, the population is leaving parts of Siberia and the Far East to return to the country's European regions. In such a context, a focus on the Arctic has suddenly reopened a national mental atlas of forgotten or marginalized spaces. Whereas Russia was withdrawing into itself territorially for the first time in a millennium, the Arctic seems to revive an *expansive*, and no longer *retractive*, vision of the country; a potential new space is opening up to it. This reading of the Arctic is particularly clearly operative in the military and in nationalist circles, which see this region as being Russia's most important "reserve of space" (*prostranstvennyi rezerv*).¹⁸¹

Apart from the still traumatic loss of the Soviet borders, Russia has additionally faced, for more than two decades now, a considerable reshaping of its territory, with living standards that are increasingly dissociated per region. The principle of "unity in diversity," which stamped Russian history for many centuries, was born of a traditionally centralizing autocratic regime combined with large-scale territorial expansion and decentralization at the everyday level. With the implosion of the Soviet Union, the unity/diversity balance fractured, and the country is now in the process of undergoing an extreme fragmentation of its territory in terms of population, access to wealth, human development indicators, and economic strategies.¹⁸² The European regions, including the Urals, which constitute only 25 percent of the territory of the Russian Federation, are home to 78 percent of the population.¹⁸³ In addition to the special case of Moscow city, which saw an exceptional rise in its population of 28 percent between 1989 and 2008, only three regions have received a large influx of people: the Moscow region, the Central federal district, and the Southern federal district, all three of which have had net migration flows of between 12 and 17 percent. The rest of Russia is depopulating. Wealth is also concentrated in the European regions: Moscow, with 7.4 percent of the population, concentrates 23 percent of the country's GDP, the Tyumen region, with 2.4 percent of the population, provides 18 percent of the country's tax revenues, while Siberia and the Far East account for 66 percent of Russian territory but produce only 15 percent of GDP.¹⁸⁴

Several Russias coexist within one country. The French politician Jean-Robert Raviot has identified three archipelagos.¹⁸⁵ "Metropolitan Russia"—Moscow, St. Petersburg, Yekaterinburg, Novosibirsk, and to a lesser extent, Rostov on Don, Nizhnii-Novgorod, Samara, Kazan, and Omsk—is distinguished by its high level of revenues, of inhabitants with tertiary degrees, and its many opportunities of access to services.

The university and science towns can also be added to this, such as Tomsk and Krasnoyarsk, which have lower revenues but a high degree of access to the outside world. The “rent archipelago” —Tyumen, Surgut, Khanty-Mansiisk—has the highest revenues per capita in the country, and offer its inhabitants very generous social policies and broad access to technologies. The “archipelago of the Black Earth” — situated between Kursk, Tambov, Volgograd, and Krasnodar— is the only region to witness both economic and demographic growth. With a leading role given to agriculture, the region enjoys high population density and a level of connectedness close to Central European standards. While the living standard there is not as high as in metropolitan Russia, the quality of life has improved.¹⁸⁶ The rest of the territory can be defined as second-class Russia characterized by abandoned industrial towns in full crisis, high unemployment rates, the pauperization of the former Soviet middle classes, agricultural wastelands, very poor access to transport, and an acute demographic crisis. The North Caucasus federal district represents a specific case. Though one of the poorest areas of the country, with a high unemployment rate and very low GDP per capita, it also displays demographic dynamism, ethnic specificity, increasing political volatility, and considerable migration flows.

Russia is therefore an archipelago of wealthy, urban, economically dynamic islands in an ocean of sparsely populated and undeveloped hinterland. The social inequalities are above all regional inequalities.¹⁸⁷ The country’s extreme regional, social, economic, and ethnic disparities are difficult to reconcile with the traditional strong tendencies toward centralization of authority in Moscow. In this context, the Arctic is simultaneously present and forgotten. Forgotten because it is part of second-class Russia in terms of population, wealth, and connection to the rest of the country, a predicament which is further exacerbated by the harsh climate with which its inhabitants have to contend. However, the Arctic is simultaneously presented by the political authorities as Russia’s future, especially in terms of resources. This paradox is not new and has its roots in the former Soviet paradigm of Siberia as a space that is both over- and underdeveloped.

The theory of Siberia’s general mismanagement under the Soviet regime resides at the core of the economic analysis conducted by Fiona Hill and Clifford Gaddy in their book *The Siberian Curse: How Communist Planners Left Russia out in the Cold* (2003). They established a way of calculating the “cost of the cold,” i.e., the technical, financial, and human cost of developing regions that are unfavorable to modern human settlement. To this end, they developed a “temperature per capita” system which calculated a cost of living four times higher than in the more temperate regions of the Soviet Union.¹⁸⁸ While Canada and Australia have never sought to link subsoil exploitation to permanent settlements and conceived the development of their immense territories through shift work, the Soviet Union projected its territorial development as extensive and not intensive. It relied largely on the work of Gulag prisoners for achieving its goals of industrialization, and it subsidized unprofitable industries, even the populations based in Siberia and the Arctic achieved a low rate of productivity compared to the other regions of the country. This financial and human burden probably played a major role in the Soviet collapse, which was marked by the misallocation of resources.

Today, the debate over the “cost of cold” arises anew with each evocation of grand plans for Arctic development by high senior officials. The extensive Soviet heritage is not the only thing that has come into question. The former imperial system of “appropriating” the soil (*osvoenie*) still draws Moscow into making an intrinsic link between economic development and large settlements. New development programs for the Far East are, for instance, based on the *osvoenie* narrative and Soviet mechanisms: heavy industrialization projects and new incentives for the population to stay and even to migrate there.¹⁸⁹ For the Arctic region, the authorities seem more hesitant and manifest contradictory logics are at play. Some regional experts and specialists, as well as firms exploiting Arctic resources, encourage the

application of the Canadian or Australian model, and thus the development of non-permanent population settlements operating in a shift work system. But the official discourse still remains one of economic conquest by the *osvoenie*, massive population settlement. Hence the intrinsic—but contestable—link created by Moscow between Arctic resources and demographic issues.

Russia's demographic puzzle

The demographic crisis affecting Russia is not new. Throughout the twentieth century, the Russian population had to contend with political crises of such magnitude—years of civil war, Stalinist purges, the Second World War—that they strongly impacted on its demography in terms of falling birth rates, increases in mortality, and massive emigration. All these events had a cumulative effect, since the smaller generations of the 1920s–1950s had statistically fewer children. After the 1970s, a new demographic evolution with political and cultural repercussions became apparent when Soviet statistics began to register a demographic slowdown among its Slavic and Baltic populations, as compared with the growth of the Central Asian and Caucasian peoples.¹⁹⁰

This negative trend intensified in the 1990s, with the Russian population dropping from 148.5 million in 1992 to 141 million in 2009.¹⁹¹ During the first fifteen years of its independence, the country lost about 770,000 persons per year. Since 2007, the curve began to slow modestly, or even to invert: while the net loss of population was “only” 478,000 persons this year, it decreases to 362,000 in 2008,¹⁹² 248,000 in 2009, and 241,000 in 2010, and in 2011 and 2012 the country experienced a net increase of 191,000 and 243,000.¹⁹³ At the end of 2012 the authorities announced a total of 143 million citizens, the increase being mainly explained by the naturalization of immigrants and not merely by improved birth rates. In spite of the scale of this decline having been partially reversed in recent years, Russia's overall demographic figures remain particularly poor for a developed country. Between the 1960s and perestroika, life expectancy barely increased; it then plummeted to a mere 60 years for men and 73 for women, 15 and ten years less, respectively, compared to life expectancies in Western Europe. In 2006, average life expectancy was lower than it had been in 1959 during the Khrushchev years.¹⁹⁴ This demographic collapse is unprecedented, as Russia is the only country to experience such depopulation in peacetime, putting it on a par with developing countries.

There are several explanatory factors for this. First of all, the birth/death ratio has drastically changed. Between 1992 and 2007, there were only 22 million births in Russia, but close to 35 million deaths, which represents a drop of one-third and an increase of 40 percent respectively as compared with the preceding Soviet period, and amounts to a total of about 13 million losses.¹⁹⁵ Today, the birth rate per woman is around 1.3 to 1.4, which is much lower than the rate required for natural regeneration (2.1). And it is much lower than it was during the last decades of the Soviet regime, albeit on a par with those found in some European countries, such as Germany. Until the mid-2000s, there were many more abortions than births: an average of 121 abortions per 100 births, one of the highest figures in the world.¹⁹⁶ This ratio balanced out in 2006, and now there are about the same number of births and abortions, due to better knowledge of chemical contraception. However, the mortality rate of young women has not ceased to rise due to declining social conditions.

Although the weak Russian birth rate is not unique by European standards, and is even higher than the Japanese one, the exceptionally high death rate is. The major explanation for this peacetime decline is

linked to the level of premature deaths for males through violence and because of accidents (crimes, domestic accidents, accidents at work, road accidents). Deaths due to external causes in Russia would appear to be on a par with Burundi, Liberia, Sierra Leone, Angola, and Congo.¹⁹⁷ The health of the younger generations is worse than during Soviet decades. Birth weights and heights were lower for children born in the 1990s than during the Soviet period; but fortunately an increase in the standard of living during the 2000s has somewhat attenuated this phenomenon. Infectious and parasitic diseases have increased. Alcohol abuse, the high rates of smoking, poor diets, and the deterioration of the health care system also in part explain the low life expectancy. Last but not least, Russia has the unenviable status of being the world's leading consumer of heroin, using 70 tons per year, or around 21 percent of world consumption according to the United Nations Office on Drugs and Crime (UNODC).¹⁹⁸ The country has between four and six million drug users, mainly young people in both urban and rural areas, according to these calculations; this figure has increased by more than a factor of nine over the last decade.¹⁹⁹ The Federal anti-drug Agency estimates that each year 10,000 Russians die from overdoses and that another 70,000 deaths are drug-related.²⁰⁰ Moreover, this consumption has a major effect of the spread of the HIV crisis because the country has banned methadone treatment and needle exchange programs. According to the UNODC, Russia now has a 1 percent HIV prevalence rate among its young people and the fastest growing HIV/AIDS epidemic in the world.²⁰¹

This Russian demographic collapse, however, is not uniform and essentially affects the Slavic populations. Of the 20 regions of Russia that have registered positive rates of population growth, 19 are republics or autonomous districts populated in part by non-Russian populations. In Ingushetia the natural increase has attained 1 percent, and in Chechnya 2 percent.²⁰² Other areas experiencing positive population growth are Dagestan, Yamalo-Nenets autonomous district, Khanty-Mansi autonomous district, Tuva, Chita, Tyumen, Altay, and Kabardino-Balkaria. Schematically, and with some exceptions, these represent two categories of regions: those of the North Caucasus, which are of Muslim tradition, and those of southern and northern Siberia, many of them which are of Buddhist tradition. These figures must, however, be seen in context. Although Chechnya has the highest birth rate in Russia, with 3.18 children per woman, the figure is nonetheless low for Muslim populations compared more globally.²⁰³

Between the two censuses of 1989 and 2002, the so-called "Muslim populations"²⁰⁴ increased by 26 percent. This very high figure is due not only to their higher birth rates but to processes of ethnic re-identification that work to their advantage – the rights accorded to titular populations in the republics or autonomous regions, as well as the symbolic valorization of the local culture is pushing those inhabitants with multiple possible identities to declare their belonging to the titular nationality. The demographic balance is therefore unfavorable to "ethnic Russians." Between the two censuses, their share of the country's total population dropped from 81.5 percent to 79.8 percent, which is a net drop of 4 million persons. However, the figure is probably larger at around eight million, since it was compensated for by the arrival of several million Russians from the Near Abroad, who emigrated to Russia in the 1990s.²⁰⁵ The "Muslim population" constitutes about 14 million people (10 percent of the population),²⁰⁶ although some calculations put this figure at close to 20 million, or about 15 percent of the population. This figure only takes into account Russian citizens, not the migrants, who are largely undocumented.

The projections of the UNDP, the Census Bureau, and the Russian State Statistics (*Goskomstat*), in spite of their divergent methods of calculation, all agree that Russia's population will continue to decline in the decades to come. It is forecast that the country will have between 122 and 135 million inhabitants by 2030, a figure that could collapse to about 100 million by the mid-twenty-first century. Upon Putin's

arrival in power and even more so during his second term as president, the demographic question became a central one for the Kremlin and was presented as a challenge to national security. Accordingly, in the Concept of Demographic Policy for the Russian Federation by 2025, which was decreed in 2007, the authorities set the objective of achieving a stabilized population of 145 million people with a life expectancy of 75 years.²⁰⁷ If the figure of 145 million is easy to attain thanks to the naturalization of manifold migrants, attaining a life expectancy of 75 years requires genuine healthcare policies at the federal level.

So far the measures implemented to respond to the demographic challenge seem to have been rather ineffective. The focus has been placed on the birth rate, rather than on the mortality rate. A “baby bonus” of close to \$10,000 was implemented in 2006 to provide financial and home-related incentives for women to have a second child. If this measure only recently led to a rise in the birth rate, it is mainly the improvement in the living standards of the middle classes that explains the inversion of the curve. Russia’s birth-rate increased by 100,000 annually in 2011 and in 2012.²⁰⁸ Every year since 2009, the authorities have mounted a large self-congratulatory campaign, boasting of Russia’s natural population increases. Nevertheless, putting into place measures to stop the falling birth rate cannot be structurally maintained. Even if Russian women of childbearing age do start having more children, the overall number of them will decline by 20 percent by around 2025, which can only lead to a fall in the birth rate. Russia no longer has enough youths to maintain the population level. In 2009, the 15–19 age group was only 4.5 million, and both the 5–9 and 10–14 age groups taken together totaled only 6.5 million persons.²⁰⁹ The number of births will decrease again when the tiny cohort born during the 1990s enters prime childbearing years. In addition and more importantly, the measures taken to fight against the real scourge that is male mortality are practically non-existent. With the exception of a campaign to fight against road accidents, the authorities do not seem to have come to grips with the loss of such a considerable proportion of working-age men to violent deaths. Reviving births through financial mechanisms is easier to do than making significant social changes to address the issue of violent male deaths, whose explanatory factors are much more complex.

These demographic trends have a direct impact on the workforce. The average age in Russia will rise from the 2005 figure of 40 years to 46 years by 2030, which is only 15 years less than today male life expectancy and 10–15 years less than the legal age of retirement (55 years for women and 60 for men). Today Russia has 2.5 persons of working age for every person over working age, but it will have less than two by 2025. The phenomenon of population ageing, also very pronounced in Western Europe and Japan, will take on a special dimension in Russia given the statistical weakness of the young generations and the massive poverty among the retired population. The population of those between 15 and 34 years will fall to 35 percent by 2030. The 55–64 age cohort is the only one that will increase—but will largely not be part of the labor force.²¹⁰

The U.S. Census Bureau has predicted a decrease of manpower availability in Russia of 16 percent for the period between 2009 and 2025.²¹¹ A study conducted by the Russian Regional Policy Institute revealed that by 2020, the country is expected to create 7 million new jobs thanks to the industrial projects underway, but that it will lose a million persons of working age each year. The rate of replacement of Soviet generations entering retirement is thus by no means guaranteed. By 2020, the working-age population will decrease from nearly 90 million to 77 million, and the country could face an accumulated shortage of educated cadres of up to 14 million.²¹² Contributing to this shortage is the astonishing decrease in the student population. The total number of high school students almost halved between 1998 and 2009, going from 20 million to 13 million. University student numbers, moreover, are expected to drop from the current 7.5 million to 4 million in the 2012–13 academic year.²¹³ According to

the calculations of the UNDP, to make up for the declining population over the first half of the twenty-first century, Russia will need a cumulative net immigration of 25 million persons before 2050, and 32 million if it is to maintain its working-age population.²¹⁴

Russia lacks not only cheap labor but also a qualified workforce. Paradoxically, education standards are high but the level of human capital low. It is the only country in the world where the comparatively high number of graduates is at such odds with the very low GDP per capita, declining labor productivity, few new patents, and where so-called social capital (participating in voluntary associations, trust in society, subjective well-being, level of self-assessed degree of personal control over one's own life) is so weak.²¹⁵ In 2009, a group of top businessmen led by Severstal Group CEO Aleksey Mordashov launched an appeal to President Medvedev for skilled workers. According to their surveys, 54 percent of Russian CEOs view staff shortages as the biggest impediment to growth.²¹⁶ This tendency will intensify when large deposits such as Shtokman and Yamal are under production, and it thwarts the development potential of the Arctic regions, which necessitate advanced technologies and highly specialized know-how.

Evolving patterns of Arctic demography and mobility

To these countrywide demographic evolutions can be added profound changes in patterns of population mobility. The collapse of Soviet centralization has had a huge impact on the Arctic and Siberian economic development. Between 1987 and 2000 production fell by four-fifths in Yakutia and Chukotka; some mining centers and industrial settlements were totally abandoned; and several military bases were closed. The downsizing of the Northern benefits accelerated the departures. The absence of work prospects, of a future for their children, the exorbitant prices of basic goods, the chronic shortage of heating, gas, and electricity, and weakening links with the rest of the country, have pushed millions of Russians to migrate to the European regions.²¹⁷ The majority of them migrated outside of any state-organized framework. As stated by Timothy Heleniak, between 1993 and 2009 the High North "had a population decline of 15.3 percent, consisting of 17.1 percent decline from net out-migration, compensated for by a 1.8 percent increase from the region having more births than deaths as a result of having a younger age structure than the country."²¹⁸

Between 1989 and 2006, one out of six emigrated from the Far North.²¹⁹ Between the censuses of 1989 and 2002, the regions of Magadan and Chukotka lost more than 50 percent of their populations, Taimyr 30 percent, Yamalo-Nenets 25 percent, and even the Murmansk region lost more than 20 percent of its population. Yakutia escaped relatively lightly with a depopulation of only 12 percent.²²⁰ Meanwhile, the port towns of Igarka and Tiksi lost about half of their inhabitants between 1987 and 2005, while Dikson lost four-fifths of its population. In the Magadan region, more than 40 settlements were declared "without inhabitants" in the 2002 census. Ghost towns have grown in number, creating poverty gaps in which the populations do not have enough money to migrate.²²¹ The Far East as a whole lost 17 percent of its population in the space of two decades, declining from 8 million inhabitants in 1990 to 6.4 million in 2010.²²² The case is similar for the Siberian federal district, albeit the figures are lower.²²³ Arctic Siberia today is the least inhabited area in the world after Antarctica and the Sahara Desert.

Russia's Arctic therefore became an immense terrain in movement. Internal migrations between Arctic regions have been considerable.²²⁴ Small-size towns or rural settlements have been abandoned and the inhabitants have moved to larger towns, which are able to provide a wider range of services. But one

also notes north-south and south-north movements, as the large cities of the Siberian south such as Krasnoyarsk attract youths born in the north, who come mainly for their studies before “returning” to their regions of origin. Objectively difficult living conditions are not enough to make the inhabitants relocate outside the Arctic region. In the first half of the 2000s, the Russian government launched the Northern Restructuring Project thanks to a loan from the World Bank. The goal was to assist voluntary resettlements for Chukotka’s non-working population to some more southerly towns; but the success has been limited and those resettled have experienced difficulties in adapting.²²⁵ Indeed place-specific social capital is not easy to rebuild and many people have refused to leave the region where they have built their lives despite the deterioration in living conditions. Arctic identity and a feeling of belonging to the region have played an important role in the refusal of some to move.²²⁶

A more detailed analysis, however, yields a less negative and more contrasting picture. Just as during the Soviet period, the Arctic population is younger than the national average (30 as compared with 37 years of age in the 2002 census), since the oil and gas fields attract youths with a dearth of career opportunities, and since, in a more marginal way, the indigenous peoples have a higher birth-rate. However, again similar to the Soviet period, life expectancy there is also shorter, both among indigenous peoples and ethnic Russians.²²⁷ Moreover, in spite of the bigger picture of depopulation, closer analysis reveals that towns linked to the hydrocarbons or minerals extraction sector have a younger age structure and experienced positive migration rates during the 2000s. The Khanty-Mansi and Yamalo-Nenets districts, which account for about 60 percent of the entire economic output of the North, remain attractive to both Russian and foreign migrants.²²⁸

The Arctic region remains one of Russia’s most “in motion,” with young generations ready to migrate for study places and job opportunities. It is therefore necessary to distinguish between at least two Arctics: regions in crisis that are witness to a declining population and where Russians and indigenous populations alike live amidst deteriorating living standards; and those regions in full economic boom whose populations are more educated, younger, more prone to migrate, and attract an increasing number of foreign migrants. In the latter Arctic zones migration has more to do with turnovers in the labor market than a one-way exodus as in the former.²²⁹

Is migration the future of the Arctic workforce?

The development prospects for the Arctic presuppose a labor force that, in view of the country’s demographic dynamics, is lacking today. The recourse to immigration already presents itself as a key engine of Russia’s economic growth. Although the figures on migration are complex to collect and interpret, all experts are in agreement on the fact that Russia has become the second-largest receiving country of migrants in the world, after the United States.²³⁰

According to Russian statistics, between 1992 and 2006 3.1 million persons emigrated from and 7.4 million immigrated to Russia, giving the country a surplus of 4.3 million inhabitants.²³¹ The figures of the UNDP and the Census Bureau are higher and, depending on the calculations used, Russian statistics show a migration surplus of about 6 million people in the first fifteen years after the Soviet Union’s collapse. The majority of Russian emigrants left for Western Europe, Israel, Canada, and the United States, while the majority of immigrants came from among the 25 million ethnic Russians of the Near Abroad who left their republics to settle in Russia.²³² However, the prevailing pattern of “repatriation” or

“ethnic return” of Russians in the 1990s changed in the 2000s, during which time fewer Russians of the Near Abroad immigrated, while the number of post-Soviet citizens belonging to the titular nationalities increased. Requests for Russian citizenship today come mainly from Central Asian or Azeri populations, especially as Russian law has simplified the procedures for obtaining nationality for all former Soviet citizens, without distinction between ethnic Russians and non-Russians. Thus in the census of 2002, the growth in the foreign-born population from the southern areas of the former Soviet Union had literally exploded: 70 percent growth for citizens from Uzbekistan, Kyrgyzstan, and Azerbaijan, and 150 percent for those from Tajikistan.²³³

The Russian media and politicians have systematically sought to inflate the number of migrants, and the topic has become one of the most debated in the public sphere, as it has in Europe or the United States. Estimates vary from 5 to 15 million migrants, but a range of between 7 and 10 million would seem to be most likely.²³⁴ The distinction between legal and illegal migrants is very complex in Russia, since the country has a visa-free system with most CIS countries. It is therefore not illegal to cross the border, but it is illegal to stay for work without registering with the appropriate authorities. But Russian bureaucracy, because of its complexity and corruption, plays a key role in making migrants clandestine or at least undocumented by complicating the registration procedures. As in Europe, companies gain from employing illegal workers and do not want the processes of legalization to be reformed. The majority of these migrants are from Central Asia (Tajikistan, Uzbekistan, and Kyrgyzstan) and the Caucasus (mainly Azeris), speak more or less Russian, and organize their migration through family and regional networks.²³⁵ Other migrants require a visa to enter the country. One notable group is the Chinese (but also the Vietnamese), who reportedly number about half a million, and who for the most part reside in Russia’s Far East.²³⁶

As in the United States or Europe, migration has become the main source of labor in some economic sectors. The extractive industries, construction sites, the public service sector (waste management, and road, rail, and water works), and other services (domestic staff, security personnel, cooks, and restaurant and cafe staff) are all large users of migrant labor. Russian citizens tend to disregard these professional niches, deeming the salaries insufficient, working conditions too difficult, and the social prestige too low. Russia’s migrants are also distributed geographically. Moscow and its wider region largely dominate and attract the largest number of migrants due to the quality of life and better prospects for jobs. This is followed by large cities such as St. Petersburg and Yekaterinburg, industrial sites in the Urals, the south of the country where many migrants are increasingly working in agriculture, and lastly the Far East, where they face some competition from Chinese and Vietnamese migrants.²³⁷ While Arctic regions are globally experiencing a net out-migration to the rest of Russia, they benefit from a simultaneous massive net immigration from foreign countries.²³⁸

In the 1990s, the large oil deposits of the Tyumen region were the only ones that continued to pay profitable salaries and thus easily attracted more labor force. In the decade following, the gap in the global rise of revenues and in the quality of life heightened between the European regions and the rest of the country. Fewer qualified Russians came to take up the offers made by the large companies, which then turned massively toward migrants. The oil and gas regions of Tyumen and Khanty-Mansi have become privileged destinations for Central Asian and Caucasian migrants, in particular Azeris, Tajiks and some Kazakhs seeking employment on extraction sites. Tajiks and Uzbeks are also massively involved in the construction sector. Already at the start of the 2000s, foreigners made up half of the workforce on some construction sites in the Far East; in the Tyumen region they constituted about two-thirds of salaried workers.²³⁹ Developing the Yamal megaproject is requiring about 50,000 workers. There are reportedly already close to 20,000 foreigners working there on infrastructure construction sites.²⁴⁰ The

state nuclear agency Rosatom has been criticized for employing illegal migrants in its nuclear power plants, for not only do these migrants work in unsafe conditions on poor salaries, but they are untrained and so threaten the safety of the plants.²⁴¹ Lastly, the city of Norilsk reportedly has a population of 50,000 migrants, mainly from Azerbaijan, Dagestan, and Central Asia.²⁴² The Arctic's difficult working conditions, and in particular the increase in shift-work (*vakhtovyi metod*, short-term tours of duty on extraction sites from a base city), necessitate finding undemanding workers that come for the financial incentives on offer and not for the quality of life.

The migrants present in the Arctic are therefore distributed into two broad categories: those who work on the main industrial sites, and those who of their own initiative move into the private sector, mostly into trade and services. Only two CIS countries are able to supply Russia with qualified labor: Ukraine, where there is high unemployment among graduates, especially in engineering sectors, and Azerbaijan, where oil-related professions have long been established. It is likely that Kazakhstan will also become a supplier once its main gas and oil sites become fully operational, as they will require fewer personnel. In 2010, then in 2012, Moscow made a decision to relax migration policy with respect to CIS countries, which are the main source countries for migrants, but this alone will not be enough to fulfill the needs of the national economy.²⁴³ Large Russian companies today lobby in favor of a pro-active migration intake policy, albeit discreetly because of the xenophobic atmosphere: being perceived as too pro-migrant could tarnish the corporate brand.²⁴⁴ In any case, a favorable migration policy for CIS countries will not be enough to compensate for shortages of qualified labor, as such migration from Central Asia and the Caucasus is predominantly unskilled. In coming years the Russian economy will require a targeted policy, as in Canada and Australia, of inviting graduates from Asia, the Middle East, or perhaps Central and Southern Europe, on the condition that it is able to offer attractive living conditions and salaries. The need to adopt a major policy drive to train engineers and management staff at Russian universities is also making itself felt in the effort to offset the departure of Soviet generations.

It remains difficult to ascertain the long-term role that not only the migrating populations will play in Russia, but also the permanent settlement of migrants. Although for the moment a large share of the migrants either adopt seasonal strategies, or wish to stay in Russia only for a few years, in order to build up capital that allows them to return home, the European and U.S. patterns show that a large share of migrants eventually settle in the host country and build new lives there.²⁴⁵ These migrants are therefore destined to form a growing share of the Russian population, and indeed of its workforce. Regardless of whether numerous Arctic industrial projects do not become a reality or the thirst for more labor wanes after the deposits have become operational, the urban fabric has nonetheless been profoundly modified by interaction with migrants. Built in 1998 in Norilsk, the Nurd Kamal Mosque, the northernmost mosque in the world, can be viewed as a symbol of the presence of Islam in the Arctic. Since the 1970s, numerous Tatar, Bashkir, and Azeri engineers have settled in the nordic regions, and Islam quickly became part of the local scenery of specific municipalities, a trend strengthened today by the Central Asian immigration. It can also be supposed that Chinese migrants, already based in the Far East, might look to settle further north. Two migratory spurts, one of Chinese and another of Central Asians, might thus enter into competition with one another. This is already the case in the large towns of the Far East, where the construction sites in Chinese hands have been taken over in recent years by Central Asians.²⁴⁶ The capacity of the Russian state to formulate a new civic identity and to integrate its growing migrant community is therefore going to be crucial for the country's future, and for local Arctic identity.

Russia has to contend with multiple domestic dilemmas. Some of them relate to the collapse of the Soviet framework, as well as to social dynamics and the economic legacy bequeathed by the preceding regime; others, probably the most challenging ones, are yet to come. One of these is the population issue. If the aging of the population is not a phenomenon unique to Russia, the country nonetheless displays many demographic particularities that set it back still further: a rate of male mortality unacceptable for a developed country; a dearth of younger generations and women of childbearing age; a glaring lack of skilled people and universities poor at creating engineering and technological innovation. Added to this is the migration challenge: thus far, Russian public policies have had no success in better integrating the millions of migrants (providing them legal rights, protecting them against violence and arbitrary corruption, and so on), or in creating a new civic identity. The Russian social fabric is therefore significantly destructured and unbalanced.

The second challenge is related to the management of Russia's territory. Russia has always been a centralized state, in spite of some decentralized trends in the nineteenth century, in the 1920s and then in the 1990s during Yeltsin's presidency. The current territorial polarization weighs heavily on Russia's self-representation, but also on its political legitimacy and the country's social unity. The conjunction of these two challenges—population and territorial management—is central to the future of the Russian Arctic: Moscow's grand ambitions for its northern regions will not become a reality unless a joint solution is found to address both problems. But such would require the country to undergo deep identity, social, and political transformations. Russia's spatial representation of itself is therefore bound to change: the North Caucasus has, to all extents and purposes, become a "foreign" region, the demographic dynamism of the Buddhist populations of southern Siberia has strengthened their specificity and identity; the feeling of a lack of control over the Far East is also growing. Russian territorial identification has withdrawn into a space stretching from the borders of the EU to the Urals, from Saint Petersburg to Stavropol. Will the Arctic form part of these areas where Russia's future identity will find itself "at home," or of those zones left abandoned? Which Arctic regions will be integrated, and which forgotten?

CHAPTER 4. EXPECTED CLIMATE CHANGE AND ITS IMPACT ON RUSSIA

There is substantial evidence to indicate that global warming of some significance will occur during the twenty-first century. The fourth Intergovernmental Panel on Climate Change has drawn up several scenarios that envisage what impact the latter might entail. In all scenarios, the northerly latitude of Russian territory—especially its Arctic regions—means that it will be more greatly affected than more temperate parts of the globe. Indeed, more than tropical or temperate regions, the northern zones of the globe have proven especially fragile in the face of climate change, and warming in Northern Eurasia is expected to be well above the global mean. However, in contrast with Europe, Japan, and the United States, Russia will be the only developed country that stands to benefit the most economically from any climate change. Indeed, being the most northern of countries with a developed economy, it should see some sectors like agriculture and hydroelectricity gain from more advantageous climatic conditions. Nonetheless, it is a matter here only of predictions linked to temperatures. Through several other interrelated aspects, the Russian territory will also endure negative effects, ranging from permafrost thawing to large-scale droughts. Particularly due to this ambivalence, the Russian state's stance on the issue of climate change is in many ways contradictory, and has been evolving for some years now. Skeptical on the whole, and tending to interpret the most pessimistic predictions as a Western fashion for “decline” theories, Moscow is above all looking to protect its economic interests, ready only to engage in limited processes of adaptation, but not of mitigation, and ready to make concessions on the proviso that the United States is also willing to come to the party.

Framing climate change debates

Debates over climate change will probably constitute one of the most intense scientific polemics of the century. This is the case for three reasons: the first is globalization, since the exchange of information is no more limited by national borders, which means that Indian, Chinese, and Latin American researchers are just as involved in the debate as are their Western colleagues; second is the fact that the consequences of a prospective drastic climate change will affect the whole planet, from the richest to the poorest countries; lastly, these debates will involve taking decisions on the global evolution of humanity, and therefore on shaping international mechanisms where the balance between developed and developing countries is in permanent negotiation, like the United Nations Climate Change Conference.

The quasi totality of researchers recognizes that the climate is evolving: the planet is a living organism, and its climate continues to change as it previously had for millennia, the time of the earth being different from that of the human species. A majority of scientists agree that there was an increase in the overall temperature of the earth of 0.7°C during the twentieth century mainly because the concentration of carbon dioxide and other greenhouse gases in the atmosphere has increased since the start of the industrial era, added to which is the related question of stratospheric ozone depletion. This consensual but not unanimous opinion has been expressed by the Intergovernmental Panel on Climate Change (IPCC), which, as of 2001, has maintained that “An increasing body of observations gives a collective picture of a warming world and other changes in the climate system... There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human

activities.”²⁴⁷ Those who reject the idea that there is a tendency toward global warming now find themselves in the minority. The question of the role of the human impact on climate change is the subject of far more bitter debate. While majority opinion thinks that this change is mainly, but not solely, man-made, others maintain that it has more to do with natural evolutions (solar activities, major volcanic eruptions, and natural climatic cycles) over which we have no control.²⁴⁸

The difficulty involved in taking a stance can be explained by the multiplicity of analytic criteria, their highly technical nature, as well as the possible diversity of interpretations. Each scientific discipline constructs its own norms, modes of calculation and of verification, and what is true in meteorology is not necessarily so in oceanology. Climate change theories must therefore take into account multiple sets of assessment by different disciplines, while providing a global meta-narrative which is in conformity with each of them.²⁴⁹ Moreover, the debates are not devoid of ideological backgrounds. Some lobbies have vested interests in promoting a doomsday reading of the climate question or, on the contrary, in playing down its importance, or indeed denying it altogether. The groups convinced by the major role of man-made climate change denounce the role of the industrial lobbies, in particular those linked to the extraction of fossil fuels and automobile production, which do not want to see their mode of production, or the profits they gain from it, undermined.²⁵⁰ The skeptics, however, are concerned about the possible emergence of a “green” political newspeak, shaped by movements such as Greenpeace, and more still of an ideology of “de-growth” that goes as far as to even reject the idea of sustainable development.²⁵¹ Lastly, the division between science and politics is tenuous, and the same arguments can be interpreted differently along national lines. Even among the supporters of man-made climate change, competing logics of responding to this new challenge exist. One appeals to procedures of mitigation that argues for reducing greenhouse gas emissions into the atmosphere by modifying patterns of economic development. The second insists on adaption, claiming that climate change cannot be stopped and so the resiliency of human societies must be developed. This debate is fundamental, as it implies contradictory strategies of development.²⁵²

Among the multiple difficulties faced by the climate change debates is the question of the scale, geographical as much as temporal, of the predictions. Studying global patterns common to the entire planet does not necessarily make it possible to draw up frameworks of prediction at smaller scales such as that of a region or a country. Temporality is also a key question. Climate change models are based on long-term data, which make it possible to have an overview of the climate several decades from now, essentially in the second half of the twenty-first century. Intense debate is ongoing regarding the ability and methods used to draw up such models—that is, the mathematical formulae and information utilized—and exceeds the limits of the present work.²⁵³ However, all are in agreement in recognizing that medium-term modeling (20–30 years) of the process of climate change is particularly difficult; interpretation is more complicated for small temporal scales. It is even more a complex matter to prove the causal relation between any particular climatic event, such as the immense bush fires that occurred in Russia in the summer of 2010, or the increase of the number of floods or hurricanes, and climate change as such. The link between perceptions of climate change on a micro-level—that of individual human life—often bears no major connection to planetary processes, which take place on a temporal scale ciphered in millions of years.²⁵⁴

Despite these limitations, knowledge on the evolution of the climate has multiplied many times over in the last ten years. While the future is by definition unknown, and the predictions can always be contested, the past certainly is known, as is the present, at least in general terms, and both confirm

changes of great magnitude. The climate change prognoses made in the 1980s and at the beginning of the 1990s have nearly all been rendered inaccurate: the changes visible today are much greater and have occurred much more rapidly than forecasts had predicted twenty years ago. From 2007, the National Center for Atmospheric Research (NCAR) recognized that the scenarios established for the Arctic were too conservative.²⁵⁵ The next IPCC report to be published in 2014 will paint an even bleaker picture of the planet's change in terms of pollution, extreme weather, sea level, changes in the Arctic, and impact on fauna, flora and food production.²⁵⁶ It seems that three main feedback mechanisms, i.e., the chains from cause to effect, are accelerating climate change: meltwater altering ocean circulation; melting permafrost releasing carbon dioxide and methane; and the worldwide disappearance of ice.

Climate change in the Arctic

The regions of the planet are unevenly matched in the face of climate change. Both polar caps comprise particularly fragile regions in environmental terms, and are deemed to be the most susceptible to changes in climate, and the Arctic is even more fragile than the Antarctica. In 2004, the Arctic Climate Impact Assessment (ACIA), a body of the Arctic Council, published a detailed report on the consequences of climate change in the Arctic region. The work, involving the collaboration of more than 300 researchers, formed the first comprehensively researched and independently reviewed evaluation of Arctic climate change and its impacts on the region and the world. It was followed up by a National Oceanic and Atmospheric Administration report done in 2006, and it updated yearly. These reports are complemented by others, such as *Arctic Climate Impact Science—An Update Since ACIA*, which was carried out by the World Wildlife Fund in 2008. The fourth Intergovernmental Panel on Climate Change (IPCC AR4) also quickly became one of the most quoted reference texts, as much for its state of the art modeling in the physical sciences as for its forecasts on impacts, adaptation, vulnerability, and steps to be taken concerning mitigation.²⁵⁷

Today the Arctic is considered the region to have been the most affected by climate change. Air temperatures have risen at almost twice the rate of the global average over the past few decades. The interaction between different components here is more inextricably linked, creating a cumulative effect with feedback processes called "Arctic amplification."²⁵⁸ The symptoms of climate change are multiple, including a noted rise in summertime temperatures, a shorter and warmer winter season, and an increase in precipitation in the spring. In Alaska and western Canada, wintertime temperatures have risen from between 3 to 4°C over a period of fifty years.²⁵⁹ During the record year of 2007, some surface water ice-free areas were as much as 5°C higher than the long-term average.²⁶⁰

Temperatures in the Arctic have already warmed globally as much as 4°C over the last few decades, and the area covered with perennial ice receded significantly in 2010, falling to nearly half the area observed in 2005. The ice cover is the most affected: there has been a reduction of at least 10 percent in the Arctic snow cover since the 1980s; a sharp decrease in the extent of Arctic Sea ice in all seasons, with summer sea ice declining the most dramatically; and a reduction of the thickness of sea ice, as well as thawing permafrost, diminishing lake and river ice, and rising river flows.²⁶¹ The Greenland Ice Sheet has been especially affected. The melting of mountain glaciers has also accelerated. Retreating glaciers in Alaska, where melting began long ago, have more recently been joined by the glaciers of Scandinavia and Svalbard.

The transformation of the Arctic is now occurring at a pace not anticipated even a few years ago. For the year 2010, the NOAA report confirmed a general tendency to more rapid than predicted change in the Arctic.²⁶² That same year Greenland's climate was marked by record-breaking high air temperatures, ice loss by melting, and marine-terminating glacier area loss. The year also saw record warm air temperatures across the Canadian Arctic, record snow cover decreases, and the loss of thick multi-year ice in the Beaufort Sea during summer. The combination of warm spring air temperatures and low winter snow accumulation led to a new record minimum in springtime snow cover duration over the Arctic. The first half of 2010 saw a near record with monthly anomalies of over 4°C in northern Canada. On September 19, 2010, sea ice extent reached a minimum of 4.6 million square kilometers. The 2010 minimum is the third-lowest recorded since 1979, surpassed only by 2008 and the record low in 2007. The active layer of Arctic permafrost is becoming steadily deeper, and in 2011 Greenland's Ice Sheet melted more rapidly than what had been previously thought possible.

In 2012, the official US monitoring organization, the National Snow and Ice Data Centre based in Boulder, Colorado, announced that sea ice shrank 18 percent this year compared to the previous record set in 2007. In September, at the end of the melt season, ice extent was at its lowest ever recorded levels in the satellite survey of 3.41 million square kilometers, with sea ice covering just 24 percent of the surface of the Arctic Ocean.²⁶³ Moreover, the disappearance of thick, multiyear ice signifies that summer ice is more vulnerable to storms like the cyclone experienced in the region in 2012.²⁶⁴ Experts confirm that ice extent is declining at a rate of -4.6 percent per decade relative to the 1981 to 2010 average. This situation affects the entire Northern Hemisphere, which has seen snow cover drop to its lowest levels in 45 years; the Greenland ice sheet being the most affected, with more than 90 percent of its surface area melting in summer 2012.²⁶⁵ As regards the increasing pace of acceleration, some scientists suggest that the Arctic Ocean will be totally ice-free during the summer as early as 2015-16,²⁶⁶ an opinion which, however, is not unanimously shared.²⁶⁷

These evolutions are not uniform, however, and several Arctic sub-regions are taking shape: one from eastern Greenland to western Russia, the Siberian shelf, one from Chukotka to the Western Canadian Arctic, and one from the Central Canadian Arctic to West Greenland.²⁶⁸ Russia thus straddles two or three climactic sub-regions of the Arctic. It will also have to contend with the climate changes expected in other regions of its immense territory. Climate change has also a sharp impact on bio-systems. Arctic vegetation zones are likely to shift; wetland may disappear in one area yet appear in others; the tree line will move further north; new agricultures will be made possible; insect infestations and forest fires in the taiga zones will increase; and the diversity of fauna and flora will further decline, with threats to the natural habitats of polar species.²⁶⁹ Nor will human habitats be spared. Storms and floods will increase in number; soil erosion will quicken; thawing permafrost will endanger human and industrial settlements; and indigenous communities will have to confront drastic changes.²⁷⁰

These evolutions are not limited to the Arctic region alone; their impact will be global and occur on three levels. First, the reflexivity of solar energy will change, as ice caps absorb more solar radiation than water, which is darker. As they shrink, ice caps will absorb less and less solar energy. Second, melting glaciers will lead to rising sea levels and, due to their temperatures and salinity, to a change in the directions of major ocean currents. Warmer water will enter the Arctic Ocean from the Pacific and Atlantic Oceans, and fresh water flowing from melting Arctic ice will enter the world's seas.²⁷¹ Third, melting glaciers will induce changes in the amounts of greenhouse gases emitted into the atmosphere and could therefore lead to a shift in atmospheric climate patterns, with an increase in ultraviolet radiation reaching the earth's surface. The Arctic Ocean is a globally important net sink for carbon dioxide, which it absorbs from the atmosphere; and a large amount of methane is frozen in the methane

hydrates found in ocean sediments and permafrost. Altering patterns of frozen soils could therefore increase the release of methane into the atmosphere.²⁷²

Climate change in the Russian Federation

Despite its immense size and high northern latitude, Russia is often a forgotten figure in Western studies on the impact of climate change in the Arctic, the reason being that there is much more information available on the North-American continent or of North Europe and it is easily accessible. There are nonetheless many Russian teams working on climate issues, but they by and large publish in Russian. Two of the major Russian climate modeling centers, the Institute for Numerical Mathematics and the Oboukhov Institute of Atmospheric Physics in the Russian Academy of Sciences, regularly submit simulation data as part of the IPCC assessment process. A third center, the St. Petersburg V.A. Fock Institute of Physics, has also developed its own research instruments. Roshydromet, the Federal Service for Hydrometeorology and Environmental Monitoring, and its 1,600 meteorological stations, is the leading scientific institute for meteorology in Russia. It works mainly with the Atmosphere–Ocean General Circulation Models (AOGCMs), which it considers “the main and the most promising tool for prediction of future climate changes due to internal interactions between different components of the climate system and external forcing of natural and anthropogenic origin.”²⁷³

In terms of temperatures, studies by Roshydromet show that localized warming in Russia is greater than global warming as a whole. Russia experienced a rise of 1.29°C in temperatures over the last hundred years (1907–2006), whereas global warming for the same period was only 0.74°C. Furthermore, mean warming in the country was 1.33°C over the last thirty years (1976–2006).²⁷⁴ Russia’s average temperature is therefore rising almost twice as fast as the global average. Winter temperatures in Siberia have increased by 2 to 3°C over the last century, with recent strong springtime warming witnessed in the Urals and West Siberia. Surface air temperature increased by 0.4°C during the 1990s and 2000s alone. In the Russian Arctic, surface air temperatures have warmed 0.2°C per decade over the past thirty years, precipitation has increased, and summers are also warmer. Russia accounts for the greater part of the so-called poles of temperature increase, located in the Altai, the Chita and Irkutsk regions, and the south of Siberia. In his *Report on the particularities of climate change of the Russian Federation in 2011*, the Director of Roshydromet, A.F. Frolov, notes that the year 2011 was among one of the hottest ever recorded in the country, with a temperature elevated above the normal by 1.5°C.²⁷⁵ In winter 2012–13, large parts of the parts of the Kara and Barents seas remained ice-free.

Forecasts emphasize the acceleration of these evolutions. Projections suggest that average winter temperatures for the whole country will have increased by an additional 1°C by 2015. According to Roshydromet, by 2020 temperature increases in the country will exceed the multi-model spread (standard deviation), which is $1.1 \pm 0.5^\circ\text{C}$. By the middle of the century, the temperature rise will be even greater ($2.6 \pm 0.7^\circ\text{C}$), particularly in winter ($3.4 \pm 0.8^\circ\text{C}$).²⁷⁶ Maximum temperature changes are expected to occur in the winter in the Arctic, with significant precipitation in Eastern Siberia. The temperature increases will be smaller during the summer time, except in southern regions, where it could reach 2–3°C by the middle of the twenty-first century. According to the World Wildlife Fund assessment, a 30 percent increase in winter precipitation totals is expected on the Taymyr Peninsula by

2050, and a 15–20 percent increase in Chukotka and the Barents Sea region.²⁷⁷ Total precipitation will more than double current levels in the eastern Russian Arctic.

From 1978 to 1996, the Siberian Arctic experienced a reduction in summer sea-ice of 17.6 percent per decade in the Barents and Kara Seas, and a 3.7 percent reduction per decade in the Chukchi, East Siberian, and Laptev Seas. Observations also indicate that the area of winter fast ice in the Russian Arctic decreased by 11.3 percent from 1975 to 1993 and that the influx of multi-year ice from the Central Arctic Ocean decreased by 14 percent from 1978 to 1998.²⁷⁸ Rising sea levels are also problematic. Projections show sea level rise will occur mainly in the Baltic Sea, the Gulf of Finland, and the White Sea, which will increase the dangers of serious flooding for Kaliningrad and St. Petersburg, as well as the risks of storms and tsunamis. It is projected that there will be a high risk of flooding in St. Petersburg before 2030.²⁷⁹ The level of the Black Sea has been rising significantly since the 1980s, and if this trend continues it will affect Novorossiisk, Russia's main warm water port, where dry cargoes, crude oil, and refined petroleum products are exported. It would also impact Sevastopol, Russia's main Black Sea military base, situated in Ukraine.²⁸⁰ For the Pacific coast, the forecasts of sea level rise are more moderate, but the probabilities of tsunamis occurring will be much greater, with Vladivostok being potentially endangered. Lastly, in terms of the Arctic coastline, the key question will concern coastal erosion, although Murmansk may also be subject to risks of flooding.

Many studies focus on land-based changes in the Arctic: in the last two decades of the twentieth century, the boundary of multi-year ice in the eastern sector of the Arctic shifted southward by 300 kilometers on average relative to the previous two decades.²⁸¹ Russian and international researchers have also noted changes in vegetation patterns (shifting of the borders of the tundra and of different types of taiga²⁸²), in sea level rise, in the recession of mountain glaciers in Novaya Zemlya and the Caucasus, and in soil erosion. On this latter point, however, the most recent information relating to erosion processes in Russia comes mainly from the mid-1980s.²⁸³ It is also difficult to dissociate direct human activity from the global impact of climate change on this erosion. The excessive agriculture, deforestation, and mining organized on a large scale by the Soviet economic system have seriously damaged the soils and accelerated wind erosion. More is known about changes in river water levels. The average annual discharge of fresh water from the six largest Eurasian rivers (Yenisei, Lena, Ob, Kolyma, Pechora, and Severnaia Dvina) into the Arctic Ocean increased by 7 percent between 1936 and 1999. The duration of river ice cover is expected to reduce by 15–27 days and ice cover to be 20–40 percent thinner,²⁸⁴ which will increase the discharge of fresh water, also affecting sea ice distribution and the circulation of Arctic waters.

Covering 65 percent of the country, permafrost is an issue of special importance to Russia and is impacted by climate change.²⁸⁵ The annual ground temperature has increased by 1.0°C in many parts of the permafrost zone of western Siberia and by 0.8–1.0°C in the northwestern regions.²⁸⁶ Studies reveal that, since the 1970s, there has been a tendency toward temperature increases in the top layers of frozen ground of between 0.22 and 1.56°C. A 30–40 percent increase in active layer thickness for most of the permafrost area is projected. Seasonal thaw depths are predicted to increase by more than 50 percent in the northernmost permafrost regions, and 30–50 percent elsewhere, by around 2050.²⁸⁷ In the Russian European North southern permafrost boundary has retreated northward by 30–40 km in the Pechora lowland and by 70–100 km in the foothills of northern Urals.²⁸⁸ By 2100, it is predicted that almost 60 percent of current permafrost regions may thaw and freeze on a seasonal basis, and that near-surface permafrost may decline. Melting of permafrost will lead to increases in landslides, mudflows, and other abrupt changes in the landscape. It will also lead to a relatively large increase in emissions of carbon dioxide and methane along the Arctic coast, as well as in central Siberia and Yakutia,

with the expected feedback effect.²⁸⁹ Indeed methane hydrates contained in this permafrost are 26 times more potent than carbon dioxide molecules in terms of their greenhouse warming effect.²⁹⁰ The 2012 UN Environment Programme (UNEP) report set an alarmist tone: warming permafrost could emit 43 to 135 gigatonnes of carbon dioxide equivalent by 2100 and 246 to 415 gigatonnes by 2200. It also recalls that this additional cause to global warming has not been taken into account in current climate predictions.²⁹¹

Calculating climate change impact on Russian economy

Expected climate change could drastically impact the Russian economy. The most obvious argument seems to be that warming temperatures could lead to a drop in energy consumption for heating. The Russian Federation's Fourth National Communication under the UN Framework Convention on Climate Change predicted that a reduction in heating requirements would result in net fuel savings of 5–10 percent nationwide by 2025.²⁹² However, the analysis continues to be contested. Even if the heating season becomes shorter, the consumption of other categories of energy, for instance electricity, could increase, even if only for air conditioning during the summer months.

Climate change will probably modify several agricultural patterns. The growing season will be longer, conditions for growing winter crops will improve, new agricultural lands further to the north will be exploitable, and new crops, such as cotton, grapes, tea, and citrus, will be able to be cultivated in the North Caucasus and southern Volga regions.²⁹³ Conditions for growing corn in the Stavropol region have already improved. From 1970 to 2000, the growing season lengthened by an average of 5–10 days in many of the agricultural regions in European Russia. In the Central Black Earth and Volga regions, the frequency of very cold winters decreased by an average of 18–22 percent in the period up to 1990.²⁹⁴ However, this change also implies that Russian agriculture will become more and more reliant on irrigation.²⁹⁵

Other changes will present more complex problems. The northward migration of plant species will modify biodiversity patterns; an increase in the number of wildfires may accelerate the disappearance of Russian forest space, the largest in the world after the Amazon; and an increase in insect plagues, such as locusts, mosquitoes, and ticks, may become a public health threat. The middle, or Black Earth, regions of the country, which are known as Russia's "bread basket" and which enjoy a temperate climate, will be beset by more drastic climate processes: precipitation, droughts, and reduced springtime river runoff. The southern regions of the country, those of the North Caucasus federal district, will experience extensive periods of drought. Droughts have already seen reductions in crop cover by an area of more than two million hectares.²⁹⁶ These regions will experience declines in yields of about 20 percent by 2020.²⁹⁷ This drop in production will be compensated, albeit insufficiently, by increasing grain yields in more northern regions. Periods of drought in key agricultural regions are expected to be 50–100 percent more frequent by 2015.²⁹⁸

The question of water is also central. The annual river runoff in the western regions of Russia increased by 15–40 percent in the period 1978–2005 relative to that of 1946–1977.²⁹⁹ The majority of Russian territory, in particular Siberia and northwest Russia, will experience increased water flows due to glacial melt and growing precipitation, which implies more river ice jams and flooding. By 2015, there is likely to be more flooding in river basins in the Arkhangelsk region, the Komi Republic, the Urals area, and of

the Yenisei and Lena.³⁰⁰ At the same time, other regions of Russia will experience water shortages, especially in the Black Earth lands, which are already experiencing chronic water stress. The situation will be worse in the southern regions (Kalmykia, Krasnodar, Stavropol, and Rostov), which will likely have to contend with water supply reductions in the order of 5–15 percent.³⁰¹ The drinking water supply of the major Russian cities, and in particular the Moscow metropolis, will become a significant issue. By 2015, it is expected that “zones of environmental discomfort” will have shifted northwards by about 60 kilometers in northwestern Russia (Komi Republic and Arkhangelsk region), by about 150 kilometers in the Khanty-Mansi and Evenki autonomous areas, and by about 250 kilometers in the Republic of Sakha-Yakutia, in the north of the Irkutsk region and the Khabarovsk territory.³⁰²

The hydroelectric sector will probably develop thanks to an 8–10 percent increase in water volume by 2015.³⁰³ The growing availability of water in the main Russian rivers will therefore be able to be used to produce energy. According to Roshydromet, the Volga-Kamsk Cascade will experience a net increase of 10–20 percent in water flows, and the Siberian power dams along the Angarsk-Yenisei, Viliu, Kolyma, and Zeya of 15 percent.³⁰⁴ But the contrary situation is also likely to be the case in the south of the country—since extreme downpours will be difficult to manage and production owing to reduced river flows will drop. Moreover, the Russian electricity system will have to contend with complex situations linked to increased risks of flooding and winds, which will be about 20 percent stronger in Arctic regions and the North Caucasus.³⁰⁵

Last but not least, the progressive thawing of the permafrost will present major challenges to Russia’s economic system, since it will result in the creation of thermokarst and unstable soil conditions like solifluction.³⁰⁶ The Russian railway system, in particular the Baikal-Amur Mainline (BAM), will be undermined in Far East; the possibility of the permafrost thawing was not taken into account during its construction. Similarly, electric transmission lines were not built to withstand changes in soil structures, or conditions of upper-soil layer thaw and re-freeze. The Russian road network, already very inefficient and the least developed of the G8 countries, will have better snow cover conditions, but will have to contend with an increase in weather variability, which will result in downpours, mudslides, soil erosion, floods, and so on. In Siberia and the Far East, the traditional use of seasonal ice roads will become more problematic due to the shorter cold season, which will put further limits on already reduced travel links between towns, air travel excepting. The well-developed river transport system will be positively affected, though the challenges of weather instability will have to be taken into account, as will the drop in water levels in the Don River Basin.³⁰⁷

The stability of existing urban and industrial infrastructure will be put into serious question, as thawing increases corrosion of the foundation materials, which, moreover, are from the Soviet decades and thus often already in a poor state. The impact of climate change on housing is already visible. In the 1990s–2000s, the rate of reported damage to buildings due to soil instability increased by about 42 percent in Norilsk, 61 percent in Yakutsk, and 90 percent in Amderma. About 21 percent of reported damages to western Siberian pipelines occur because of the melting of underlying permafrost.³⁰⁸ More than 7,000 accidents related to the melting of permafrost and soil degradation in western Siberia were reported in 2007. While the United States and Canada preferred to use components made of wood and aluminum in the polar zone, Soviet construction continued to use reinforced concrete and poor quality steel, both of which are ill-suited to very low temperatures. This damage did not only occur in low population areas. About 60 percent of all industrial infrastructure of the Usa Basin, a very populated area by northern Russian standards, is located in a high-risk permafrost zone.³⁰⁹ In addition, about thirty so-called impact zones, with high levels of atmospheric pollution, degradation of vegetation and soil, and incidence of disease among the local population, have been identified in the Russian Arctic region. There is also a

potential danger of radioactive contamination in several places. Each year the mining company Apatit stores approximately 30 million tons of waste on the Kola Peninsula. Many radioactive waste storage sites are located in permafrost areas, for instance on Novaya Zemlya, and some ageing spent nuclear fuel storage facilities are no longer secured.³¹⁰

The energy sector, which forms the backbone of the Russian economy, will be the first to encounter risks associated with expected climate change; 93 percent of natural gas and 75 percent of oil production occurs in permafrost zones. In addition to the ageing of extraction infrastructure, constructed mainly in the 1970s, the transport system is not adapted to deal with changes in soil stability. The above-ground pipelines are not designed to cope with the seasonal thawing of the permafrost, and cannot accommodate any increased water flow. The question of hydrocarbon transport to export and consumption centers will have to be rethought, as well. Despite the possible emergence of a Northern Sea Route, transportation may become more difficult. The zones to be crossed from the key extraction sites in western Siberia and the Volga region to Europe will be further subject to drastic changes in soil stability. Accessing the main gas deposits of the future will also be made more challenging. There are, for instance, growing concerns that the entire low-lying Yamal Peninsula could disappear due to subsidence from permafrost melting.³¹¹ The construction of extraction sites will require supplying material via land transit, although the soil will be unstable. It will thus be necessary to build new and much more costly pipelines with deeper foundations to avoid structural damage from subsidence. The gas sites of the Far East and eastern Siberia will also be challenged by melting permafrost, swollen rivers, and more frequent storms.

Russia's domestic actors on climate change

Environmental questions, and especially those concerning climate change, are rarely brought up in Russian public opinion. To date, the media has done very little to investigate such topics which, compared with other publicly discussed issues, have by and large been relegated to the background. In 2009, a world survey revealed that Russians—in this way similar to Americans but in contrast to Europeans—felt much less concerned by climate change, with a majority of the opinion that they were not affected by it.³¹² About 85 percent of the people surveyed declared they were aware of climate change but only 39 percent perceived it as a serious personal threat.³¹³ This situation, however, changed with the forest fires in 2010. Even if there exists no direct relation between these events and climate change projections, public opinion saw in them the proof that climate change could turn out to be a destructive force. However, the debate remains dominated by a few stakeholders; the private sector is not fully involved beyond pushing for Joint Implementation project approvals, and it is unlikely that Russian “civil society” will be able to pressure public opinion and the government into becoming more engaged in its understanding of climate change. The NGOs are generally gagged, especially those working on ecological questions, and public opinion remains focused on other short- and medium-term issues.

Environmental themes are generally not as present in the Russian media as they are in Western Europe or the United States. Russian scientists are the main figures to have made any statements on the subject. The Soviet school of climatology, which had enjoyed many good decades with excellent research conditions in Arctic regions, focused mainly on the question of climate evolution, defined by

long, natural cycles of cooling and heating. Debates about the role of anthropogenic elements in climate evolution have been around in Soviet Union since the 1970s, but never came to inform the majority opinion.³¹⁴ The Soviet collapse significantly penalized Russian research. In the 1990s, the high level of state disorganization and the lack of public funding drove hundreds of thousands of specialists to emigrate to the West, change professions, or retire early. The financial situation by and large turned around in the 2000s, but the damage had been done. Large gaps persist in the intergenerational transmission of knowledge, equipment dating from the Soviet era has aged, and Russian teams, very competent, remain sometimes poorly integrated into international consortiums.

The present-day Russian school of climatology can be schematically divided into three major currents: those who maintain that there is no human-induced global warming and that such warming can be attributed to natural processes; those who think that global warming exists but that it will bring net positive benefits for Russia and are 'causally agnostic' – in the sense defined by Elana Wilson Rowe³¹⁵ – in terms of anthropogenic responsibility; and those who are convinced of the dangers of these changes. The first two viewpoints largely predominate in the Russian scientific institutions. Yuri Izrael, director of the Institute of Global Climate and Ecology, and Vladimir Melnikov, director of the Russian Institute on the Earth's Cryosphere, are the main voices on climate change; they either deny its human impact or deem that the change will be positive for Russia.³¹⁶ A similar viewpoint has long been put forward by institutions such as Roshydromet, the All-Russia Research Institute of Agricultural Meteorology, the Voeikov Main Geophysical Observatory, the Hydrometeorological Center of the Russian Federation, the Research Center for Space Meteorology, and by other institutions linked with Arctic exploration, such as the Arctic and Antarctica Research Institute and the Institute for Cultural Heritage.

Nevertheless, opinion began to change in the second half of the 2000s. Russian scientific institutions acknowledged that warming seemed to be occurring, and that this was in part due to anthropogenic factors.³¹⁷ In 2006, for example, Roshydromet published a *Strategic Prediction of Climate Change Expected in Russia for the Period 2010-2015 and its Impact upon Sectors of the Russian National Economy*. The report puts special emphasis on the severe rise in extreme weather events and environmental hazards linked with agriculture, and on the need to begin preparing for them.³¹⁸ This point of view was backed up by a new document published in 2008 titled the *Assessment Report on Climate Change and its Consequences in the Russian Federation*. The document states that "a comparison of simulated and observed variations of surface air temperature provides convincing evidence supporting the anthropogenic nature of observed climate warming."³¹⁹ However in December 2009, just before the UN Climate Change Conference COP-15, the director of the Ministry of Energy's research institute claimed that global warming could be attributed to the slowing of the Earth's rotation, and the Institute of Oceanography issued a report stating that human activity is not a major factor in climate change.³²⁰ Some Russian think tanks have even decided to directly attack European discourse on climate change. The Institute of Economic Analysis claimed the British Meteorological Office used statistics from weather stations in Russia that fitted its theory of global warming, but ignored the data of the three-quarters of them that did not.³²¹

The role of Russian researchers in the climate change debate is considerable on the scientific level. They also play a role as an interface between domestic institutions and international debates, in large part though their participation in international reports, like the IPCC. However, their influence on decision-making is limited, and they rather seem to intervene a posteriori than a priori, without directly contributing to political choices. The only players involved in finalizing the decisions on Russia's international role are Putin's inner circle, the Security Council of the Russian Federation, and the main consortiums.³²²

Russia's hesitant climate change policy

The official position of the Russian state has generally turned around over recent years. In 2003, during the World Climate Change Conference in Moscow, Russia took a distinctly skeptical position. Russian politicians have been very vocal on the climate issue, viewing it as a Western fantasy or an object of anti-Russian propaganda. President Vladimir Putin stated for instance that a warming of 2–3°C would be a good thing for Russia, joking that it would no longer be necessary to wear fur coats and that agricultural production would be boosted.³²³ In 2010, after immense fires had ravaged one quarter of Russia's cereal crops, Putin visited a meteorological station on the Lena, where he implied that human activity probably played no great role in global warming.³²⁴ As Sergei Mironov, the speaker of the Federation Council explained, in 2007, "the impact of greenhouse gas emissions on the climate had not been studied sufficiently to push for a change of economic strategies."³²⁵ In 2010, he reiterated his skepticism by implying that Western countries were trying to limit the Russian economy by exerting pressure on it in the name of ecological concerns.³²⁶

Although it continues to be dominated by the idea that Russia stands to gain from it, or at least that it has less to lose than other developed countries, Russian political discourse about climate change has become less skeptical. In 2009, in preparation for the Copenhagen Climate Conference, Minister of Natural Resources and Ecology Yuri Trutnev unveiled Russia's Climate Doctrine for 2030-2050 that outlines the country's response to climate change, in a drastically different tone, more in tune with that of the international community. Rather than putting the usual emphasis on the benefits of climate change, the doctrine warns of serious climate-induced challenges, even at the level of human life. It calls for the creation of an institution to supervise climate change, for environmental regulations and legislation to be updated in order to bring Russia in line with international norms on climate change; for the stimulation of responsible resource use and efficiency; and for increased resilience in key economic sectors such as agriculture, transport, and energy. The minister himself recognized that climate change could cause up to a 5 percent reduction in Russia's GDP.³²⁷

The doctrine marks the first attempt at institutionalizing a climate change policy in Russia; however, its text provides no precise strategy and remains purely declarative. It is thus difficult to say whether it was drafted specifically for Copenhagen, or whether it reveals a veritable change in the perceptions of the ruling elites.³²⁸ Some of Dmitry Medvedev's statements lean in favor of this latter position. In February 2010, the then Russian president delivered a highly unusual speech on climate change, in which he insisted on its negative impact and the dangers for humanity. He issued a wake-up call to heads of state and social organizations, and requested the creation of economic incentives to address climate change, pointing out that Russia is still quite a long way behind most developed countries in monitoring and forecasting climate change. He repeated these ideas in a speech to the Security Council and issued a presidential instruction to the government to approve a package of measures for implementing the doctrine by the end of 2010. For the first time, climate change was discussed as a threat to national security by the Security Council.³²⁹

The Russian Federation's role in the international negotiations over climate change follows this zigzagging politics. After the collapse of the Soviet Union, Moscow repeated incessantly that it could not slow down its economic revival in the name of environmental issues. Russia did, however, play a key role in the implementation of the Kyoto Protocol to the United Nations Framework Convention on

Climate Change (UNFCCC), initially adopted in 1997. Following U.S. refusal, the collected signatures were insufficient to reach the minimum threshold of 55 percent of global carbon emissions. As the third-largest emitter of global carbon emissions, Russia's agreement to ratify the Protocol in 2005 was thus decisive, transforming Kyoto into a legally binding commitment for developed countries and some transition economies. Agreeing to comply with the protocol's target posed no challenge for Russia. The text is based on 1990-level global carbon emissions which, following the post-Soviet industrial collapse, guaranteed that Russia would not attain its maximal threshold until 2020. In December 2009, Russia was still 40 percent below the baseline. It therefore signed the protocol in the anticipation of financial gains as a potential seller of carbon credits.³³⁰ It had more than 50 percent of the world's Joint Implementation projects market, with a total greenhouse gas reduction potential of over 150 MtC (million tons of carbon). In addition, ratifying the protocol served as a "currency exchange" in its negotiations with the European Union concerning its bilateral World Trade Organization (WTO) accession protocol, and it worked to enhance Russia's international image, in particular relative to the United States.³³¹

Despite its ratification of the Kyoto Protocol, Moscow believes it does not have to accept any binding agreement that would be damaging to its economy, especially as the United States refuses to submit to it. Russia remains thus a passive actor in the construction of the international climate regime. It asserts that the decline of greenhouse gas emissions is the country's major contribution to global climate mitigation, whereas this has nothing to do with a policy outcome, but with the result of the USSR's disappearance. In 2009, during preparatory negotiations for the post-Kyoto era in 2012, Medvedev declared that Russia is ready to become more active, and proposed a 20 to 25 percent drop in further greenhouse gas emissions from the 1990 baseline (eventually Russia committed to a 15 to 25 percent reduction). Russia did not demand to transfer the quota surplus (equal to over 3 billion tons of CO₂) it had accumulated under Kyoto, but it asserted that carbon sinks from its forests—the largest national terrestrial carbon pool associated with the boreal forest of Northern Eurasia—be taken into account in calculations of its overall emissions.³³² Russia is also trying to reclassify itself as an emerging economy, entailing less binding agreements.³³³ At the Copenhagen and Durban conferences, the Russian authorities clearly stated that they would not enter into the second commitment period of the Kyoto Protocol and called for a new global agreement that obliged all major emitters to participate.³³⁴

The impact of the 2008 economic crisis contributed to raising awareness among the ruling elites about the huge possible energy savings to be gained through greater efficiency, but Moscow's environmental policy still remains very limited. The 2009 Climate Doctrine has not been followed up with concrete measures. In 2010 the government set a target to reduce the energy intensity of the Russian economy by 40 percent by 2020, but it remains largely unimplemented.³³⁵ The data for different industrial and forest sectors remain incomplete and make it difficult to measure Russia's implementation of and compliance with Kyoto Protocol, which appears limited, but is not non-existent.³³⁶ Russia is the fourth-largest emitter of carbon dioxide (CO₂) behind the United States, China, and India, although it is only the world's eighth-largest economic power. It is one of the highest energy consumers among the industrial powers, which is attributable to its astounding lack of energy efficiency that goes for everything from households to large companies. Russia consumes six times as much as the United States for each dollar of GDP in purchasing power parities,³³⁷ and its growing per capita emissions are set to approach U.S. levels by 2030. This can be partly explained by its cold climate, but above all reveals a large amount of energy waste in industrial processes. Indeed, Russia is the country of the greatest waste. Its depreciation of capital stocks is over 46 percent in the natural resource extractions sector, 53 percent in transport, 70 percent in the thermal power sector, and 80 percent in hydropower.³³⁸ The World Bank and the Russian Center for Energy Efficiency found that Russia could save 45 percent of its total primary energy

consumption if it were to implement reforms. The country could save more than 200 million tons of oil equivalent (Mtoe), equal to 30 percent of its consumption, if it were to apply the same measures of energy efficiency as the main OECD countries, including Canada, the country with which it shares the most climactic similarities.³³⁹ Only some big companies have started to address carbon issues and have given detailed information about their greenhouse gas emissions.³⁴⁰

Russia's climate change policy is relatively consistent, but aimed at short-term benefits. It remains subordinated to domestic economic imperatives, which are themselves centered on fossil fuels. The fact that the environment comes under the portfolio of the Ministry of Natural Resources clearly shows where the priorities are. Moreover, Moscow feels it should be excused insofar as times of violent socio-economic change mean that priority cannot be given to environmental concerns. Moreover, the country advocates adaptation, but not mitigation, a stance that emerges very clearly from the 2009 Doctrine, which does not seek to address the root causes of climate change. From the Russian viewpoint strategies of mitigation are considered irrelevant and useless, impossible to implement, or too costly. Even though the opinion of the ruling elites on climate change appears to be changing, Russia is likely to keep maintaining that the world is dealing with a *fait accompli* that cannot be fought against, that it is necessary to continue to rely on fossil fuel production, and that all climate policy ought to be limited to alleviating effects and adapting the economy and society to the new challenges climate change presents.

Even by focusing on adaptation and not mitigation, the capacities of the Russian state are questionable.

In theory, Russia has a higher capacity for climate resilience than other developed countries; it also potentially stands to gain economically from climate change, mainly in the agriculture and hydroelectricity sectors. However, the price to pay for this change, and the balance of advantages/disadvantages, is largely unknown. Given Russia's ageing infrastructure, and the high costs—already visible in the Soviet period—of its economic development in harsh climatic regions, the capacities of managing climate change in terms of economic development, urban sustainability, and human security might turn out to be higher than the optimistic predictions still holding sway among the Russian authorities. This cost will be added to other challenges that Russia will also have to manage in the decades to come, including in terms of its demography, knowledge and competence-building, and the reorientation of its overall economic structure. Hence, the more Russia delays in passing to a green economy, the wider the gap will become in its levels of competitiveness as compared to Western countries.³⁴¹ In addition, the main problem is perhaps not so much the price to pay as the ability to prepare oneself to anticipate the changes and therefore to reduce their financial and human costs. The Concept for the long-term Social and Economic Development of Russia until 2030 notes the possibility that the emergence of climatic problems may impede economic growth, but it does seek to take this possible cost into account in its projects of social and economic development.³⁴²

CHAPTER 5. THE RUSSIAN STANCE ON TERRITORIAL CONFLICTS IN THE ARCTIC

The Polar regions have often been considered as specific with regard to international law— multiple sets of regulations are applied to them, with important historical evolutions taking place in conjunction with discoveries of the oceanic depths and their reserves.³⁴³ Since the end of the Second World War, the authority of coastal states has substantially extended over waters and seabeds. Customary international law has been codified by UNCLOS, which recognizes that each state has the right to 12 nautical miles of territorial sea, 24 nautical miles of contiguous zone, and 200 nautical miles of exclusive economic zone (EEZ). On territorial seas, sovereignty is exercised over the airspace, water column, seabed, and the subsoil. Within the 200 nautical miles of the EEZ, each state has sovereign rights over all living and non-living resources in the water column, seabed, and subsoil, and the passage of foreign ships must be guaranteed. Beyond these 200 nautical miles, state jurisdiction can no longer be applied to the water columns, which are defined as high seas subject to free circulation. It can, however, be applied to a continental shelf if UNCLOS recognizes a territorial contiguity of up to 350 nautical miles or 100 nautical miles beyond the 2,500-meter isobath. Beyond this, the deep seabed is regarded as the heritage of humanity and is managed by the International Seabed Authority.³⁴⁴

The majority of bilateral disputes between states concern the delimitation of the EEZs. There have been eight disputes over Arctic EEZs: one between the United States and Canada over the Beaufort Sea (the bone of contention centers on the delimitation of hydrocarbon-rich waters lying between the Yukon and Alaska); another between Canada and Denmark/Greenland in regard to the Davis Strait (the issue was settled in 1973 despite continuing disagreement over Hans Island); a third disagreement existed between Denmark/Greenland and Iceland over the Fram Strait (settled in 1997); and another between Denmark/Greenland and Norway over Svalbard (settled in 2006). A fifth disagreement existed between Iceland and Norway over Jan Mayen (settled in 1993–95); and one between Denmark/Greenland and Norway over Jan Mayen (settled in 1981). The Soviet Union/Russia has been involved in two disputes: one with the United States over the Bering Sea; and another with Norway over the Barents Sea and Svalbard.

Interstate disputes can also bear on other aspects materializing sovereignty in the Arctic, in particular the legal status of straits. Hence, Canada and Russia consider the Northwest Passage and the Northeast Passage their territorial waters, and therefore claim the right to regulate the traffic of foreign shipping vessels, while the other states, especially the United States, consider them international waters.³⁴⁵ Last, a third category of disputes concerns the delimitation of the continental shelf. The shelf has been at the center of international attention right from the start of the twenty-first century, with the setting up of the UN Commission on the Limits of the Continental Shelf (CLCS). The Commission is especially important as the continental shelf occupies a much higher proportion of the Arctic Ocean than of any other ocean. Although the growing economic interest in the Arctic encourages the littoral states to stake out claims for sovereignty, all unequivocally uphold the importance of international law in the resolution of their jurisdictional disputes. Given the length of its Arctic coastlines, Russia is very active in both theoretical and practical debates on the status of the Arctic and the issue of territorial delimitation. It is involved in all three categories of existing legal disputes concerning bilateral exclusive economic zone, the delimitation of the continental shelf, and on vessel transit in the straits. On these issues, Moscow pursues proactive policies, which is a sign of the importance that it assigns to the question, as Russian international policies are traditionally quite reactive.

The Soviet historical referent: the 1926 decree

The Russian legal tradition is characterized by the notion of the sectoral line, that is, the line of longitude that starts from the terminus of the land boundary and intersects with the North Pole. The division of the Arctic into national sectors began at the start of the twentieth century, when Canada first, in 1909, proclaimed its sovereignty over the lands stretching between its territorial border and the North Pole. Czarist Russia took up the Canadian criteria of sectoral division. At the point of imperial Russia's entry into the war in 1914, Saint-Petersburg confirmed its 12-mile territorial waters in the Arctic, and in 1916 it sent an official note to the Allied powers, announcing possession of a significant number of lands and islands in the Arctic.³⁴⁶ The Bolsheviks seizure of power during the October Revolution of 1917 has no impact on the Russian stance: the USSR endorsed the decisions of the Tsarist regime.

The new regime soon felt under threat in the Arctic because of Canada's occupation of Wrangel Island, which enabled Canadian and American expeditions to travel easily to Chukotka.³⁴⁷ Concerned about the possible discovery of unknown lands by European countries that had better mastered aviation than the Soviet Union then had, the Central Executive Committee of the Soviet Union issued on April 15, 1926, a Decree entitled *On the Proclamation of Lands and Islands Located in the Northern Arctic Ocean as Territory of the USSR*. The decree stated that "all lands and islands, both discovered and which may be discovered in the future, which do not comprise at the time of publication of the present decree the territory of any foreign state recognized by the Government of the Soviet Union, located in the northern Arctic Ocean, north of the shores of the Union of Soviet Socialist Republics up to the North Pole between the meridian 32°04'35" E. long. from Greenwich, running along the eastern side of Vaida Bay through the triangular marker on Cape Kekurskii, and the meridian 168°49' 30" W. long. from Greenwich, bisecting the strait separating the Ratmanov and Kruzenstern Islands, of the Diomedede group in the Bering Sea, are proclaimed to be territory of the Soviet Union."³⁴⁸

The territory defined in the decree is based on the internationally validated limits of the time: to the east, those between the United States and Russia defined in the 1867 Convention on Alaska; and to the west, the border between the Soviet Union and Finland. Moscow lays claim to sovereignty over all the territories between these two points along the meridian up to the North Pole. At a time when Russia regarded itself as surrounded by capitalist enemies characterized by their "imperialism," the objective of this decree was to prevent other states from proclaiming their sovereign will over unknown territories. The law thus sought to safeguard potential future Soviet Arctic discoveries. Later, some Soviet researchers extended the scope of the decree, for example, V.L. Lakhtin, who published a monograph titled *Prava na severnye polyarnye prostranstva* (Rights on Northern Polar Spaces) as early as 1928. In it, he advanced two new arguments: first, that all lands and islands, regardless of who effectively occupied them, came under the sovereignty of the owner of a sector in accordance not with the contiguity theory but with the principle of "region of attraction" (*raion tiagoteniia*); second, that fast ice should be equated to land territory, that is, be incorporated within the sovereign part of a sectoral state, as well as the air space above it.³⁴⁹

The 1926 decree was designed to regulate questions over sovereignty of the Arctic Ocean and was not supposed to serve as a general principle for the demarcation of maritime borders. However, it was seen within Soviet legal practice as a historical precedent and therefore led Moscow to propose a sectoral

division of all maritime borders.³⁵⁰ The Soviet Union stuck to this principle throughout its existence. Some Soviet geographical maps showed state borders going along straight longitudinal lines from the Kola Peninsula and the Bering Strait toward the pole, so that one-third of the Arctic Ocean was designated as territorial waters. But Soviet works remained divided in their interpretation of the decree's scope. Those that maintained a more restricted reading of the decree considered that only the islands of the sectoral zone constituted part of the territorial contiguity of the state, not the waters between the islands and the continent. Those that had a broader interpretation of it claimed that the islands, the waters, and the air space must also fall under national jurisdiction.³⁵¹ In practice, Moscow did not uphold this broader interpretation of the 1926 decree and never perceived the border of the Arctic sector as its territorial border.

During the decades of the Cold War, however, these juridical ambiguities served to stoke tensions with the United States, which exercised its perceived right to freely navigate the oceans. U.S. submarines succeeded in not only reaching the North Pole (in 1958, the *Nautilus* was the first watercraft to reach the geographic North Pole), but also passed through Soviet-controlled Arctic waters and northern straits (achieved by the *USS Blackfin*), and even entered Soviet territorial waters (the *USS Gudgeon* in 1957 close to Vladivostok).³⁵² In April 1989, in complete perestroika, the URSS Council of Ministers' State Commission on Arctic Affairs defined the country's Arctic zone: 3.1 million square kilometers of the landmass, and about 4 million square kilometers of continental shelf.³⁵³

Since the collapse of the Soviet Union, the Russian legal position has softened. In the course of its border conflicts with Kazakhstan and Azerbaijan over the Caspian Sea, Moscow yielded without demanding sectoral demarcation of the Caspian Sea, in large part because demarcation using the principle of the median line provided it with zones rich in hydrocarbons. The oil factor was therefore most likely determining in Russia's deciding to change its principle of delimitation, and this enabled peaceful settlements with both Astana and Baku.³⁵⁴ Moscow also realized that by upholding sectoral line demarcation, it was losing in terms of territories in the Bering Sea. Moreover, this method of division has met with little international success. Denmark, Norway, and the United States have all publicly rejected it, and UNCLOS posits the median line as the basic principle of division of marine territories.

Russian claims on the Arctic continental shelf

Under UNCLOS, a coastal state has exclusive sovereign rights to explore and exploit the natural resources of its continental shelf up to 200 nautical miles from its shores. Beyond this limit, it has to provide scientific evidence to establish the extent of the legally defined continental shelf in order to exercise the same rights. These rights apply to the exploitation of living and non-living resources of that state's share of the shelf's seabed and subsoil, but do not extend to resources in the water column such as fish stocks, which are covered by a separate regime. Thanks to marine research that has been systematically carried out in the Arctic since the 1960s, in 2001 Russia became the first country to refer to the UN Commission on the Limits of the Continental Shelf (CLCS), a review body of scientists created under UNCLOS. In so doing, it created a legal precedent, which other states hastened to follow.

After ratifying UNCLOS, each state has ten years to submit an application for the recognition of its continental shelf; it can then make as many claims as it wishes once the first application has been made.

The commission is made up of 21 members chosen for their expertise in geology, geophysics, and hydrography, but they are also elected with due regard for geographic representation—having its own national member elected can be beneficial for a state submitting a claim. The commission's decisions require a two-thirds majority but rulings cannot be made that disadvantage other states, even if the state in question has not submitted a claim but deems it is potentially disadvantaged.³⁵⁵ This measure is designed to protect the weakest countries that do not have the financial and technological means to submit a request. Known as Rule 5, this rule can be used to prevent the commission from giving a verdict that would be binding. The commission is also unable to settle border disputes between states, except if the governments concerned request the arbitration of the commission. The scope for legal wrangling is therefore complex as it can be endless.³⁵⁶

In addition, the definition of the continental shelf as expressed in Article 76 of UNCLOS is composed of many technical and geological elements that scientists often judge incomplete or contradictory. It leaves open some definitions that are likely to evolve in accordance with technological progress, even if a scientific and technical guideline is supposed to help interpret the terms used. UNCLOS states that “[t]he continental shelf of a coastal state comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the *natural prolongation* of its land territory to the outer edge of the continental margin.”³⁵⁷ Several criteria are thus to be taken into account: the thickness of sedimentary cover, a distance of 60 nautical miles from the foot of the continental slope, a distance of 350 nautical miles from the country's baseline, and/or 100 nautical miles from its 2,500-meter isobath. In addition, claims must first show that the prolongation requested does not concern an oceanic ridge, since this term has a complex definition apt to be interpreted in multiple ways, but the differences between oceanic ridges and natural components of the continental shelf are unclear.³⁵⁸

In its claim, Russia argues that the Lomonosov Ridge and the Alpha-Mendeleev Ridge are both geological extensions of its continental Siberian shelf and, thus, that parts of the Central Arctic Ocean, as well as parts of the Barents Sea, the Bering Sea, and the Sea of Okhotsk, fall under its jurisdiction. Most of this area, amounting to about 1.2 million square kilometers of Arctic waters, is situated in a triangle-shaped zone, “the top of which is the North Pole, the eastern side is approximately the meridian 170°W, the western side is an irregular line running southward from the North Pole to the cross point with the EEZ outer limit (81°N, 120°E), and the base is the outer limit of the Russian EEZ.”³⁵⁹ The Lomonosov Ridge is a 60,000 kilometer-wide submerge elevation joining the continental Eurasian and American platforms, while the Mendeleev Ridge is a 1,500 kilometer-long elevation between Wrangel Island and the Canadian Arctic archipelago. In 2002, the CLCS issued a recommendation about the additional data and information it needed, which Russia was to supply by 2009. With this in view, Moscow organized the much-publicized 2007 Arctic expedition, during which the Russian flag was planted on the Arctic seabed, an act devoid of any legal significance but that incited the anger of other states. Still the information gathered for a renewed submission was not adequately detailed in its bathymetrical analysis. In September 2012, Russia organized a new expedition to the Mendeleev Ridge to collect several hundred kilograms of geological material taken at depths of 2,000-3,000 meters, which will be analyzed during 2013.³⁶⁰ The additional application should be submitted by the end of 2013.

A technical analysis of the Russian claims lies outside the scope of this chapter and can in any case only be conducted obliquely, since all claims are subject to confidentiality. Only the executive summaries have been made public, as have the appeals submitted by the other states, which thus make it possible, through the responses they provide, to surmise the approximate nature of the claims and the arguments put forward.³⁶¹ Since Moscow's initial submission, Canada, Denmark, Japan, Norway, and the United States have filed their responses to the executive summary of the Russian claims. Norway has

issued official documents indicating that the Russian request infringes upon its own claims. As the commission cannot give rulings that disadvantage another state, it cannot issue a verdict inasmuch as the claims of the other states remained unexamined. Thus, after Norway placed a request for recognition of its continental shelf in 2006, including an express reservation of the right to claim additional territory, it came to light that both Moscow and Oslo claimed the two zones, the Loop Hole and the Western Nansen Basin. In the absence of any territorial delimitation treaty between both states until spring 2010, the commission was unable to give rulings in favor of either one or the other, with both states invoking Rule 5, which safeguards against any prejudicial decisions. In 2008, the Commission endorsed Norway's description of the seabed outside of its established border, thus allowing the country to widen its economic zone in the Arctic by 235,000 square kilometers, but without giving a ruling on the two zones that were, at that time, still under dispute.³⁶²

Canada and Denmark stressed that the oceanographic data contained in the Russian executive summary was insufficient to determine their stance on Moscow's position. Nonetheless, the Canadian and Danish governments have been working together since 2005 to submit their own claims.³⁶³ In 2006, both countries, considering that the stakes were of such importance, put their dispute over Hans Island aside, and undertook a joint scientific expedition known as the Continental Shelf Project to collect the bathymetric, seismic, and gravity data of the Lomonosov Ridge and to establish claims to territorial expansion.³⁶⁴ Both states are involved in collecting data on the seabed north of Greenland and Ellesmere Island, and through the Lomonosov Ridge Test of Appurtenance (LORITA) Project hope to prove that the ridge, which passes through Greenland to Canada's Ellesmere Island, is a natural extension of the North American continent.³⁶⁵ Canada and Denmark have until 2013 and 2014 respectively to submit their claims.

The United States, although it has not ratified UNCLOS, has also submitted a document contesting Russian claims on a scientific level, with detailed references to the technical aspects of the Russian submission. The U.S. document claims that the Russian text does not propose objective data sources concerning the location of the 2,500-meter isobath and the foot of the continental slope. The main scientific argument put forward by the United States seems to be that the Alpha-Mendeleev Ridge System is a geologic feature formed by volcanism (a submerged "hot spot"), and therefore cannot be considered a natural prolongation of the continental shelf or continental margin.³⁶⁶ Regarding the Lomonosov Ridge, Russia seems to have more leeway with its potential claim for continental shelf expansion but needs to provide sufficient arguments to prove the relationship between the ridge and the Russian continental shelf, otherwise the commission will define the ridge as an oceanic one. However, in 2002, State Department representatives mentioned that the U.S. view of Arctic geology was still evolving and that, in hindsight, their notification reflected an inadequate appreciation of the scientific complexities involved.³⁶⁷

In 2014, the CLCS will have to make a decision concerning Russia's claims on the Alpha-Mendeleev Ridge System and the Lomonosov Ridge. If this ruling is made, it will be binding and final. The CLCS may reject or accept the totality of Russia's claims, or pronounce itself exclusively on some parts. But it is also possible that the CLCS will consider that the information obtained is insufficient to take a decision, and that it will ask for further expeditions. This would thus push back the delimitation of territorial borders on this part of the continental shelf by several years.

The Russian-U.S. agreement on the Bering and Chukchi Seas

In the 1970s, the United States proposed to the Soviet Union that they enter into negotiations over the length of their common maritime border (the longest in the world) in order to settle points of disagreement: the EEZs of both countries intersected in the Bering Sea as well as in the Chukchi Sea; part of the continental plateau was claimed by both superpowers; and part of the open sea was yet to be delimited. A provisional application for a forthcoming agreement entered into force in 1977 so that day-to-day issues could be regulated, particularly in regard to fishing. Long a zone of tensions during the Cold War, the negotiations on the Bering Sea resumed during perestroika, after Gorbachev's famous Murmansk Speech in October 1987. Both parties finally signed an agreement on July 1, 1990, resulting in the so-called Baker-Shevarnadze line, which is a compromise between a median line and a sectoral line along the more than 2,500 kilometer-long boundary.³⁶⁸ The United States ratified the treaty in 1991 but, more than twenty years later, Russia has yet to do so. This refusal can be mostly explained by domestic political debates and bears little relation to the overall evolution of Russian-American relations.

Since the beginning of the 1990s, the Duma has refused to ratify the treaty, arguing that it harmed the interests of the Russian state in terms of fishing and potentially also of oil reserves. The opponents to ratification have put forward multiple arguments. In 1990, with the Soviet Union in the grip of perestroika and rapid institutional changes, the decision-making system and legal procedures to ratify documents were blurred. Nikolai Ryzhkov, who at the time occupied the post of president of the Council of Ministers, declared that neither the Politburo, nor the Council of Ministers, were able to examine the text of the agreement before its signature, which would render it invalid. But Foreign Affairs Minister Sergei Lavrov has stated, on the contrary, that the internal validation procedure in the Central Committee had been followed.³⁶⁹ Many also accuse Eduard Shevarnadze of having ceded too easily to U.S. demands in order to obtain Washington's support.³⁷⁰ Indeed, in 1990 Moscow was hoping to sign a whole package of agreements with the United States, including the withdrawal of missiles from Europe, and did not want to slow down the process by bringing the Bering Sea case before the UN International Court of Justice in The Hague, decried as a "tool of capitalism." Moscow had also been in negotiations with Norway and had hoped to tip the balance on the sectoral line in its favor, provided that it first came to an agreement with Washington.

The issue returns regularly to center stage. In 1996, the Duma held new parliamentary readings on this subject, though it refrained from making a decision. In 2002, the Russian Audit Chamber provided a detailed opinion on the state of Russian fishing and concluded that because of this agreement, Moscow had lost between 1.6 and 1.9 million tons of fish in the 1990s.³⁷¹ The reports the Duma requested conclude that, of its own free will, the Soviet Union lost three areas from its EEZ, which it ceded to the United States: one in the Bering Sea (23,000 square kilometers), one in the Chukchi Sea (7,700 square kilometers), and another in the Pacific Ocean (46,000 square kilometers). In exchange, Moscow was to secure guaranteed fish quotas for its fishermen—but the invasion of Afghanistan and U.S. sanctions put an end to this—, to obtain a small part of the American EEZ in the western sector, and to gain sovereignty over the islands of the Chukchi Sea, including Wrangel Island.³⁷² In 2007, the director of the North American Department within the Ministry of Foreign Affairs declared that the text of the agreement did not harm the territorial interests of the Russian state, except in terms of fishing, and that negotiations were taking place with the United States in order to compensate for Russian losses,³⁷³ but a solution is yet to be found. If fishing quotas indeed seem to be the main point of friction, it is possible in future that new stakes linked to resources will impede the resolution of the dispute. Indeed, it is likely

that the zones ceded are rich in hydrocarbons, especially the Navarinisk and Aleut fields, even if the absence of offshore wells and the lack of seismic data mean that the hypotheses are unverifiable for the time being. According to data gathered in 2006, the estimated total of recoverable resources of the East Siberian and Chukchi Seas is more than eight billion tons of oil equivalent.³⁷⁴

Concerning this territorial dispute with the United States, the Soviet-Russian legal position has been weakened by its inconsistency. As a point of departure for the negotiations, Washington proposed to Moscow that the two sides adopt the same line of demarcation as that mentioned in the 1867 Convention on the Cession of Alaska, which determines a geographical line west of which all the territories are American, and to the east of which all are Russian. This line was mentioned in the 1926 decree delimiting the Soviet Arctic territories and corresponded more or less to the idea of a sectoral line as defended by Soviet jurisprudence. However, the 1867 Agreement actually only applied to emerged territories, and not to seas, and was not intended for the delimitation of the EEZ or continental shelf. The Soviet Union could have pointed to the legal precedent, since a decision made by a court of arbitration confirmed that the convention of cession of Alaska did not concern seas, but in spite of this Moscow did not object to the U.S. request.

As stated by the Soviet jurist Alexander Vylegzhanin, the line of division chosen therefore brought 70 percent of the disputed areas of the Bering Sea under American jurisdiction.³⁷⁵ If instead the median line principle had been applied, it could have provided the Soviet Union with an additional 25,000 square kilometers of sea.³⁷⁶ Moreover, according to the U.S. statement on the Russian claim to the UN Commission on the Limits of the Continental Shelf, it appears that in its submission, Russia refers to the 1990 agreement on the Bering Sea, which in this case means that the country is now bound to the treaty even without having ratified it.³⁷⁷

Russia cannot legally undermine the 1990 agreement, even if ratification is necessary for it to enter into force. It can at best hope to negotiate some compensation to offset the losses incurred in fishing, to create new bilateral mechanisms to open American fishing zones up to it, or even to promote a more open status such as that of a natural park for the protection of biodiversity, and thus to settle the problem in a friendly way. It seems that the resolution of the question is intrinsically linked to the state of Russian-American relations in general. Washington, for its part, has to contend with criticism from the state of Alaska, which is a lot stricter in its negotiations with Moscow and would like to block any decisions that are taken without its participation.

The issue of the Barents Sea and its solution

The territorial conflict over the Barents Sea was probably the most complex to settle. Part of the geopolitical context stamped by the Cold War (for many decades, Norway was the only member of NATO, along with Turkey, to share common borders with the Soviet Union), it also involved important economic questions (which, since the 1970s, have mainly related to fisheries and now increasingly concern the exploitation of hydrocarbons), and carries symbolic weight in terms of national sovereignty and nation-building for both Norway and Russia.³⁷⁸

The sea border between Norway and the Soviet Union in the Varangerfjord area was agreed upon in a treaty signed in 1957; it was completed by a new treaty ratified in 2007 that specified the delimitation

line for the territorial sea, the EEZ zone, and the continental shelf between Norway and Russia as further north outside the mouth of the Varangerfjord. Negotiations concerning the delimitation of the other main maritime borders between the two countries began in 1974. In 1976–77, however, both protagonists proclaimed their border in a unilateral manner. Norway based itself on the principle of a median line between Svalbard, on the one hand, and Novaya Zemlya and the Franz Josef Land Archipelago, on the other. The Soviet Union, although a signatory to UNCLOS, refused to accept this principle on the basis of the “special circumstances” clause provided by Law of the Sea. According to Moscow, the 1926 decree amounts to a historic precedent that makes provisions for a sectoral zone that starts out from Russian territory and proceeds in a straight line as far as the North Pole. As a result, about 155,000 square kilometers came under dispute, including the overlapping EEZs within this area. Added to this are the 20,000 square kilometers of overlapping claims further north in the Arctic Ocean.³⁷⁹ Since 1980, after the Soviet Union attempted to engage in oil extraction, both Moscow and Oslo agreed on a moratorium prohibiting oil and gas exploration and geological prospecting in the disputed area, which meant that fishing took center stage in the underlying economic debates on border division.³⁸⁰

Despite the impossibility of reaching a legal agreement, both countries quickly decided to cooperate over fishing. As early as 1978, an agreement concerning the so-called Grey Zone was signed. The 65,000 square kilometers of Grey Zone includes the Loop Hole, a high seas triangle bound by Russia’s EEZ, the disputed waters between both countries, and the Svalbard Fisheries Zone Protection, but also 23,000 square kilometers of Norway’s EEZ and 3,000 square kilometers belonging to Russia. The Grey Zone agreement, extended on a yearly basis, is a classic mechanism of enforcement and control in the management and conservation of fish stocks in international or disputed waters.³⁸¹ Through the 1990s and 2000s, regular tensions between the two countries arose over the inspection and boarding of Russian fishing boats by the Norwegian Navy. For ecological reasons, Oslo has implemented strict rules to regulate the fishing industry and has fixed quotas of how many fish are allowed to be caught depending on the species, which it considers to be its duty to apply in its EEZ. The question of nuclear waste from Soviet nuclear plants on the Kola Peninsula and industrial pollution, mainly from nickel, in the Barents Sea is also a cause of disagreement. The lack of sustainable management of Moscow’s maritime resources is part of the Norwegian mainstream narrative in the relationship to Russia.³⁸²

Despite elements of significant tension and a complex geopolitical context, Russian-Norwegian cooperation has been a success in terms of the everyday management of maritime relations.³⁸³ Pragmatic cooperation has made it possible to overcome legal conflicts and to reach a definitive agreement, concluded in April 2010 during Dmitry Medvedev’s visit to Norway, signed on September 15, 2010,³⁸⁴ and ratified by Russian Duma in March 2011. Norway has withdrawn some of its territorial claims and Russia has consented to a shift of the 1926 demarcation line to share the 175,000 square kilometers in two almost equal parts defined by eight points.³⁸⁵ The endpoint is still undefined because of the undefined edge of each party’s continental shelves in the Arctic Ocean. Russia was granted EEZ rights in the area to the east of the boundary that lies within 200 nautical miles of the Norwegian mainland but more than 200 miles from Russian territory. The treaty is also accompanied by agreements on cooperation over fisheries and petroleum activities in cases where oil or gas deposits extend across the delimitation line.³⁸⁶ The Norwegian-Russian Joint Fisheries Commission will continue its activities but the agreement effectively terminates the Grey Zone fishing arrangement of 1978. On the Russian side, this decision was eminently political.³⁸⁷ It was taken against the advice of the jurists in charge of the dossier at the Ministry of Foreign Affairs, who criticized Moscow for making excessive compromises.³⁸⁸

The dispute over the Svalbard/Spitsbergen archipelago

The 2010 Russian-Norwegian agreement leaves unresolved another point of contention, namely that of Svalbard/Spitsbergen. This archipelago, covering 61,000 square kilometers in the Barents Sea, is the object of a complex legal debate related to the limits of Norwegian sovereignty since its independence from Sweden in 1905. Despite the many conferences organized around this question in Oslo between 1910 and 1914, no solution was found and it was necessary to wait until the Paris Peace Conference in 1920 to attain the signing of a treaty that was favorable to Norway. The Svalbard Treaty, ratified by more than forty states in the absence of Soviet Russia, which had no international legal recognition at the time, confirmed Norwegian sovereignty over the Svalbard archipelago, albeit under certain limits and conditions.

In 1924, lacking international recognition, the Soviet Union finally accepted Norwegian sovereignty over Svalbard in exchange for the establishment of diplomatic relations with Oslo. In 1935, Moscow ratified the Svalbard Treaty, but continued to ask for joint jurisdiction over Svalbard itself and for the inclusion of Bear Island under Soviet domain. For this, it has requested that legal delimitation be decided according to the principle of equity, which supposes that factors of economic importance (fishing) and of historical precedence are to be taken into account.³⁸⁹ The archipelago has allegedly been inhabited by Pomorian Russians since the seventeenth and eighteenth centuries, but the Russian villages were destroyed during the Crimean War, leaving only the Russian and Ukrainian population of the small mining town of Barentsburg. Lastly, Moscow also wanted to establish its sovereignty over a territory stretching to the Norwegian Tana River so as to rectify the provisions of the 1826 convention establishing the Norwegian-Russian border, which the Soviet Union found cumbersome.

The disputes concerning Svalbard/Spitsbergen are based on old legal texts, interpretations of which contemporary evolutions have pushed in divergent directions. The Paris Treaty is sometimes unclear, and international maritime law underwent drastic changes in the second half of the twentieth century. Thus, at the time of the Paris Treaty, the international law of the sea did not recognize sovereign states' rights beyond a three-mile territorial sea, and defined a rectangle of land and sea, which has since come to be known as the "Svalbard box."³⁹⁰ But the evolution of international maritime law has enabled Norway to increase its claims over the archipelago and its surrounding waters. In 1977, Oslo established a non-discriminatory Svalbard Fisheries Protection Zone of 200 nautical miles around the Svalbard Islands, kept distinct from the main Norwegian EEZ. In 1985, the Petroleum Activities Act included the seabed and subsoil surrounding Svalbard as part of the Norwegian continental shelf, and the government announced that it was opening part of it for exploration by its oil companies—but no licenses have been granted. In 2003, Oslo decided to extend the breadth of its territorial waters to 12 miles around Svalbard, resulting in an increase of approximately 35 percent in the surrounding Norwegian territorial sea.³⁹¹ This change, which is in line with evolutions in the international law of the sea, was decided in a unilateral way by Norway, without obtaining the consent of the signatory countries of the Paris agreement—only Canada and Finland recognize it. According to those states most opposed to Norway's claims, such as Great Britain, the treaty does not authorize the establishment of maritime zones or enable coastal state jurisdiction beyond the territorial sea without the agreement of the signatory parties. Other states have staked out a middle ground. They recognize Norway's right to establish a fisheries zone and to exercise coastal state jurisdiction, but maintain the rights for the treaty's signatories.³⁹²

The treaty contains complex clauses stipulating that ships and citizens of contracting parties are permitted to undertake fishing and hunting on an equal basis on the lands and in the territorial waters of the archipelago, and that all signatory states have equal access to conduct economic activities there. The Svalbard mining code is favorable to foreign investors, so that the taxes paid promote the archipelago, but not the budget of the Norwegian state.³⁹³ Russia challenges the Norwegian reading of the treaty at different levels. It claims that the historically shared sovereignty between Norway and Russia over the archipelago must be given legal precedence. It raises the fact that Norwegian lawmakers have no legislative grounds for invoking the “territorial sea”—a classical institution of contemporary international maritime treaty law—in order to mark off the EEZ around the archipelago or on its shelf.³⁹⁴ Norwegian sovereignty is thus allegedly limited to the land—not the sea. It also criticizes the fact that Oslo applies Norwegian internal law to the archipelago, which restricts the exploitation rights. Thus, the fisheries regime used by Oslo for Svalbard is more restricted in terms of permitted catch than in the EEZ. In addition, Norway has unilaterally set in place a mining code to apply to the islands’ geological shelf that contradicts the Paris Treaty. The Svalbard Environmental Protection Act could put into question the activities of the Russian state-owned mining company Trust Arktikugol, which exploits the promising coal reserves of the Coles Bay area. Moscow defends the economic interests of the mining town of Barentsburg and sees in Oslo’s environmental discourses a roundabout way to obstruct Russian activities on the archipelago.³⁹⁵

The 2010 Russian-Norwegian Treaty on the Barents Sea does not settle the question of Svalbard, which presents specific legal problems. One of them is the huge difference in taxation levels between Norway and the archipelago. Russian companies accessing the Svalbard continental shelf should enjoy the same right as the Norwegian companies, which would translate to taxes of less than 1 percent of the cost of the hydrocarbons produced. But as Russian jurist Alexander Oreshenkov explained, “If a deposit beginning within the limits of the archipelago’s territory extends beyond its territorial waters, the Russian companies will be expected to observe the norms of Norway’s continental mainland petroleum legislation, which means that 78 percent of their earnings from the hydrocarbons produced outside Norway’s territorial waters will go away in tax payments to the Norwegian treasury.”³⁹⁶ These financial stakes are bound to be at the core of future negotiations.

Despite media depictions of a forthcoming “Ice Cold War,” none of the five Arctic coastal states are involved in violent confrontation or unlawful occupation of disputed territories. State behavior is guided by the agreed rules of international law, and territorial disputes have been characterized as much by symbolic competition as by pragmatic cooperation. In 2009, Canadian and Russian diplomats raised the possibility of making a joint submission to the CLCS, possibly in cooperation with Denmark. In 2012, Vladimir Putin called for the creation of a joint scientific council with Canada to peacefully discuss potentially overlapping continental shelf claims. The patterns of cooperation are therefore clearly prevalent, even between competitors. Using the effective legal framework, all coastal states have been proposing innovative ideas in order to map out future areas of cooperation.

However, there is still room for potential elements of interstate tension. One is the growing demand of non-Arctic states—notably China—to participate in the debate over the Arctic and to be recognized

specific rights. In addition, in case of the CLCS's refusal to validate the claims made on the continental shelf, some states could be tempted to find loopholes in the law, but a unilateral annexation of the contested areas is very difficult to imagine. If the Lomonosov and Mendeleev Ridges are not recognized as part of the Russian continental shelf, Moscow, which has invested billions of dollars to collect the necessary scientific information, could change its discursive stance, making it less likely to respect international law and prompting it to ask for more binding structures for dispute settlement.³⁹⁷ The Russian authorities are preparing their public opinion for the eventuality of a negative ruling by regularly stating that the CLCS ruling will not only be decided on scientific arguments, but also on hidden political or geopolitical motives. On the contrary, if Russia receives a positive decision from the UN Commission, whether in part or justifying the entirety of its claims, it will achieve a territorial advantage on the Arctic continental shelf that the other Arctic states, especially Canada and the United States, will not be able to call into question. It would therefore modify the global geostrategic balance, as well as the prospects of economic exploitation, in Russia's favor.

CHAPTER 6. PROJECTING MILITARY POWER IN THE ARCTIC

The possible return of a strategic confrontation between Russia and NATO in the Arctic is probably one of the most debated subjects in Russia in relation to the Arctic, just as it is in the United States or in Canada. Similar to its English-speaking counterparts, the Russian press has been quick to put forward the image of a new “Ice Cold War.”³⁹⁸ Yet, all the major powers are cooperating closely in the Arctic, and assertive rhetorical declarations aside, the main trend in the Arctic is that of desecuritization. Compared to the nuclear tensions of the Cold War, the contemporary situation has undergone a clear de-escalation. However, the—very relative—military revival is part of a particular geopolitical context, one marked by the absence of Arctic institutions to deal with strategic issues, since the Arctic Council expressly prohibits its debating military questions. This institutional vacuum has been interpreted by the bordering states as potentially opening the space up to a militarization of the region due to a lack of channels through which to debate security issues.³⁹⁹

The Arctic occupies a very unique place in Russian defense strategy. Since the 1950s, the region has been host to key industries and infrastructure related to the Russian nuclear deterrent, in particular the installations on the Kola Peninsula. The latter is indeed a very convenient location for launching ballistic missiles, for missile defense systems, missile early warning systems, and other elements of strategic deterrence systems. The Arctic Ocean also guarantees access to the Atlantic Ocean and is therefore vital to the Russian Navy. Indeed, following the breakup of the Soviet Union, Russia lost the Estonian port of Paldiski and is having to lease the one of Sevastopol from Ukraine, leaving the main Russian port on the Black Sea subjected to the multiple upheavals of Russian-Ukrainian relations, and reinforcing the importance of access to the open sea through the Arctic region. Russia’s Arctic naval theater therefore includes several different facets: the modernizing of the ballistic-missile submarine fleet, defending the maritime borders of the Russian Federation, monitoring the movement of warships between the Atlantic and Pacific, shielding trade routes and reducing the threat of pollution from the extraction of hydrocarbons, and combating smuggling.

The Russian military strategy in the Arctic as defined in official documents is ambitious, but the gap between rhetoric and reality, and between power projection and actual capabilities is a recurrent feature of post-Soviet Russian military history. The Russian Armed Forces are faced with a number of complex challenges: current changes to the international security environment require adaptation to non-conventional threats; the country’s demographic evolution calls for a transition toward a professional army; financial resources available to modernize the army corps and the military-industrial complex are lacking; civil-military cooperation, privatization, and foreign participation, have become essential drivers of the modernization of the Russian military-industrial complex. All these elements impact drastically on the outcomes of Moscow’s strategies in the Arctic region.

The Russian Army still lost in transition

The Russian Army was one of the major forgotten institutions during the economic liberalization of the 1990s; the Russian state spent almost nothing on it for almost a decade. Upon his arrival in power, Putin

sought to redress this neglect, but the modernization rests on a narrative that is without much impact on reality,⁴⁰⁰ marked above all by the restoration of the Soviet legacy and mechanisms. Soviet military ranks were reintroduced, conscription was reaffirmed with alternatives rejected, and society was partly remilitarized through the resumption of training sessions for reserve officers and some general mobilization exercises. In May 2012, having only just been reelected for a third mandate, Putin signed a new presidential decree on the modernization of the Russian armed forces.⁴⁰¹ However, the sacking of the Minister of Defense, Anatoli Serdyukov, and of his vice-ministers, some months later (officially for corruption), even though they were attempting to implement ambitious and far-reaching reforms, was perceived as a possible victory of the anti-reform camp.

Budgeting or reforming?

As always in Russia, the will to moderne is above all expressed by budgetary increases. As such, between 2000 and 2008, the Russian military budget increased by 500 percent, especially in strategic sectors such as weaponry, the navy, and missiles. The Russian space program has also been relaunched,⁴⁰² and has become a driver of the technological modernization of the army, especially in the sector of satellite communications. The economic and financial crisis of 2008 impeded Russian ambitions, but the Kremlin seems resolved to stay the course and giving priority to military spending. Vladimir Putin is in fact set on going ahead with an unprecedented rearmament of Russia, including a State Armament Program which earmarks more than \$650 billion for the defense industry between now and 2020. Thus, while Russian state budgets for health and education are reducing, Moscow has announced a budget increase for defense of 25 percent between 2012 and 2013 (from 48 to 58 billion euros), with an additional 18 percent increase for 2014.⁴⁰³ This choice in favor of the military has aroused fierce debates among elites, leading Alexei Kudrin, long term ministry of finances and embodiment of the financial orthodoxy, to resign to denounce the military expenditures. Russian military spending is in fact about 3 percent of the national budget, which is a level of expenditure equivalent to that of medium powers such as France or Great Britain, but incomparable with the American or Chinese budgets. However, Russian expenditure is in fact higher than the official amount reveals insofar as certain sections do not figure in the public calculations, but it is undermined by corruption, particularly in relation to weapons acquisitions.⁴⁰⁴

While the sum to be invested in modernizing the Russian Army's capabilities seems considerable, it remains modest in the light of meeting fundamental needs and would only cover those of the strategic nuclear forces, air defense, and the air force. The enormous investment plan includes eight nuclear submarines, 600 warplanes, 1,000 helicopters, and 100 naval vessels. The current state of Russian military material remains indeed well below modern-day technological norms. With the exception of specific leading-edge sectors, the material is largely outdated, obsolete, or non-functional. To meet the additional requirements for re-arming ground troops, the navy, and space forces, Russia would need to triple the assigned amount from now until 2020, supposing that it would actually be allocated in its entirety.⁴⁰⁵ In March 2010, Dmitry Medvedev stated that he wished to see an annual equipment-renewal rate across the armed forces of 9 to 11 percent, compared with the current level of 2 percent.⁴⁰⁶ The Kremlin hopes to renew two thirds of Russia's military equipment by 2020, but these projections seem too ambitious. The domestic defense industry does not have this much production capacity, and the holding companies created by Putin to recentralize production—mainly United Shipbuilding, United Aircraft, and Rostekhnologii—are neither a sign of efficiency nor of modernization.

Moreover, it seems that part of the funds provided in the State Armament Program will be allocated with a three-year delay and the best case scenario is that the most important sums of money will not be available before 2016.⁴⁰⁷

Moreover, the money that was pumped into the military sector during Vladimir Putin's two terms as president does not in itself constitute reform. The military elite has had difficulties in understanding the stakes of recruiting conscripts in a country experiencing a severe demographic crisis and has failed to embrace the idea of alternative forms of service and professional recruitment. Hazing (*dedovshchina*⁴⁰⁸) goes largely unpunished, corruption among officers is massive, professionalism and discipline are in decline, and military methods in difficult terrain have shown no improvement between Afghanistan and the two wars in Chechnya. The August 2008 war against Georgia was won only because of the vast power differential between the two countries, and not due to the tactical superiority of the Russian Army. Russian deficiencies in terms of weaponry and the manifest unpreparedness of its air forces to conduct operations to neutralize adversary air defense systems have only served to confirm the armed forces' difficulties in coming to terms with new *modus operandi* in war.⁴⁰⁹

The reform plan announced at the end of 2008 by Defense Minister Anatoli Serdyukov anticipated a large, as yet unattained, transformation of the Russian Armed Forces. The reorganization process was largely completed: the brigade became the basic unit of the military, and traditional military districts were replaced by Unified Strategic Commands. However, combat-ready units are still limited in number; joint operations between different branches are not functional; and communications technologies are still missing.⁴¹⁰ However, it is on the level of manpower that the difficulties are the most evident. Human resources become scarce in Russia. The generation gap in the Armed Forces is immense: the majority of high-ranking officers and qualified personnel of the industrial-military complex are 55 years old or more, and the younger generations have been poorly prepared for taking over the reins of their superiors. The Russian Armed Forces aim at having one million men, but are unable even to attain 800,000. They have had difficulties in attracting professional soldiers to serve on a contract basis—about 190,000 have been engaged, though the target is 425,000—while they have an excessively large officer corps. The reform envisaged scaling back the number of officers in favor of a more mobile, better trained, and better equipped army.⁴¹¹ Between 150,000 and 200,000 men of the officer corps are thus bound to be transferred to the reserve army,⁴¹² which has provoked virulent reactions among high ranking officials within the Defense Ministry.

Moreover, the Russian Armed Forces are incapable of resolving the dilemma of military service. Only 400,000 of the men that reach 18 years of age are considered draft-eligible out of a total of 700,000, as the others enjoy exemptions for studies or for health reasons.⁴¹³ This figure is further likely to drop rapidly: in 2015–16, the draft pool will comprise only half the number of conscripts the army is used to receiving.⁴¹⁴ Attempts to make military service more appealing, to draft students more rigorously by reducing the possibilities of evasion and extending the age of conscription, and to combat the massive corruption which enables young men to avoid enrollment are destined to remain unsuccessful.⁴¹⁵ Moreover, the ethnic composition of draftees will change rather significantly, with more and more youth coming from the North Caucasus.

Regardless of the efficacy of the decision to dismantle extensive infrastructure for mass mobilization (in preparation for a large-scale conventional war) in order to focus instead on operations and efficiency, the question of combat readiness and the disorganization of the chain of command remains problematic.⁴¹⁶ Also, there are insufficient funds available to create the requisite domestic human and technological capital. Moscow will therefore have to envisage a radical change in its military recruitment

practices. It needs to give priority to a relatively small professional army, create a professional non-commissioned officers corps, and promote the employment of contract employees for durations of a few years. However, these decisions, among the most sensitive, have been postponed for the moment, with high-ranking officials in the Ministry of Defense resisting the Kremlin's desires to reform. The dismissal of Serdyukov, who had lost the support of his former father-in-law Viktor Zubkov,⁴¹⁷ seems to signal a return to the status quo, even if the new minister, Sergey Shoigu, is also a supporter of in-depth reforms.

Difficulties in defining strategic capabilities

For two decades now, Russian military doctrines have been rather vague about how to define potential enemies, which hampers the reshaping of doctrines and practices.⁴¹⁸ At the beginning of the 2000s Russia's strategy was dominated by a classical schema, founded on hard military security. The New Conception of National Security for 2020, which was adopted in May 2009 to replace that of 1997 and modified in 2000, advances more nuanced and subtle arguments, reflecting changes within the international security environment. It defines security much more broadly, and includes energy security, soft security challenges, the environment, health, education, technologies, living standards, and so on. The definition of enemies and dangers has also changed.⁴¹⁹ Some prisms inherited from the Cold War still shape Russian perceptions: so-called U.S. unilateralism and NATO activities continue to be classified as threatening Russia, but "the West" is no longer perceived to be a real danger, and no military conflict is envisaged with Washington or Europe.⁴²⁰ Strategic uncertainties and non-traditional threats became Russia's main concerns. Although official sources refuse to admit it publicly, China is seen as a potential forthcoming danger in terms of strategic uncertainty and the growing imbalance of power in North Asia and Central Asia.⁴²¹ Non-traditional threats come mostly from the south, including kinds of tension as different as those found in the North Caucasus, the South Caucasus, Central Asia, Afghanistan, and Iran.⁴²²

Russia's difficulties in elaborating well-structured strategic aims stem in part from the contradiction between its ambitions for global power and its more modest capacities, which render it an actor of regional dimension. Russia remains an international player thanks to its Soviet gains: nuclear balance of power with the United States, and a seat on the UN Security Council, which give it an essential influence in all the major international issues, from North Korea and Iran to Syria. Despite a very demonstrative interest in favor of developing new mechanisms that would turn it into a global power in the twenty-first century (BRIC forum, G20 forum, and so on), Russia is going to have a tough time in acquiring new tools of influence that it has not inherited from the USSR. Very sensitive to nation-branding, Moscow wishes to become a more engaged actor in international peace and humanitarian operations; but this is a costly strategy and the army is reluctant to expose its disciplinary and organizational problems, as well as its difficulties in terms of technology and capacity, to its Western counterparts.⁴²³

Several Russian officials and experts therefore encourage the country to set itself more modest goals and to admit the essentially regional character of its strategic power. The former Minister of Defense Serdyukov stated on several occasions that the military bases outside the Russian Federation (in Kyrgyzstan, Tajikistan, Armenia, South Ossetia, and Abkhazia) are costly and that naval operations far from its borders, such as in the Gulf of Aden, ought to be downsized. The Maritime Doctrine of the

Russian Federation for the Year 2020 outlined a regional, rather than a global, role for the navy. The Navy is now going to play a key role in securing energy resources and managing regional conflicts in East Asia and the Near Abroad, but will have a very limited capacity in terms of intervention in remote theaters or in withstanding a large-scale conventional attack.⁴²⁴ Things are similar for Russia's land forces, which have difficulties mounting operations far from Russian borders: deficiencies in terms of communications technologies are especially striking and for the moment prevent any significant operations involving conventional forces, unless this is to the Near Abroad. Even in this region, the Russian army's intervention capabilities, whether unilaterally, bilaterally, or in the multilateral framework of the Security Collective Treaty Organization (OTSC), are not proven.

New trends: international cooperation, civil-military cooperation, and private actors

Other, more positive evolutions are underway. Civil-military cooperation, which extended in scope in the 2000s, is for instance set to become one of the main trends in future decades. The army's weakness in comparison to influential economic groups has altered power relations, and despite the revival of the Russian military sector, there can be no question of the Ministry of Defense setting aside the interests of companies like Gazprom, Rosneft, Lukoil, or Norilsk Nickel, which all enjoy powerful backing within the state administration and can counterbalance the military voice. These companies, whether public or private, and the army have come to the pragmatic conclusion that they are dependent on one another. The civil-military relationship is therefore in the process of changing profoundly, motivated not by reasons of principle concerning the control of civil society over the military, but by pragmatic economic interests that the army accepts or tries to turn to its own advantage.⁴²⁵

Moreover, Russia has lost much technological know-how and today can no longer modernize its army in an autarkic manner. It will therefore be led to make radical changes that involve receiving massive amounts of supplies from foreign companies in order to obtain the latest in military technology. The purchase of French Mistral in 2010 confirmed that Russian industry lacks the technical expertise and capacity to build such complex ships.⁴²⁶ Even if some of the components will be manufactured in Russia, the military-industrial complex will experience difficulties in bridging the technological gap with Western countries. Further indication of Russia's lagging behind is the fact that between 2000 and 2010, it launched only a few frigates and corvettes. What is more, the contract signed with India to refurbish and convert the *Admiral Gorshkov* took years longer than expected to complete and has been more costly, so considerable has been the scale of the conversion. Foreign participation, mainly from Europe, Israel, and the United States, thus seems likely in future modernization efforts. This implies that the military-industrial complex will have to emerge, at least partially, from its secretive culture. As for the Kremlin, it will have to learn to manage the contradiction between the imperatives of competitiveness, which imply more openness to industrial partnerships with foreign companies, and considerations of sovereignty.

Another trend that is taking shape, a corollary of the preceding one, is the privatization of some companies in the Russian industrial complex, including some with ties to military affairs. In 2010, the government stated its intention to sell its shares in ten large companies so as to raise \$30 billion. Amongst the largest companies to be sold are Rusnano (nanotechnologies holding), Alrosa (diamond monopoly) Rosneft, Aeroflot, interRAO (electricity holding) RusHydro (Russia's biggest hydroelectric power producer), and several banks like Sberbank. In the Arctic region, this privatization project

concerns Sovcomflot, the shipping group which owns the world's largest fleet of Arctic, Aframax and ice-class LNG tankers; the port of Murmansk, one of the jewels of the Russian fishing fleet, the Arkhangelsk Trawler Fleet, and the mining company Apatit, near Kirovsk, a cornerstone enterprise on the Kola Peninsula.⁴²⁷ The presence of private and/or foreign players is therefore set to develop further, and will impact on the security sector as a series of arguments will come into play which are less subject to security decisions.

Upgrading the Northern Fleet and the nuclear deterrence

The main structure of Russian defense is the Northern Fleet, with about two-thirds of the Russian Navy's global nuclear force. Based close to Murmansk in the north of the Kola Peninsula at Severomorsk, it remains the most powerful of the four Russian fleets (Pacific, Baltic, Black Sea, and Caspian), with the largest number of icebreakers and nuclear submarines. It is in charge of all operations undertaken in the Atlantic and is thus able to venture as far as the Caribbean or to conduct anti-piracy operations close to the Gulf of Aden. But the Northern Fleet was hit hard by the collapse of the Soviet Union. In 1986, it comprised some 180 nuclear-powered submarines of different classes; this figure had been reduced by three-quarters to just 42 in 2010.⁴²⁸ Its recent history has been marked by several failures. Four submarines have sunk, including the famous *Kursk* in 2000, and its ballistic missile launches regularly misfire. The navy also faces numerous problems related to its aging fleet—the average age is twenty years—, the naval nuclear fuel cycle, the disposal of radioactive waste, and contamination issues. The naval nuclear reactors concentrated in this region are dangerous, many of the nuclear submarines waiting to be decommissioned are poorly securitized, and large amounts of nuclear waste remains stored on vessels specially designed for dumping at sea.⁴²⁹

The modernization efforts to be undertaken are therefore immense and multifaceted. Among the different branches of the armed forces, the navy was the biggest loser from the drastic reduction of military budgets in the 1990s. It saw its share of the defense budget drop from 23 percent to 9 percent. In addition, the modernization objectives mentioned in the two state programs (1996–2005 and 2001–10) were never achieved. The Maritime Doctrine of the Russian Federation for the Year 2020 ambitiously plans to transform the Navy into the second-most powerful in the world, after the U.S. Navy, in twenty to thirty years' time. In thus doing, it puts great emphasis on issues such as the Arctic, territorial disputes, and undersea resources, and leaves aside the traditional security risks (a military attack from another state).⁴³⁰ The third State Program for the Armed Forces (2007–15) thus provided a financial and symbolic reassessment of the Navy. For the first time in several decades, it has been placed on an equal footing with the other branches of the Armed Forces. The Russian government has allocated \$132 billion for shipbuilding through 2020, or about one-quarter of the total military budget is allocated to building new ships.⁴³¹ Although considerable, this amount is largely insufficient to modernize the entire fleet, and Moscow has had to learn to hierarchize its choices. It has given priority to ballistic missile submarines (SSBNs) and attack submarines, whereas surface combatants will only get a reduced share of the pie. No carrier, cruiser, or destroyer is currently being built, confirming that Russia does not envisage large-scale conflict with any of the world's major powers.⁴³²

The Northern Fleet has close to eighty operational ships of different categories, while around thirty are being repaired or are on stand-by.⁴³³ The fleet's nuclear-powered submarines are divided into eleven

ballistic missile submarines (SSBNs), four cruise missile submarines (SSGNs), and about twenty multi-purpose attack submarines (SSNs). It also manages six missile cruisers, which Russia sees as key elements in the restoration of the strategic bastion concept in the Arctic. The Northern Fleet has two flagships at its disposal, the largest nuclear icebreaker in the world, *Fifty Years of Victory*, and the main nuclear-powered guided-missile cruiser, *Peter the Great*. After the latter's successful trip around the world in 2007, the Ministry of Defense announced that it would upgrade three other heavy nuclear-powered missile cruisers, the *Admiral Lazarev*, the *Admiral Nakhimov*, and the *Admiral Ushakov*, which are or will be undergoing modernization in terms of equipment and armaments.⁴³⁴ Currently, the *Admiral Kuznetsov* and the *Admiral Nakhimov* operate with the Northern Fleet, each of which hosts twenty planes on board and ten anti-submarine helicopters.⁴³⁵ The destroyer *Vice-Admiral Kulakov*, recently repaired, was integrated into the Northern Fleet in 2011.⁴³⁶ Naval aviation includes 200 combat planes and fifty helicopters.

As with the other fleets, the Northern Fleet is severely lacking in coastal ships and frigates able to conduct rapid intervention operations. Several are currently under construction, but the fleet's protection capabilities will be reduced during the waiting time.⁴³⁷ The purchase of two Mistral-class frigates from France and the project, routinely delayed, to build eight *Admiral Gorshkov*-class and six Krivak-class frigates, will not be enough to renew Russia's ocean-going surface ships. In the decades to come, the Northern Fleet is bound to abandon single-function vessels in favor of more mobile and multi-purpose ones as well as coastal vessels, especially corvettes, which guarantee the safety of the Russian coast.⁴³⁸

The future of the Northern Fleet is closely linked to the question of nuclear deterrence.⁴³⁹ The older sea-based nuclear deterrent is in the process of being modernized. As of 2012, the Russian Navy had six operational Delta III and six Delta IV strategic submarines that form the sea-based arm of its strategic nuclear deterrent. There are no plans to renovate the older Delta III class submarines, which were built during the 1980s, and they will be decommissioned in the years to come. Only the Delta IV submarines are presently being modernized. They will be equipped with a new sonar system and the new intercontinental ballistic missile (ICBM) Sineva, a third-generation liquid-propelled ICBM that entered service in 2007.⁴⁴⁰ In 2010, the Northern Fleet acquired the *Karelia*, which has been modernized to augment its tactical and technical capabilities and equipped with the Sineva ICBM.⁴⁴¹ On October 11, 2008, during Northern Fleet military exercises, a Sineva rocket was fired from the nuclear submarine *Tula* that achieved its longest distance yet: more than 11,500 kilometers.⁴⁴² Russia is planning to equip its Delta IV class submarines with at least 100 Sineva missiles, able to carry either four or ten nuclear warheads. This system, which is to stay on alert status until 2030, enables missiles to be launched from under the ice while remaining invisible to hostile observation satellites until the last moment.⁴⁴³

Some typhoon-class strategic submarines—the world's largest, built in the 1980s—will also be rearmed to carry long-range cruise missiles. For the moment, only one, the *Dmitri Donskoy*, has been modernized and placed with the Northern Fleet. It serves to conduct test firing for the Bulava system, a new generation solid-fuel SLBM, designed to avoid possible future U.S. ballistic missile defense (BMD) weapons, and which can cover a distance of more than 8,000 kilometers. In the future, the typhoons will be replaced with the new Borey-class fourth generation nuclear-powered strategic submarines. As the first strategic submarine to be built in Russia since the collapse of the Soviet Union, the first Borey-class submarine, the *Yuri Dolgoruky*, has been in operation since the end of 2012, while two others, the *Alexander Nevsky* and the *Vladimir Monomakh*, are at pier at the Severodvinsk shipyard.⁴⁴⁴ They will be based at Gadzhievo, about 100 kilometers from the Norwegian border, where new infrastructure is being built to host them. This new generation of submarines is almost undetectable at deep ocean depths and can be used for multi-purpose attacks. Thanks to its weaponry, including several types of

cruise missiles and torpedoes, it will be able to carry out diverse missions, chase enemy aircraft carriers, and deliver massive missile strikes on coastal targets.⁴⁴⁵ In total, the building of eight fourth-generation Borey-class submarines (half for the Northern Fleet, half for the Pacific one) is set for completion by 2020, which once again seems overly ambitious.

Along with Topol-M land-based ballistic missiles, the new Bulava system is planned to become the core of Russia's nuclear triad and will be the only Russian sea-based ICBM after 2020–25. However, the Russian Army has had to face unforeseen technological difficulties. In 2006–9, a long string of unsuccessful test launches (six out of eleven have failed) seemed to call into question the future of Bulava. However, since 2010 a new wave of launches has been more successful.⁴⁴⁶ The multiyear program of tests has been completed in 2011⁴⁴⁷ and the system will be put into operational service in 2013. Key element of the Russian defense system for the decades to come, the costs for developing the Bulava and the Borey submarines, and their potential mismatch, has eaten up a large part of the military budget.⁴⁴⁸ By focusing on nuclear armaments and parity with the United States, the Russian Army has avoided getting involved in any real doctrinal or strategic reform. Moscow's grand plans for the Arctic should therefore be analyzed in the context of the modernization troubles experienced by the armed forces.

Russia's renewed military activism in the Arctic

In the 1990s, Russia almost disappeared from the Arctic naval theater: the Russian authorities were focused on the Chechen question and the army was in any case hardly in a position to conduct operations in a region which had so suddenly disappeared from the strategic agenda. The situation changed in the first decade of the twenty-first century with Russia's reassertion on the international arena and Vladimir Putin's will to revalorize the classic symbols of military power. In the second half of the decade, growing media interest in the Arctic pushed the Russian army to recommit to the region. Apart from the nuclear deterrence strategy, the fear of being denied access to the open sea while Russia harbors ambitions to recreate a "blue-water" navy remain important drivers of Moscow's activism in the Arctic Ocean. The Russian fleet cannot enter the Atlantic except by passing through Arctic choke points—between Svalbard Island, Bear Island, and mainland Norway, between Greenland, Iceland, and Norway, or between Greenland, Iceland, and the United Kingdom.⁴⁴⁹ In 2008 and 2009, Russia revived erstwhile Soviet traditions by organizing several long-range patrols—the longest since the fall of the Soviet Union—in different parts of the world. This was epitomized by the patrols undertaken by the nuclear-powered guided-missile cruiser *Peter the Great* through the Mediterranean and Caribbean Seas, and the South Atlantic and Indian Oceans.⁴⁵⁰

In 2008, Russia confirmed that it was expanding its current level of operations in the Arctic. The Navy resumed its warship presence in the Arctic Ocean with military ships patrolling near Norwegian and Danish defense zones. It also increased the operational radius of the Northern Fleet's submarines, and under-ice training for submariners has become a priority task.⁴⁵¹ Moscow also pays particular attention to the situation in the Svalbard archipelago, which it interprets as indicative of tensions with NATO member states. Indeed, Norway and Russia have divergent understandings of the post-Cold war situation. Oslo wants to normalize the Finnmark province, which was previously heavily militarized when it was a border region with the Soviet Union. It thus opened it up to public and collective military

activities in the North Atlantic framework, but this evolution reinforced Russian concerns about the militarization of the zone. According to the Svalbard Treaty, Norway cannot establish military bases on the archipelago for warlike purposes. However, Oslo considers that neither the Globus II radar in Vardø, on the Norwegian mainland, nor the space-related activities on the archipelago (the European Incoherent Scatter Scientific Association's radar, the Svalbard Satellite station, and the Ny-Ålesund rocket range) can be considered military, while Moscow interprets them as part of (para)military activities. As analyzed by Kristian Åtland and Torbjørn Pedersen, Norway's decisions have accentuated Russian interpretations of a possible threat—fear of a Western conspiracy often continues to prevail in Russian readings of the Svalbard issue.⁴⁵² As far as the Russian Navy is concerned, it is focused on increasing the protection of the Russian mining settlement at Barentsburg and on providing more effective protection for Russian fishermen. Director of National Fisheries (*Goskomrybolovstvo*) Andrei Krainin for instance has asked the armed forces to give “psychological support” to the Russian trawlers navigating close to Norwegian waters.⁴⁵³

Naval activism in the Arctic is accompanied by increasing activities in aviation. The air force is perceived by Moscow as a central element in its demonstration of power and its international legitimacy. The Russian aviation industry still comprises niches of excellence such as the strategic fleet and nuclear air power, tactical and strategic transport, ground-to-ground and ground-to-air missiles; but the remainder of the stock is ageing and obsolete, and very precise missile guidance weaponry is largely absent.⁴⁵⁴ Overflights of Russian military aircraft over the Arctic fell from 500 per year during the Soviet period, to only half a dozen in the 1990s and at the start of the 2000s. In 2007, Russian strategic bombers flew over the Arctic for the first time since the end of the Cold War.⁴⁵⁵ Two Tu-95MS, based in Saratov at the Engels aviation base with mid-flight refueling capability, now regularly patrol the Arctic.⁴⁵⁶ Old turboprop Tu-95MSs are the mainstays of Russian Arctic aviation, but the air force also has sixteen modern, long-range Tu-160 *Blackjacks* bombers at its disposal. The shortage of mid-air refueling tankers remains the most serious problem affecting the operational capabilities of Russian strategic aviation.⁴⁵⁷ Several Arctic air bases have been reactivated, such as at Anadyr, Monchegorsk, Olenka, Tiksi, and Vorkuta, albeit with only limited capacities. For the first time in twenty years, the air force also organized supply missions for the Russian polar base Barneo, sponsored by the Russian Geographical Society.

As during the Soviet era, Arctic missions flew via Scandinavia and toward the United Kingdom and Iceland, and on to the North Atlantic, or via the Arctic toward Alaska and Canada.⁴⁵⁸ The British Royal Air Force conducted 21 intercepts of Russian bombers between July 2007 and April 2008.⁴⁵⁹ In 2007, there were eighteen interceptions of Russian bombers in the proximity of American or Canadian airspace, twelve in 2008, and seventeen in 2009, as compared with eleven for the entire period between 1999 and 2006.⁴⁶⁰ These over-flights drew criticism from Canada, which has accused Russia of coming too close to its territory. They are also closely monitored by Oslo. In 2010 alone, Russian strategic bombers managed ten missions in the vicinity of Norwegian airspace, compared with a total of twelve such missions in 2008 and 2009.⁴⁶¹ This year, a pair of Tu-160 bombers covered a distance of 18,000 kilometers along a route that stretched from the Arctic to the Bering Strait, the Alaskan coast, the Japanese Islands, Russia's southern borders, and Engels. In 2012, Norway identified a total of 71 Russian airplanes.⁴⁶² For the adjacent countries, the main risk of Russia's new air activism is not so much military conflict—these long-range flights are not belligerent in purpose and are exclusively reconnaissance missions—as one of technical failure (the possible crash of one of its planes, and absence of rescue system), or errors of interpretation, possibly leading to a defensive reaction.

In the framework of the army's reorganization, a new Arctic Center for Material and Technical Support (Tsentr MTO SF) was created in 2012, which, tasked with giving logistical and administrative support to all the Northern Fleet's naval bases, garrisons, and technical facilities, employs a staff of more than 15,000.⁴⁶³ To the Northern Fleet several other military infrastructures can be added. The Arkhangelsk region brings together the firing range of Novaya Zemlya, where Russian nuclear weapons are tested, and the cosmodrome of Plesetsk, from where Soyuz, Cosmos-3M, and Tsyklon rockets are launched. The strategic missile forces are distributed between the Nenets autonomous district (Ural federal district), Taimyr (Krasnoyarsk region), and several points in the Yakutia-Sakha Republic and Chukotka (Far East federal district).⁴⁶⁴ Alexandra Land, in the Franz Joseph archipelago, is home to Nagurskaya, Russia's northernmost military base. Two motorized brigades are also based in Murmansk.

In 2008 Lieutenant General Vladimir Shamanov, then director of the Central Direction of Military Training and Troop Services (GUBD) at the Ministry of Defense, announced plans to establish two so-called Arctic brigades, or special forces unit (*spetsnaz*).⁴⁶⁵ As Shamanov is known for his provocative declarations, these statements are difficult to interpret because they took place within a framework of ideological escalation. The Russian Army's usual difficulties of putting into practice these calls for change suggest that the birth of Arctic brigades will probably be a long and chaotic administrative process. However, the direction has been set and these embryonic Arctic brigades are in the process of being realized. A specific Arctic border guards section was created as early in 1994, the aim of which was to monitor the circulation of ships and poaching at sea, prior to being reorganized in 2004–5. In 2009, it was announced that new Arctic formations had been established in border guard units in Arkhangelsk and Murmansk and were patrolling along the Northern Sea Route—for the first time since the beginning of the 1990s.⁴⁶⁶ The 200th independent motorized infantry brigade, with soldiers trained in a special program and equipped with modern personal equipment for military operations in Arctic, will be based at Pechenga close to the Norwegian border town of Kirkenes and be operational by 2016.⁴⁶⁷

The missions of the Northern Fleet are bound to change considerably. They will be directly linked with protecting the growing economic interests of the Russian state in the Arctic. Strengthened cooperation with energy firms has enabled the fleet to garner material advantages. For example, it currently benefits from cheaply priced fuel, offered to it by extraction companies, and some of its port infrastructure is renovated at the latter's expense. The energy companies, for their part, obtain the support of the Northern Fleet in implementing anti-terrorism protection systems, attaining authorization to extract or to move around in the seas, and accessing existing port infrastructure, fuel storage sites, and the large naval construction sites in the country's north. Gazprom, Lukoil, and Norilsk Nickel have to contend not only with the lack of ice-free civil ports, but also with the absence of ports in deep water able to host 300,000 ton tankers. They would also like to take advantage of the military ships used for hydrographic and hydro-meteorological research, and coordinate a sea rescue system of considerable logistical complexity.

Many examples attest to this civil-military rapprochement of interests. In 2005, the Russian Navy and Gazprom signed an agreement on the latter's use of auxiliary ships, ports, and naval military sites, including setting up a security and rescue system and maritime routes navigable by tankers, as well as establishing cooperation in terms of Liquefied Natural Gas (LNG).⁴⁶⁸ This enabled Gazprom to construct an LNG processing plant for the Shtokman field in the closed town of Vidyaevo, and a submarine base and garrison on the northern shore of the Kola Peninsula. Further, in 2006, the Ministry of Defense agreed to provide Russian industry with previously classified geological and topological maps. Since the 1990s, the army has allowed Lukoil Arctic Tankers to use a military fuel storage facility at Mokhnatkina Pakhta, near Murmansk; but it has denied the oil company the right to build a refinery, judging its

location to be too close to military installations. One can therefore note how, despite the projection of power, Russian objectives are much more pragmatic. The importance accorded to the energy sector means that the dictates of the market and profitability tend to take priority over security decisions.⁴⁶⁹

The increasing exploitation of Arctic resources, however, raises tactical and technical problems for which the Northern Fleet will have to find solutions. Being located at Severomorsk does not facilitate its monitoring role for the Northern Sea Route, the starting point of which lies further to the east. The proliferation of platforms at sea, not to mention rigs, pipelines, and terminals on the coastlines, as well as the growth in maritime traffic, also represents a new challenge for the army. Most oil facilities are not mobile, and this will force the Ministry of Defense to put in place instruments to assure their protection in case of inter-state conflict. Even if the Russian military considers these risks minimal, the potential for localized conflict must be taken into account. The securing of the platforms, pipelines, and ships against possible terrorist attacks accentuates the role of the special services in non-traditional threats. It entails that defense be reoriented around mobile units able to react rapidly and equipped with high-technology hardware. The presence of foreign companies in resource extraction also implies that non-Russian interests can be involved, which will alter the strategic givens and the diplomatic leeway available in cases of conflict. In addition, the presence of a large number of tankers traversing sensitive zones may impede the circulation of military ships as well as submarines, which require space to maneuver, and increase the risks of collision. Finally, the sonar emissions given off by the platforms and the oil industry interfere with military radar systems.⁴⁷⁰

The classic army is not the only security-oriented body to become more involved in Arctic matters, as the security services have also. The combat capability required for securing the Arctic border is only briefly mentioned in Russia's policy documents. Here the enemy is not a state as such, but rather it lies in the terrorist threat along the Northern Sea Route, as well as the dangers of smuggling, potential illegal immigration, and even risks for aquatic biological resources. The Arctic Policy also mentions potential small-scale conflicts around energy deposits or transporters, without envisaging the possibility that they could degenerate into a larger inter-state conflict.⁴⁷¹ Such as they are defined, the Arctic dangers therefore concern the Federal Security Services (FSB), its border guards section, and the troops of the Ministry of Emergency Situations, more than they do the Ministry of Defense properly speaking. The division of responsibilities between the Navy and the Coast Guards nonetheless remains unclear. Provisions have therefore been made to strengthen FSB control over the region in order to deal with the new threats that have arisen from the exploitation of the continental shelf and the proliferation of maritime traffic: border control systems, the introduction of special visa regulations to certain regions, and the implementation of technological controls over fluvial zones and sites along the Northern Sea Route.⁴⁷² The Northern Sea Route is currently controlled from the air by FSB aircraft, and on the land and sea by the North-Eastern Border Guard Agency; the Russian border guard service further plans to establish a global monitoring network from Murmansk to Wrangel Island.⁴⁷³

Patterns of cooperation in soft security were boosted by the highly symbolic decision, taken by the Arctic Council in Nuuk in 2011, to create a Maritime and Aeronautical Search and Rescue System (SAR). Mapped out by a task force co-chaired by Russia and the United States, the agreement commits all parties to monitor SAR areas for signals of distress, coordinating the response when the marine distress incident occurs and providing strategically located vessels to support the SAR operations.⁴⁷⁴ Although several SAR exercises have already taken place—between Russia, the United States, and Canada in 1993, under the auspices of the NATO Partnership for Peace in 1996, and in a bilateral manner between Russia and Norway (Barents Exercise), and between Russia and the US (Northern Eagle)—the 2011 document is the first binding agreement released by the Arctic Council. Each country being responsible for a part of

the Arctic proportional to its territory, Russia plays the preeminent role. The lobbying of Russia's Ministry of Emergency Situations and the Coast Guards in its favor was a decisive element of the signing, itself a sign of the positive role that can be played by the evolution toward soft security concerns.

A trend toward a global militarization of the Arctic by the actors involved is not observable: the majority of new structures, whether Russian, Canadian, or Norwegian, aim at patrolling and protecting national territories from non-conventional challenges, not at preparing for any kind of interstate conflict.⁴⁷⁵ However, in spite of the hope that the Arctic will be desecuritized, geopolitical uncertainty and the lack of institutionalized channel of discussion on strategic matters are pushing Moscow to act in a pre-emptive manner. NATO is bound to remain a collective actor in the region, since four of the five coastal states are members of it. Neither overall Russia-NATO global relationship, nor the ups and downs of the NATO-Russia Council, impacts directly on the Arctic security debate, but the region is lacking a collective structure able to serve as a platform for negotiations. Russian military presence in the Arctic has increased since 2008, but this activism has to be compared not to the 1990s, when Russia was absent from the Arctic theater, but to the Soviet period. Retrospectively, the current Russian military presence in the Arctic is still minimal compared to the Soviet decades. Norway itself has stated that Russian activities represent "a return to a more normal level of activity for a major power with legitimate interests in the region."⁴⁷⁶

Moreover, Russia's power projections are far removed from the actual capacity to act. Russian Armed Forces have restored only a small fraction of the capability once possessed by the Soviet Air Force. Behind the nationalist-tinted discourse, which is sometimes fairly aggressive toward the West, Russia's goals are more pragmatic and domestically oriented. They include attempts to reform the army, upgrading the Northern Fleet, increasing civil-military cooperation, and creating mechanisms of cooperation with foreign and private firms. But modernization plans for the Russian Army will be impossible to realize in the indicated timeframe: the Soviet-style functioning of the military sector, as well as the usual administrative delays, corruption schemes, overspendings, technical challenges, and decline in human capacity, will slow down any modernization program. Moreover, in Russia's definition of its strategic interests, "tactics prevail, medium-term thinking is just emerging, and no national interest worth the name has surfaced."⁴⁷⁷ In the decades to come, Moscow will experience a fundamental alteration in its threat perceptions. On the one hand, conventional dangers, in particular in East Asia, will necessitate the maintenance of a traditional army. Further, nuclear deterrence will continue to be perceived as confirming Russia's status in the international arena, and also as a means by which to negotiate the geostrategic balance with NATO and the United States. On the other hand, increasing priority will be accorded to non-traditional threats.

These trends are bound to have an impact on the way in which Moscow formulates its strategic goals in the Arctic and tries to concretize its power in the decades to come. The Arctic theater will be more subject to non-traditional threats than to classic military-centered conflicts. Security will have to be assured at least partly in a collegial manner through international cooperation; it will necessitate cutting-edge technology that Russia can only obtain from abroad, or via the private sector; and the de facto opening of a new border façade will herald a shift in threat perception to the north. Responsibility

for soft security currently falls to the special forces (troops of the FSB, the Interior Ministry, and the Emergency Situations Ministry), but the future will call for changes in the Russian Armed Forces themselves. It implies a transition to a professional army with a rapid reaction capability, one which is trained in cutting-edge technologies, employs technologies from the private sector (telecommunications), or at least dual ones, and engages in cooperation with foreign partners. Projected strategic power in the Arctic is thus part of the more global dilemma that the Russian Army has faced since the fall of the Soviet Union. Its success or its failure will embody the more general fate of the in-depth transformations awaiting the Russian Armed Forces and strategic thinking in the years to come.

CHAPTER 7. RESOURCE NATIONALISM VERSUS COOPERATION PATTERNS

Due to its geographic localization the economic stakes related to the Arctic region are particularly significant for Russia. With the Siberian Arctic shelf stretching to a width of 1,200 kilometers, the country has a continental shelf of 6.2 million square kilometers,⁴⁷⁸ even when discounting claims put before the UN Commission on the Limits of the Continental Shelf. As much as 20 percent of Russia's GDP and 22 percent of total Russian exports are generated north of the Arctic Circle.⁴⁷⁹ In terms of resources, the country produces about 95 percent of its gas, 75 percent of its oil, and large volumes of nickel, tin, platinum, and gold in Arctic regions. To this must be added the wealth—often estimated, rarely proven—of the continental shelf and seabed, and the potential exploitation of the water volume, in particular the fish stocks.

Interpreting the Arctic as a key economic resource is the main driver of Russia's interest in the region, prior to security aims. The "Energy Strategy for Russia up to 2020," ratified in 2003, defines the Barents Sea, Kara Sea, and the Yamal Peninsula as strategic for the country's future. The energy sector, which drives the entire Russian economy, faces severe reductions in production and low rates of regeneration. As a result, it must turn quickly to the Arctic riches, but the changing patterns of the world hydrocarbons market could put Russia's strategy in danger. Russia is also banking on the mineral industries, which had always been a backbone of the Soviet economic structure. After the deep industrial crisis of the 1990s, the mineral sector is now booming thanks to rising global prices for major metals. The current race for rare earth metals should also ensure substantial revenues for the Russian state budget in the decades to come. Finally, with Asian markets in full demand, the importance of the fishing industry cannot be discounted; it also carries symbolic weight for Russia, as the Soviet Union had always thought of itself as a world fishing power.

However, Moscow's plan to transform the Arctic into the "Russian Federation's leading strategic resource base"⁴⁸⁰ by 2020 is still something more akin to a declaration of intent. The transition from idea to reality is always more complex, longer, and more costly than expected, and success will not necessarily be forthcoming. In fact, the authorities are hesitating between playing the card of resource nationalism—a trend that became ever more marked as the 2000s wore on, especially with the rise in the world price of hydrocarbons—and cooperative patterns which would open the region to foreign enterprises and private firms, to make it possible for the Arctic to benefit both from investments and from technologies. Despite a zigzagging policy in this matter, international oil firms are looking to enter the Russian market, as in spite of a volatile business climate, there are resources available and seemingly real possibilities of returns on investments. It is therefore likely that, in the medium-term, patterns of cooperation will win out, but it remains to be seen how they will impact the transformation of the Russian legal and political system.

Beyond the metrics of the "Arctic Bonanza"

In 2000, the U.S. Geological Survey (USGS) estimated that 25 percent of the world's remaining undiscovered oil and gas resources were in the Arctic. These figures have long been debated, for

example by the consulting firm Wood Mackenzie in *The Future of the Arctic: A New Dawn for Exploration*, which gave the more cautious assessment that the Arctic contained 29 percent of the world's undiscovered gas reserves and 10 percent of its oil.⁴⁸¹ More regionally focused analysis enabled the USGS in 2008 to make a more precise estimation. It contended that the Arctic contained only 13 percent of the world's remaining undiscovered oil reserves, but up to 30 percent of its gas reserves. If correct, this would mean that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may yet be found in Arctic, of which approximately 84 percent is located in offshore areas. More than 70 percent of undiscovered natural gas is estimated to lie in three areas in particular: the West Siberian Basin, the East Barents Basin, and Arctic Alaska.⁴⁸²

These statistics are often used to back up geopolitical and commercial hype. Arctic reserves, for example, have been seen as the new Eldorado of the IOCs (international oil companies) in their competition with nationalized oil companies (NOCs), whereas most of the Arctic deposits are under state control.⁴⁸³ Whatever the actual figures, the proportions confirm that Russia will largely dominate the production of Arctic hydrocarbons with between 60 and 70 percent of reserves: the gas reserves are almost all in the Russian part of the Arctic, while oil is better distributed, with numerous reserves in the North American sector.

HERE TABLE 7.1.

These statistics need to be viewed with caution, however. The USGS has been sometimes criticized for overestimating the quantity of reserves. One critique is that the unreliability of information on Arctic hydrocarbons is too often ignored and many experts tend to take US Geological Survey estimates as conclusive, even though they are clearly labeled as unconfirmed.⁴⁸⁴ Very little exploratory drilling has been conducted in the majority of potential Arctic fields (and none in high latitudes), while seismic and acoustic tests and geologic modeling cannot provide a basis for reliable estimates. Hence, *resources* do not necessarily translate into *reserves* for the simple reason that they may not be extractable. Moreover, *estimated* reserves are not necessarily *proven* reserves. Finally, proven reserves may not always be commercially *recoverable*, especially given current changes in the global market. Indeed, the report does not take into account economic considerations linked to the costs of exploration and development.

Furthermore, the USGS report does not include small deposits, or unconventional sources, such as coal bed methane, gas hydrate, oil and gas shale, and tar sands, which are in the process of revolutionizing the world market. Peak Oil theory stated that the annual production of oil and gas is soon set to start decreasing rapidly due to depleting world reserves. But thanks to new discoveries and even more to new technologies, the known number of reserves is continuing to rise, and has even doubled since the 1980s.⁴⁸⁵ New technology is unlocking unconventional oil and gas reserves. The environmental risks caused by horizontal drilling and hydraulic fracturing, which have led many countries, in particular in Europe, to pass moratoriums on shale extraction, could probably be overcome in the near future. This shale revolution partly shifts the geography of production and energy geopolitics.⁴⁸⁶ It is likely to curtail somewhat the general interest aroused by the Arctic reserves, which are relatively very expensive to extract as the costs of remoteness are high. The IEA calculates that the cost of exploiting Arctic

resources is between \$40 and 100 per barrel, while for Middle-Eastern reserves it is between \$10 and 40.⁴⁸⁷ Below \$120 a barrel, the majority of Arctic deposits are not commercially recoverable.

These changes in the global market are likely to have huge collateral implications for Russia. Indeed, the United States will surpass Russia as the world's largest gas producer by 2015, overtake Saudi Arabia and Russia as the world's top oil producer by 2017, and become a net exporter by 2030 according to IEA estimates.⁴⁸⁸ Europe's dependency on Russia's gas should also decline in the years to come. Lastly, China has recoverable resources similar to those of the United States and has a strong interest in developing shale gas transportation in order to avoid American maritime domination over the Pacific. The countries of the Gulf, and in particular Saudi Arabia, should see their margin of maneuver drastically reduced, with the United States' declining interest in Middle-Eastern energy. The prospects for Russia are also bleak, as oil and gas revenues provide an important part of the state budget, from 20 to 40 percent depending on the calculations. The Kremlin has begun by putting forward environmental concerns to decry the shale revolution and by denying the changes underway in Europe, in particular the possibility of Poland's and Ukraine's energy autonomy.⁴⁸⁹ However, since 2012, the Russian government has indicated that the country has to encourage domestic shale oil production. In October, Putin urged the country's gas monopoly Gazprom to revise its export policy, as the "shale revolution" and the development of liquefied natural gas will seriously eat into the country's export revenues.⁴⁹⁰

Russia still considers that its future as an energy power lies in the Arctic. Over 80 percent of its gas and 70 percent of its oil reserves are in the Arctic regions; 30 percent and 12 percent respectively are located on the continental shelf.⁴⁹¹ Two-thirds of these resources are sited in Russia's western Arctic, in the Barents and Kara Seas, and in the Timan-Pechora basin, with about 8.2 billion tons of hydrocarbons. Major possible fields also exist in the Okhotsk Sea, on the Kamchatka Peninsula, and in the Laptev Sea.⁴⁹² Minor oil and gas deposits have been discovered in the onshore territories near the Bering Sea. Finally, the deep-water plateau between the Lomonosov and Mendeleev Ridges, at the core of Russia's territorial claims to the UN Commission on the Limits of the Continental Shelf, may prove to be a promising area in the more distant future. Russia's Ministry of Natural Resources states that the country's Arctic territories contain around 80 billion tons of hydrocarbon deposits or 586 billion barrel oil equivalent (boe). The Ministry for Industry and Energy calculates that Russia could be extracting upwards of 110 million tons of oil and 160 billion cubic meters (bcm) of gas from the Arctic shelf by 2030. An increasing number of dissenting voices can be heard, voices that do not subscribe to the excitement accorded to the supposed "Arctic bonanza."⁴⁹³ The geological data for most offshore Russian reserves are insufficient. Only the western part of the Arctic is well known, and according to Bellona, even there only 9 to 12 percent of the Barents Sea reserves have been explored.⁴⁹⁴ Even the figures advanced by Russian sources are contradictory: the 2007 Arctic scientific expedition put forward figures that are five times smaller than those usually estimated for the Barents and Kara Seas (up to 48.8 billion barrels of oil).⁴⁹⁵

Russia's oil and gas strategies in the Arctic

The Soviet Union was the largest oil producer in the world, with an oil peak at 569 million tons per year, or 11.4 million barrels per day (mbd), in the late Soviet era. Production plunged by nearly 50 percent in the first half of the 1990s. Between 1999 and 2004, output shot back up at a rate of 8.5 percent a year.

Since then growth has slowed to 1.5 percent a year. In the 2000s, Russia was the world's second-largest producer of oil after Saudi Arabia and, in 2009, eclipsed the latter with a production of 9.9 mbd of oil,⁴⁹⁶ even though it has fewer reserves.⁴⁹⁷ In 2012, Russia continued to produce more than 10 mbd, and the authorities seem resolute about maintaining this course of tapping its reserves and developing non-conventional resources, given the dynamism of the main national company, Rosneft.⁴⁹⁸

Most of Russia's oil resources are located in western Siberia (the Samotlor, Priobskoe, Prirazlomnoe, Mamontovskoe, Malobalykskoe, and Surgut fields) in the Khanty-Mansi autonomous district. In coming years, this depleting western Siberian production will be complemented by output from Sakhalin. The latter is expected to become the major driver of growth in Russia's oil production in the near term. In the longer term, untapped oil reserves in Eastern Siberia, the Caspian Sea, Yamal Peninsula and the Timan-Pechora region are expected to play a larger role. However, the future appears to be challenging and, according to IEA, "these new projects may only be able to offset declining output from aging fields and not result in significant output growth."⁴⁹⁹ The *General Outline of Development of the Oil Sector of the Russian Federation until 2020*, discussed at the end of 2010, concludes that the domestic oil sector is at a critical stage. Without timely and fundamental reforms, Russia's oil output will fall far short of what would be needed to meet growth targets—nearly 30 percent by 2020, and over 60 percent by 2030. The key conclusions are that the so-called brownfield renaissance of the first half of the 2000s is over, but that the resource base for further greenfield development is in "critical condition."⁵⁰⁰ From now until 2030, Russian forecasts estimate an increase in production of only 40 million tons, while the International Energy Agency (IEA) predicts a decrease of 40 million tons.⁵⁰¹

The outlook as regards gas is more contrasted. Russia holds the largest natural gas reserves in the world (1,567 tcf or 44 tcm according to British Petroleum).⁵⁰² For a longtime it was the world's largest producer, but the United States has recently caught up to it. Indeed, depending upon the methods of calculation—Russian production numbers includes flared gas, which is not the case with American figures—Russia has now been overtaken by the United States: according to the International Energy Agency (IEA), the former produced 757 bcm against 769 for the latter in 2011.⁵⁰³ Russia is still the world's largest exporter of gas (196 bcm in 2011⁵⁰⁴) but it is again set to be overtaken by the United States in 2015. Its main exports are of dry natural gas, whereas the rising gas powers are increasingly wagering on LNG and shale. Despite lagging behind in new technologies and non-conventional reserves, Russia's ambitions are substantial. With the exploitation of Arctic deposits, the Energy Strategy forecasts attaining 900 bcm of production by 2030. This goal was upwardly adjusted to 1 trillion cubic meters, which constitutes almost a doubling of production compared to 2010, and includes investments of more than US\$400 billion.⁵⁰⁵

However, Russian production is facing multiple challenges and stagnated throughout the 2000s. The state corporation Gazprom, both producer and exporter, sells about than 550 bcm per year, but its own production is in sharp decline, and projected to be only 344 bcm in 2020. Only private companies like Novatek and Lukoil have contributed to increasing volumes in recent years.⁵⁰⁶ In 2009, Russia's production reached the lowest level since 1992, falling by more than 4 tcf or 17 percent year over year. Gazprom's long-term strategy is heavily criticized by the Kremlin itself, which nevertheless substantially profits from the financial revenues it generates. The state-controlled conglomerate has been incapable of investing in research and development, delaying the exploitation of new deposits, unable to take into account the recent evolutions of the world market.⁵⁰⁷ It has relied on the captive markets of Central Asian, which it is on the verge of losing to China, and has increased production alone by buying the shares of its privately-owned competitors, Novatek and Itera.

The largest gas fields were discovered in the 1960s and put into operation in the 1970s in the Yamalo-Nenets autonomous region, the world's largest natural gas producing area, which accounts for approximately 90 percent of Russia's current natural gas production, 45 percent of its total reserves, and 20 percent of the world's gas production. Since this date, the Russian gas industry has centered on the super-giant fields in the Nadym Pur Taz region—the Urengoy, Yamburg, and Medvezhye fields account for over half of Russian gas production. They are linked to European Russia and Europe via about 50,000 kilometers of oil pipelines and 150,000 kilometers of gas pipelines. Since the 1990s, however, these three fields have faced a dramatic reduction in production. With the progressive depletion of its Nadym Pur Taz fields, Russia will see its onshore hydrocarbon interests move further north. The Medvezhye field, operated at mid-latitudes during the Soviet period, has seen its exploitation shift north to the Kara Sea. In the eastern part of the Barents Sea, too, some oil is extracted from the Kolguev Island fields.⁵⁰⁸ The Zapolyarnoe field, situated in the Nadym Pur Taz region, and whose reserves are estimated at 3.5 trillion cubic meters of gas, and some 80 million tons of gas condensate and oil, is probably the last non-Arctic site to be put into operation in this region. At the end of 2012 it produced its first trillion cubic meters of gas. Its entry into full design capacity—130 billion cubic meters per year—making it the most productive field in Russia, was celebrated with great pomp by the Russian authorities at the start of 2013.⁵⁰⁹

In addition to Zapolyarnoe, Gazprom has pinned all of its hopes on the Yamal Peninsula and its adjacent offshore areas, which contain eleven gas and fifteen oil, gas, and condensate fields, with approximately 16 trillion cubic meters (tcm) of explored and preliminary estimated gas reserves and nearly 22 tcm of in-place and forecast gas reserves.⁵¹⁰ The Yamal reserves are therefore comparable to the volume of Gazprom's current gas supplies to the domestic market. It alone could account for as much as 200 bcm of gas production per year by 2020, and 360 bcm per year by 2030.⁵¹¹ In 2008, Gazprom launched the Yamal megaproject, which is supposed to reach its design capacity of 115 bcm annually in 2017 with the Bovanenskoe deposit, which has estimated gas reserves of 5 tcm. The first comprehensive gas treatment unit was commissioned on 2012.⁵¹² The main challenge of this project is the total absence of infrastructure on the peninsula, but the deposits may be linked to the nearby Nadym Pur Taz network. Gazprom plans to build more than 12,000 kilometers of pipelines and 27 compressor stations, as well as the Yamal-Europe gas pipeline, with a capacity of 33 bcm, stretching more than 4,000 kilometers to Germany.⁵¹³ If Arctic shipping develops, delivering LNG by tankers could ease pressure on Russia's ageing overland pipeline system and mitigate the risks of building new pipelines on melting permafrost.⁵¹⁴ The adjacent offshore reserves will become a point of focus once the onshore fields have peaked, possibly in 2030.

Russian reserves are mainly situated on the continental shelf, and only a very small percentage of them are onshore. The main fields that will be operated are therefore located offshore. The first among them is the Prirazlomnoye oil field in the Pechora Sea, the southeastern part of the Barents Sea. Located south of Novaya Zemlya, and about 60 kilometers from the shore of the Varandey terminal, it has oil reserves of 610 million barrels. Production is planned to start in 2013, more than a decade behind schedule, due to major technical problems, regular postponements, and multiple changes related to ownership, and scandals linked to its possibly environmentally insecure drills. Oil will be exported via tanker, with storage and shipment structures in Murmansk and Arkhangelsk, while the shipyard Sevmash will take care of repairs and the testing of equipment.⁵¹⁵ Other licenses were awarded in the Pechora Sea, for example the Medynsko-Varandey section with 163 million tons of recoverable oil reserves, and Kolokolmor and Pomor with 300 million tons.

The development of Prirazlomnoye ought to be followed by that of the Shtokman gas field in the Barents Sea, one of the world's largest natural gas fields, situated about 600 kilometers north of the Kola Peninsula. Its reserves are estimated at 3.8 trillion cubic meters of natural gas and more than 37 million tons of gas condensate, and it has a projected annual production of around 90 bcm of gas. In theory it could meet total European demand for seven years and is scheduled to produce for fifty years. The site has four platforms and about 150 production wells, among them forty completed subsea wells.⁵¹⁶ However, the development of Shtokman is on hold today (see below). It could be followed by the operation of the satellite fields of Ledov, Ludlovsk, Fersmanov, Murmansk, Severo-Kildin, and Demidov. The "Grey Zone" once in dispute between Norway and Russia is also very rich in hydrocarbons, and the bilateral treaty on the delimitation of the Barents Sea, signed in 2010, lifted the moratorium on exploration of the continental shelf that had been in place since the 1980s. It is estimated that about 30 percent of all undiscovered Norwegian resources lie in the Barents Sea,⁵¹⁷ especially in the Fedynsky High, in the southern part of the Barents Sea, which is believed to contain the most promising resources (between 10 and 12 billion tons of oil).⁵¹⁸

Further to the east, Trebs and Titov are among the most promising in the Timan-Pechora province with reserves estimated at 78.9 million tons (578 million barrels) and 63.4 million tons (465 million barrels) of oil, respectively.⁵¹⁹ In the 2020s, the other fields of the Pechora Sea like Dolgin and Medin could come online. The large fields in Ob–Tazov Bay (Sever-Kamennomys, Kamennomyskoe More, Chugoryakhin, and Ob deposits), situated 40 kilometers from the coast, constitute a specific case because of the very shallow water and its complex composition—half salt, half fresh water.⁵²⁰ Some of these fields could be brought into production by the end of the 2010s by Gazflot, the Gazprom subsidiary for offshore extraction. The large fields of the Kara Sea, with potential reserves of 4 tcm—especially the massive Rusanov and Leningrad gas and condensate fields, which may contain more hydrocarbons than the giant Shtokman field—will not commence production before 2030. Other deposits have also been found on the Priyamal shelf: Nyarmey, Skuratov, and Severo-Karasaev.

The reserves of the South Kara Sea, the EPNZ-1, EPNZ-2 and EPNZ-3 fields, are supposed to be as rich as those in the North Sea. Rosneft then chief executive Eduard Khudainatov stated that they contained five billion tons of oil and 3,000 bcm of gas,⁵²¹ but the very low exploration maturity means these figures are incomplete and unconfirmed. The 2000 U.S. World Geological Survey projected that the South Kara Sea had about seventy gas fields with a minimum of 120 billion cubic feet gas (BCFG), and about twenty oil fields with a minimum of 20 million barrels of oil (MMBO).⁵²² The prospects of Arctic shipping will play a central role in the profitability of operating these deposits. In the future, the development of hydrocarbon deposits on the Magadan shelf area and in the western Kamchatka sector of the Pacific Ocean is also envisaged.⁵²³ For the fields in the East Siberia and Laptev Seas, meanwhile, no operating structure has yet been put into place.

The costs and risks of an Arctic-based energy

Without going back over the changes in the world market that make the Arctic reserves less attractive, there are numerous other challenges that will increase the costs of exploiting them and heighten the degree of risk of an Arctic-based energy strategy for Russia.

Exploiting Arctic fields proves to be extremely technically challenging. In 2006, Russia launched a “Strategy for Exploring and Developing the Oil and Gas Potential of the Continental Shelf of the Russian Federation until 2020.”⁵²⁴ By this date, Russia plans to have built sixty new oilrigs and a larger number of submarine installations. A stumbling-block is that for the time being, Russia is still far from possessing the necessary know-how to realize the construction and operation of platforms in high latitudes. Numerous technical issues have therefore delayed current projects for almost a decade. Both the Prirazlomnoye and Shtokman structures necessitate taking into account icebergs and extreme wave heights. Nonetheless the Barents Sea and Pechora Sea remain “civilized” compared to the extreme climates that would face other operations further east. Shtokman requires the construction of ice-capable production platforms in more than 300 meters of water. The site is still beyond the range of helicopters, which poses significant problems for search and rescue systems, and is vulnerable to seasonal pack ice and storms. The Prirazlomnoye platform is located in an area that is ice-free for just 110 days a year, meaning that the stationary platform must be ice-resistant.⁵²⁵

Drilling under extreme conditions requires specific equipment and knowledge. For the Prirazlomnoye field, Sevmorneftegaz is working on a rig that will be capable of operating in temperatures as low as minus 50 degrees and able to withstand the impact of ice packs.⁵²⁶ Despite this achievement, the Russian oil and gas industry still needs to catch up with its Western competitors in terms of technology and expertise, particularly offshore, which is a totally new domain for it. The large international majors are the most advanced: ExxonMobil is building a new Arctic-class drilling rig, as well as ice-capable drill ships; while Shell plans to build LNG plants that can operate in remote and environmentally sensitive areas, such as the Arctic. Norwegian companies are also well specialized in Arctic drilling; Aker Drilling has completed the construction of two semi-submersible drilling rigs capable of ultra-deep water operation in harsh environments.⁵²⁷

Technological evolutions are also rapidly altering the prospects of Arctic oil and gas. In this domain, the expertise is still mostly speculative. It seems, however, that oil fracking technology—which uses pressure to break into oil and natural gas rocks and prop channels for the petroleum products to flow back out—can in part revolutionize the market. Indeed, oil deposits have traditionally been exploited to only 40 percent of their reserves. With this new technology, large quantities of oil suddenly become commercially profitable. If confirmed, this prospect could postpone Arctic development by several decades. Russian firms have made no mistake about it and are today looking to develop oil fracking so that they can continue to exploit the deposits in Western Siberia that are rich in infrastructure and have already proven profitable.⁵²⁸ The cost/benefit analyses will therefore not necessarily weigh in favor of Arctic development.

The question of financing is also a tricky one for Russia. There has long been a lack of investment to upgrade aging delivery systems, in particular pipes, energy-inefficient processing plants, and old methods of extraction. Accordingly, the cost of modernizing its entire Soviet-era energy infrastructure will be huge. The International Energy Agency has calculated that Russia’s energy industry would need to raise an estimated \$900 billion over the next twenty-five years just to *maintain* current oil and gas production levels.⁵²⁹ To this sum, Moscow must add the costs associated with Arctic exploration and exploitation. In 2008, Rosneft president Sergei Bogdanchikov himself calculated that developing Russia’s continental shelf would require about \$2 trillion of investment through 2050.⁵³⁰ Part of these investments needs to be made in the coming decade, but the returns will not be immediate. Whereas

some fields will be operational around 2030, those in high latitudes or very remote regions might not be until 2050–60.

In addition, Russia's strategy assumes that its oil and dry natural gas will continue to be in high demand in the decades to come. In 2011, Russia exported around 7 mbd of oil (including almost 5 mbd of crude). Of this, 80 percent was destined for European markets, particularly Germany and the Netherlands, 12 percent for Asia, and 5 percent for the United States.⁵³¹ However, European demand in the years to come remains unpredictable. To complement the Soviet-era Druzhba network linking Western Siberia to Europe via Ukraine and Belarus, the Russian state monopoly Transneft built the Baltic Pipeline System (BPS), which transports oil from the Timan-Pechora, West Siberia, and Urals-Volga regions to the Gulf of Finland. The two branches of the BPS are also designed to export the growing reserves of Kazakhstan. Production bound for Asia, in particular China, probably offers the sole prospects of guaranteed growth in the years ahead. The new Eastern Siberia-Pacific Ocean (ESPO) oil pipeline, more than 4,800 kilometers long, stretching from the Irkutsk region to the Pacific at Kozmino, is designed to be able to transport as much as 80 million tons per year. New oil loading terminals in the ports of Nakhodka and De-Kastri, as well as coal terminals in the ports of Vanino and Vostochniy, opened in 2009.⁵³² The Taishet-Kazachinskoe-Skovorodino-Kozmino route has been completed by an extension to Daqing, China. The Zapolyarye-Purple Pipeline, whose construction began in March 2012, will be the first section to link the Arctic deposits of the Yamal Peninsula to the Asia market via the ESPO.

In the gas sector, Russia exported more than 7 tcf of natural gas in 2011, two-thirds of which went to Eastern and Western Europe, and one-third to CIS countries.⁵³³ Whereas the United States are no longer a potential destination for Russian exports, export to Europe remains important not only in market terms but also relative to geopolitical weight: Russia is aiming to bypass transit countries (mostly Ukraine) by building new gas pipelines which will reach Europe directly, that is, the North Stream (55 bcm) inaugurated in 2011, the Blue Stream (16 bcm), though it seems to have been a commercial failure, and the South Stream (63 bcm), which is set to be operational by 2015. Here again, energy demand in China and India will mitigate the decline of the European market and turn Russia increasingly toward Asia, even if the energy partnership with Beijing is difficult.⁵³⁴ But this geo-economic change will also come at a high price, as Russia's gas fields and infrastructure are massively oriented toward Europe, and the reorientation toward Asia entails massive investments and thus rising costs. New production from the Yamal Peninsula is therefore crucial to satisfy both domestic requirements and export consumers in coming years, but Gazprom risks being penalized for delaying the necessary investments.⁵³⁵ Despite projected Asian demand, Russia also has to prepare for a contingency involving a reduction in overall world demand for oil and must diversify its portfolio to include more natural gas, LNG, shale, and electricity.

Last but not least, growing operations in fields located in fragile ecological areas, onshore or off, come with environmental concerns. The Arctic Monitoring and Assessment Program, established to implement components of the Arctic Environmental Protection Strategy, studied multiple links between hydrocarbons exploitation and environmental risks, ranging from oil spills to changes in the migration of marine mammals.⁵³⁶ Aging Soviet-era infrastructure also poses increased risks, as the big oil spill of 1994 in the Komi Republic demonstrated. International legislation such as UNCLOS, the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), and the Convention for the Protection of the Marine Environment in the North-East Atlantic (OSPAR), regulates offshore drilling platforms (for instance, they cannot interfere with navigational freedom in recognized sea lanes), obliges companies to partly remove structures once fields are exhausted and minimize the accidental discharge of harmful substances and marine pollution.⁵³⁷ However the risks remain very significant; and

the World Wildlife Fund has called for a moratorium on new offshore oil development in the Arctic until the gap in oil spill response is filled.⁵³⁸

Foreign actors and the Russian state: competition or cooperation?

The potential that lies below the ground has long been an attraction, and will continue to be so despite the decline in interest, for the appetites of the Russian state and private companies, as well as foreign ones. But to make this potential a reality, the Kremlin needs to successfully handle two contradictory logics—one of exclusion and the other of cooperation. It seeks to maintain control over its strategic wealth for purposes of sovereignty but cannot exploit these riches without massive foreign participation.

After the collapse of the Soviet Union in 1991, the Russian government ceased state funding of geological expeditions and domestic exploration has been very limited since. The level of knowledge of new fields is therefore low. In the 2000s, the partly privatized exploration service Arktikshelfneftegaz returned under the control of the federal agency for state property, and the budget allocated to exploration is planned to increase from \$25 million in 2005 to 100 million in 2020.⁵³⁹ In spite of this, very few exploration licenses have been granted. Gazprom obtained one for the Dolgin oil field, in the Pechora Sea; Severneftegaz, which Gazprom, Neft, and Novatek control, has three geological exploration licenses for the Kola coast.⁵⁴⁰ In light of the costs of exploratory drilling in remote regions with practically no infrastructure, Russia is in need of foreign investments; an exploration well in a new region may cost \$10–12 million, as opposed to 3–4 million in a mature region.⁵⁴¹ In 2012, Igor Plesovskikh, head of the Federal Agency for Subsoil Use, admitted that Russia needs to spend a total of \$15 billion a year on geological exploration in order to maintain its production levels, while it is currently only spending one third of the amount.⁵⁴²

Russia's requirements in technology transfers and investments has not prevented the emergence of a strong "resource nationalism." The overall share of output of state companies in Russia rose from 4.8 percent in 2003 to 39.7 percent in 2008, while the share of private companies declined from 72.6 to 43.9 percent.⁵⁴³ This trend is not a specific or unique to Russia as such. National companies currently control about 80 percent of global reserves, a fact which is pushing international companies to compete more for—or be marginalized from—new deposits. The world trend of increased state control over natural resources is becoming ascendant.⁵⁴⁴ Since the beginning of the 2000s, Russia has undergone a process of recentralizing its oil and gas companies. Sibneft and Yukos returned to state ownership amidst well-publicized scandals and the imprisonment of Mikhail Khodorkovsky. What is more, Russia reaffirmed its sovereignty over reserves, using allegations of environmental violations to force BP and Shell to sell 50 percent of its shares plus one to Gazprom on the Sakhalin-2 field, on the continental shelf of the Sea of Okhotsk.⁵⁴⁵

The authorities are nonetheless aware of the need to improve the country's investment climate, which currently penalizes efforts to increase investments in the hydrocarbons sector. In the second half of the 2000s, the Kremlin acknowledged that the Russian fiscal regime was unattractive for foreign investments, and that the exploration phase—a high-risk investment—needed to have more appealing terms. At the end of 2007 it decided to create incentives for foreign companies. Longer exploration license periods (from seven to ten years) were granted, a two-year exemption was placed on the

payment of some customs duties and taxes, and there was a possibility of obtaining combined exploration and production licenses. The exploration phase may indeed prove to be of interest to foreign companies if there is a prospect of obtaining a license in the case of positive results.⁵⁴⁶ The global economic crisis of 2008 could have impede Russia's ambitions of sovereignty and revive the need for foreign collaboration.⁵⁴⁷ This has not actually been the case.

In 2008, new legislation on "Foreign investment in strategic sectors" classified forty industries as strategic to Russia's security.⁵⁴⁸ Ranging from arms, hydrocarbons, and precious metals to agriculture, fishing, and seafood, it requires foreign companies to gain explicit permission from governmental authorities in order to invest in more than a certain level of shares. In the energy sector, resources classified "of federal significance" (oil reserves of more than 70 million tons and gas deposits of more than 50 bcm) cannot have foreign holdings of more than 50 percent.⁵⁴⁹ While foreign firms will be able to enter into partnerships with foreign companies, the latter will have their holdings in an operating company, not the deposit itself. Russia has therefore separated access from ownership through a so-called special purpose vehicle, which makes it easier for the government to dispossess foreign firms and conduct retroactive operations.⁵⁵⁰ Foreign companies, meanwhile, continue to calculate the assets acquired in Russia as their deposits, although legally they do not own them. This measure also makes the position of Russian private companies, such as Lukoil, TNK-BP, Surgutneftegas, and Novatek, more difficult, as they do not wish to finance geological studies and drilling appraisal wells without first obtaining state guarantees of an exploration license. They are therefore pushed to specialize in new technologies like LNG instead of engaging in the raw exploitation of deposits. In April 2012, however, a Russian government decree outlined a fiscal reform package providing incentives for the development of Russian offshore fields, including through geological survey.

The State Programme for the Development of the Continental Shelf in the period up to 2030 states that the exploitation of the Arctic continental shelf is reserved for state companies, namely Rosneft and Gazprom, which are allowed to bid for 80 percent of it. The remaining 20 percent have been made available to firms which have at least 50 percent of state-controlled shares and have done five years of work on the Arctic, which none have.⁵⁵¹ Several debates around the giving of priority to state-run corporations have divided political circles. The Minister of Natural Resources, Yuri Trutnev, has for example acknowledged on several occasions that the preference given to national oil companies (NOCs) over international oil companies (IOCs) has not born any fruit, but on the contrary has impeded the development of the Arctic shelf.⁵⁵² Despite these drastic conditions, the main majors of the international "Arctic race" and Russian private firms have sought to establish themselves on this market. In 2012, Lukoil, for instance, announced it was ready to invest \$2.7 billion in geological exploration on the continental shelf, especially in remote areas such as the Laptev Sea, East Siberia, and the Chukotka Sea.⁵⁵³

Among foreign companies, Statoil and Norsk Hydro, which merged into Statoil in 2007, have particular knowledge of deep-water oil drilling in Arctic regions due to their experiences with the Snøhvit and Ormen Lange fields. ExxonMobil is also an experienced operator in Alaska and Northern Canada, while Shell is a major player in the Athabasca oil sands project in northern Alberta.⁵⁵⁴ As for BP, it is a prominent player in Alaska and has concluded multiple agreements with Rosneft.⁵⁵⁵ The main Russian fields have therefore been shared among the abovementioned players. Only Prirazlomnoye, Russia's first offshore oil field in the Arctic, and the property of Gazprom Neft Shelf, has no foreign participation. Western companies have declined to participate in the project, finding it too risky or commercially unattractive. Gazprom is also the only owner of the site for the Yamal megaproject, but it is increasingly cooperating with Novatek, Russia's largest private gas producer, which holds 51 percent of the Yamal

LNG plant. In 2011, Novatek signed a partnership agreement with Total, Europe's third-largest oil company, according to which Total will buy 12 percent of Novatek. This means that it will control 20 percent of the Yamal LNG project, or about one billion barrels of proven and probable reserves. The LNG will be produced in 2016 and transported by tanker.⁵⁵⁶

Two other major sites under development—Shtokman, and South Kara Sea—both had or have foreign participation, although this had its ups and its downs. In 2007, Statoil and Total signed an operation agreement with Gazprom and its wholly owned subsidiary Sevmorneftegaz, Shtokman's owner. Total and Statoil controlled 25 percent and 24 percent, respectively, of the Shtokman Development AG company. The majority of natural gas produced is planned to be sold to Europe. A portion will flow via the Nord Stream pipeline to the Murmansk region, and further via the Kola Peninsula to Volkhov in the Leningrad region, while the other part will be liquefied in an LNG plant to be constructed at Teriberka on the Kola Peninsula.⁵⁵⁷ Although Shtokman is a major element in the Russian-Norwegian partnership, changes in the world market and domestic difficulties have jeopardized this alliance. In August 2012 Statoil gave up its 24 percent share in Shtokman and will not be able to hope for any return on the \$1.5 billion it has invested.⁵⁵⁸ The Norwegian firm objects to the lack of tax exemptions which would have been necessary to render the project economically viable and was unconvinced by the development models proposed by Gazprom. Moreover, new deposits discovered in the Norwegian part of the North Sea have made the partnership with Gazprom less attractive. Statoil nonetheless remains a key actor in the Barents Sea after having signed a deal with Rosneft to exploit the Perseevsky field. For its part, Gazprom has delayed the opening of Shtokman, posing complications for Total, and will have to find new partners ready to invest in a project costing astronomical amounts, an estimated sum of \$30 billion.

BP has also experienced complications operating in Russia, though has continued to strengthen its position on this market. In 2011, it signed with Rosneft a new Arctic Cooperation Agreement on the exploitation of the South Kara Sea, as part of a wider Arctic Protocol between the two companies for deposit exploration in the East Siberia and Chukotka fields.⁵⁵⁹ However, the agreement quickly broke down as a result of a legal dispute over BPs ability to do business in Russia other than via the joint-venture TNK-BP, in part controlled by the AAR consortium ((Alfa, Access, and Renova, controlled by Mikhail Fridman, Viktor Vekselberg, and Leonid Blavatnik), which exploits deposits in West Siberia, the Volga-Urals, and East Siberia. Subsequent to this dispute, BP divested itself of 50 percent of the shares it owned in the profitable TNK-BP for about \$27 billion. What is presented as the "the deal of the century" with Rosneft, signed at the end of 2012, turns Rosneft into the world's largest publicly traded oil producer, and gives BP a stake of over 10 percent in the new supermajor. This unprecedented agreement has turned the British giant into the biggest single shareholder in Rosneft after the government, and ties it closely to Russian political circles via the person of Igor Sechin, the head of Rosneft.⁵⁶⁰ This deal permits BP to exit the Deepwater Horizon disaster and invest massively in Russia, possibly by reviving the Arctic agreement. For its part, Exxon has entered into an historical partnership with Rosneft for the joint exploration of the Kara Sea fields (and some in the Black Sea), in exchange for the Russian firm's being able to access some North American deposits.⁵⁶¹ More modestly, the Indian state-owned ONGC, which controls about 20 percent of the shares in Sakhalin-1, has been in negotiation with Bashneft to participate in the operation of the Trebs and Titov fields. Finally in 2011, Wintershall will be able to access some of the Urengoy fields, in exchange for which Gazprom will participate in North Sea projects with its German counterpart.⁵⁶²

Balance must also be struck between Russian companies. The failed merger between the two major companies, Gazprom and Rosneft, in 2005 created tensions within the ruling elite which have vested personal interests in both. As a result, the two companies have had to learn to share the market.

However, Rosneft's dynamism stands in great contrast to Gazprom's increasing weakness, and this unstable balance is obvious in their Arctic engagements. Their official domains of competence, Gazprom for gas and Rosneft for oil, tend to overlap increasingly in the case of offshore fields. Rosneft for instance extracts the gas from Sakhalin, while Gazprom has a monopoly on its export. Geographical distributions—Gazprom in the Barents Sea and Rosneft in the Far East—are also becoming less relevant. Both have deposits to exploit in the Kara Sea and seek new ones in the Okhotsk Sea. In the Barents Sea, Rosneft is currently upgrading the oil terminal in Arkhangelsk.⁵⁶³ Their relationship is an important element of the internal balance in Russia, with direct implications on the political consensus among elites. As for Lukoil, TNK-BP, Novatek, Gunvor, and Surgutneftegas, which all play a significant role in the distribution of dividends from oil and gas among elites, they are becoming increasingly aggressive in the conquest of new markets through more innovative policies and greater openness to international cooperation.

The Arctic as a mineral Eldorado?

The subsoil and continental shelf of Arctic regions are also rich in non-ferrous and precious minerals, including zinc, copper, tin, nickel, diamonds, gold, and silver, among others. As with hydrocarbons, estimates are difficult to extrapolate into confirmed figures, but some contend that 90 percent of the world's reserves of nickel and cobalt, 60 percent of copper, and 96 percent of platinum, are located in the Arctic—mainly in Russia and Northern Canada, but also partly in Alaska.⁵⁶⁴

Russia has a tally of more than 25 mines operating in Arctic regions. Two regions are particularly well-endowed with mineral resources: Sakha-Yakutia and the Kola Peninsula. Sakha-Yakutia is already well known for its diamond mines: 90 percent of all Russian diamonds and 24 percent of Russia's gold is mined in Yakutia. A new deposit was discovered in 2012, with estimated reserves of \$3.5 billion. The state company Alrosa, which will probably be privatized in the years ahead, is the largest diamond producer in the world, and Russia ranks second in sales after South Africa. The Kola Peninsula, as for it, is particularly endowed with minerals because of geological particularities dating from the second ice age. There are large quantities of metals, from apatites to aluminum, while its subsurface has titanium, rare metals, ceramic raw materials, mica, and precious stones. The northern part of the peninsula has huge deposits of nickel and also contains large reserves of precious stones like amazonite and amethyst.⁵⁶⁵ Gold and silver can be found near the Taimyr Peninsula and in the northern part of Yakutia; apatites in the Kola Peninsula, Taimyr Peninsula, Yakutia, and Chukotka; nickel and copper around Norilsk and the Kola Peninsula; tungsten in northern Yakutia and Chukotka; manganese in Novaya Zemlya; and tin, chromium, and titanium in Yakutia. Meanwhile, coal deposits in the Arctic are not likely to be exploited as coal is among the most widely distributed minerals in the world, and one of the cheapest.⁵⁶⁶

This subsoil wealth has a huge potential value, but figures are difficult to calculate because the price of extraction is partly unknown and, like hydrocarbons, profitability depends on world prices. The Soviet Union first started exploring the Arctic subsoil in the 1930s. From the second half of the decade, Gulag mines in Vorkuta and Norilsk allowed the country to take advantage of the minerals necessary for its massive industrialization. Today, more than 25 mines are still operating in the Russian Arctic.⁵⁶⁷ The main one, the Norilsk-Talnakh, is the largest nickel-copper-palladium deposit in the world. The current reserve known for these mineralized intrusions is in excess of 1.8 billion tons.

Privatized at the beginning of the 1990s, Norilsk Nickel later merged with Severonickel and Pechenganickel from the Kola Peninsula to create one of the world's largest mining consortiums. It is now the world's largest producer of nickel and palladium and a leading producer of platinum and copper. It also produces various by-products, such as cobalt, chromium, rhodium, silver, gold, iridium, ruthenium, selenium, tellurium, and sulfur.⁵⁶⁸ Norilsk Nickel also plays an important role in Russian agriculture: three-quarters of the phosphate fertilizer in the country is manufactured from apatite concentrate located in the Khibiny deposit on the Kola Peninsula. Nepheline is used in the manufacture of soda and potash for the chemical industry. Enormous quantities of soda are required to produce alumina from bauxite and for making glass.⁵⁶⁹ In a few years, Norilsk Nickel has become one of the most important private actors of the Russian Arctic, and one of the most dynamic in terms of shipping. In 2010 it shipped 10,000 metric tons of metal and coals to Asia and plans to double its shipments by 2016.⁵⁷⁰

While in coming decades technically challenging deep seabed mining operations are likely to be considered, a major unknown is the future role Russia will play in the domain of rare earth metals. The 17 metals defined as rare earths are essential to the production of several technological applications such as televisions, mobile phones, and PC monitors, as well as for the manufacturing of green energy products (low energy bulbs, wind turbines, hybrid car production). In addition, they are key components for the defense industry: according to the US Department of Defense, rare earths are used in the production of a number of missiles including the Tomahawk cruise missile, as well as radar surveillance systems, Abrams M1A1 Tanks, F15 Fighter Jets, and night vision material.⁵⁷¹ The rare earths market has literally skyrocketed over recent years, going from US\$500 million in 2003 to 1.5-2 billion in 2010, when world demand was 136,100 tons but global production was only 133,600 tons, with the difference being filled by above ground stocks or inventories.⁵⁷² Global demand is set to grow considerably: it could reach between 185,000 and 210,000 tons in 2015, leading to strong price increases, while they have already risen more than 300% in price between 2008 and the end of 2010.⁵⁷³ According to some sources, prices for rare earths could multiply by two or three over the next twenty years.⁵⁷⁴

China has 36 percent of world reserves of rare metals but almost totally dominates the world market because it was the first to understand their importance in the 1980s, and did not balk at developing exploitation, despite the fact that it is particularly polluting. Representing 95% of world production, China has imposed severe restrictions on rare earths exports over recent years. It authorizes the sale abroad of a mere 25% of its production as compared with 75% only a few years ago.⁵⁷⁵ Beijing has justified this decision by the necessity to apply further legal restrictions to this industry, in particular due to its environmental consequences. Rare earths are thus an international strategic issue. China's decisions have caused the relevant industries in Japan—one of the largest importers in the world—, South Korea, Europe, and the United States to consider alternative products and suppliers. The search for new, economically viable deposits covers the entire globe from Greenland and South Africa to the CIS countries and North America.

With the second largest explored rare earth reserves in the world, maybe the first in terms of potential reserves, Russia could challenge China's monopoly.⁵⁷⁶ Moscow was not planning to develop rare earth mines until 2030, but international pressure, especially from Japanese firms, has become more insistent. Russia has two main deposits. The Lovozersk mine, in the northern Murmansk region, has an estimated 80 million tons of ore reserves that can be surface-mined. It could produce a wide range of rare earths, especially the very uncommon eudyalite; for now, however, it is focused on magnesium production. The Tomtor deposit in Yakutia has an exceptional level of rare earth content in its ore of 12 percent. Its proven reserves amount to 150 million tons and the possible reserves come close to exceeding the rest

of the world's reserves combined. The apatite ore of the Kola Peninsula, today used to produce phosphorus fertilizers, could also contain rare earth metals.⁵⁷⁷

Hydrocarbons are therefore far from being the only source of Arctic subsoil wealth. Moscow could generate revenues not only from oil and gas, but also from ores, especially rare earth metals, the future of which may be more stable in terms of price and use than oil.

Hopes for reviving the fishing industry

In addition, the Arctic has a huge marine fauna that could be exploited. Among the world's major traded resources fish is often a forgotten figure in the statistics, while it occupies a growing place in commerce. Between 1976 and 2006, the global trade volume of fish quadrupled, from 7.9 to 31 million tons.⁵⁷⁸ An increasing world population, improving diet, changes in Western eating patterns, emerging middle classes in China, Japanese passion for seafood, and improved freezing techniques—all account for the explosion in demand and have helped to internationalize what was once a regional market. But this success is not without its risks: 75 percent of straddling and high seas fish stocks are overexploited, or even depleted.⁵⁷⁹ Some common species like tuna and cod have now become endangered in many of their habitats.

Fishing is also a crucial geopolitical issue. The prices that Asian gourmets are willing to pay for some rare fish, as with Bering crab in the West, promote illegal, unregulated, and unreported (IUU) fishing, and aggressive behavior between competing fishing vessels. Furthermore, fishing is not only profitable, but an industry that provides jobs. This is essential for countries like Norway or Japan, where the protection of jobs is a crucial component of public policies. Several skirmishes between fishing vessels, albeit appearing largely innocuous, have degenerated into open diplomatic spats, even within the European Union—between France and Spain, for instance—or in nearby countries such as Norway and Iceland. The risks of conflict are even higher in Asia, where Japanese, Chinese, and South Korean ships are willing to take huge risks to bring back large catches.⁵⁸⁰ International governance of the issue is key to avoid the escalation of tensions. International law and the numerous existing fisheries agreements must take both soft and hard security issues into account, combine the interests of coastal states with those of new players in the market, and make decisions using information on fish stocks that is sometimes incomplete or disputed.⁵⁸¹

Climate change also alters the situation and brings with it new uncertainties. Fish stocks can *a priori* adapt to climate change as well as some degree of pollution, but the transformation of marine ecosystems means that they will move further north with warmer waters, into new areas where bilateral regulations no longer apply. In addition, melting ice could open up new areas to unregulated fishing. At present, the Arctic's share in global fisheries has been stable at 4 percent between 1975 and 2006, equaling 3.5 million tons per year.⁵⁸² But these figures may increase. Cod in the Barents Sea and pollock in the Russian Far East represent roughly 25 percent of the global catch of whitefish. Moreover, polar invertebrates represent a valuable resource for the chemical and pharmaceutical sectors, which is growing worldwide, especially in Asia.

Russia is striving to become a fishing power. In addition to its territory containing over two million rivers, the Russian coastline is the world's second longest after Indonesia, and the country's EEZ covers an area

of 7.6 million square kilometers, including access to twelve seas and three oceans. Due to the importance of its exclusive economic zone, the Soviet Union was a major player in the world fishing industry. From the 1950s, the USSR sought to develop industrial fishing to compensate for the insufficiencies of its animal breeding. The catch attained a total of 10.3 million tons in 1975, putting Russian in second place overall behind Japan. In the 1990s, however, the Russian fisheries collapsed; the fleets were divided up and partially privatized. It was not until 2010 that Russian catches matched 1991 levels; with 4.1 million tons of fish caught, Russia today ranks sixth in the world.⁵⁸³ This amounts to only 4–5 percent of the total world catch, but does not include fish caught illegally. The Russian Federal Fisheries Agency (*Rosrybolovstvo*) hopes that the catch will rise to 4.7 million tons in 2014.⁵⁸⁴ Three-quarters of the fish caught are from within the territorial, internal, and EEZ waters of Russia; the EEZs of foreign states account for only 15 percent (and the high seas 10 percent) of reported catches.⁵⁸⁵ In contrast to the Soviet period, where trawlers could be found as far as Africa and Latin America, Russian industrial fishing is today limited to its national waters, as the trawlers are too old and fuel-inefficient to sail the high seas. Pressures on stocks in the Russian EEZ have therefore increased to dangerous levels.⁵⁸⁶

According to existing definitions, the Russian marine zone in the Arctic includes several ecosystems, but overall consists of two eco-regions, the Bering and Barents Seas. The geographical distribution of catches breaks down to about 40 percent in the northeast Atlantic Ocean, mainly in the Barents Sea, and 56 percent in the northwest Pacific Ocean, mostly in the Bering and Okhotsk Seas. The most important unloading ports in the Pacific are Vladivostok and Nakhodka, followed by Nevelsk, Korsakov, Magadan, and Petropavlovsk-Kamchatskii; in the Atlantic region they include Murmansk, Arkhangelsk, and Belomorsk.⁵⁸⁷

In the Barents Sea, Russian fishing is regulated by the Russian-Norwegian Fisheries Commission, created to replace the Northeast Atlantic Fisheries Convention, and by the Grey Zone Agreement, which disappeared with the 2010 bilateral treaty. Russian-Norwegian cooperation is considered to be successful in terms of the reasonable management of Atlantic cod stocks and Norwegian spring-spawning herring. Quotas are evenly split between the two countries and both exchange extensive scientific information, make their stocks public, and even grant access to Barents Sea fisheries to some non-coastal states.⁵⁸⁸ Moscow and Oslo also adhere to annual quotas as recommended by the International Council for the Exploration of the Sea.⁵⁸⁹ On account of the above, the cod stocks of the two countries are considered among the healthiest on the planet; although illegal fishing is also practiced, especially on the Russian side.⁵⁹⁰

Cooperation has also been successful in resolving the once frequent tensions between the two countries. In 1998, 2001, 2005, and 2007, the Norwegian Coast Guard seized Russian trawlers fishing illegally in the Fisheries Protection Zone off the Svalbard archipelago. All of these incidents were resolved peaceably, although in 2001, Moscow responded to the seizure in contested waters of the trawler *Chernigov* by deploying the *Severomorsk* warship. In 2005, the Russian trawler *Elektron* refused to be subjected to arrest when caught by the Norwegian coast guard and “kidnapped” the coast guards by forcing them into Russian waters.⁵⁹¹

These localized tensions have never degenerated into conflict. Some problems remain unresolved, however, as evidenced by protests against the territorial treaty that Moscow and Oslo signed in 2010. The two main Russian fisheries associations, the Association of Seafood Industries, Entrepreneurs, and Exporters and the Council of Fishing Industry Workers, argued that the treaty undermines rights under the Russian-Norwegian Fisheries Commission and forbids them from fishing in waters that were once

common but now belong to Norwegian (the western part of the former Loophole).⁵⁹² But this view is not unanimous: the Russian Federal Fisheries Agency stated, on the contrary, that the bilateral agreement and the continuation of the joint Fisheries Commission bore out support for Russia's fishing interests.⁵⁹³ It is likely that tensions between Russian and Norwegian fishing vessels will not disappear in coming years, but the mechanisms of peaceful resolution are operational and cooperation prevails on both sides.

In the Bering Sea, the tensions are more numerous and could escalate more rapidly, as there are fewer mechanisms of peaceful resolution. Despite the absence of a definitive legal resolution, fishing is not a cause of major tensions between Russia and the United States. The two countries claim ownership of 92 percent of the Bering Sea within their territorial waters and EEZs. The remaining part, the Central Bering Sea, is known as "the Donut Hole," and is considered international waters,⁵⁹⁴ much like the "Peanut Hole" in the Sea of Okhotsk. An agreement signed in 1992 concerning the regulation of fisheries in high seas beyond their respective EEZs enables both countries to take advantage of the sea's fish stocks.

Fishing in the Bering Sea, one of the most dangerous seas in the world because of its unpredictable weather, is extremely profitable. On the U.S. side, commercial fisheries catch approximately one billion dollars' worth of seafood annually, while Russian Bering Sea catches are worth approximately \$600 million each year.⁵⁹⁵ The Bering Sea is also significant in terms of the geopolitics of fishing. Over half of the seafood consumed in the United States comes from the Bering Sea, and American fishermen are sometimes tempted to leave U.S. waters to monitor the crab stocks in Russian waters;⁵⁹⁶ while for Russian fishermen, command over Asian markets is very enticing. A veritable black market of Alaskan pollock and Bering crab, among other species, exists, one which encompasses the Russian Far East, Japan, South Korea, and China. It is estimated that illegal fishing and poaching accounts for over half of the fish caught in the Russian part of the Bering Sea.⁵⁹⁷

From food self-sufficiency to industrial revival and export possibilities, issues related to fishing are of central importance. Similar to other Europeans Russians are consuming more fish, but most of it is imported. Whereas populations on or close to the Pacific Ocean have some access to local catches from Russian trawlers, the European zones of the country mainly eat exported fish products that have been deep-frozen. Revitalizing national fisheries could therefore help to improve food self-sufficiency and slow down imports. The export market to Asia is very promising, since it is growing exponentially and could bring considerable revenues for Russian fishermen. For now, Moscow is selling raw materials to Chinese processing plants, which then sell the finished product in Korea or Japan. The development prospects of domestic agribusiness are therefore important, especially in the Far East. Finally, the fishing industry directly employs over 100,000 people and likely around one million indirectly, a blessing that the Kremlin wants to preserve, especially since fishing lobbies are powerful in the Far East and Kamchatka Peninsula.⁵⁹⁸

In spite of the potential, the Russian fishing fleet is in urgent need of an overhaul. In the 1990s, state investment in the fisheries collapsed, exacting a heavy toll. The size of the Russian fleet plummeted by half: today it includes only 2,500 fishing vessels, fifty floating plants, and nearly four hundred transport ships.⁵⁹⁹ Two-thirds of fishing vessels still in operation no longer conform to safety standards and have exceeded their legal life span. They lack the capacity to fish off the coast in high seas and do not possess modern catching and freezing equipment. The privatized fishing companies, which buy their vessels abroad, do not have the finances to renew their trawler fleets, whereas the state-run fleets are used to getting everything through state subsidies. According to the director of the Russian Federal Fisheries Agency, sixty-two Norwegian vessels are able to take as many fish as four hundred Russian vessels.⁶⁰⁰

For Moscow, the modernization of an aging fleet is no longer on the agenda; the goal is to totally renew the fleet. But here again, the necessary investments have been slow to arrive. The first steps were taken in 2010, when shipyards were officially ordered to build vessels equipped with modern technology, but thus far only a few units have been commissioned.⁶⁰¹

Major legislative activity is also ongoing. The State Committee for Fisheries, allegedly very corrupt, has undergone several administrative restructurings, but with little success. In 2003, the Duma ratified a concept for the development of the fishing industry of the Russian Federation until 2020. In 2004, the fisheries administration was recentralized. In 2007, the State Committee for Fisheries was restored as a specific institution and placed under the control of the government, rather than the Ministry of Agriculture.⁶⁰² In 2008, fish and seafood were placed on the list of “strategic resources.” Laws were also amended in 2010; hitherto, Russian ships were asked to complete customs clearances for fish caught in the Russian EEZ, which had the effect of forcing the trawlers to unload at sea or in ports in Europe.⁶⁰³ The Russian trawlers, however, continue to try to sell their catches abroad, for higher prices. The issue of overfishing in the Russian EEZ also has to be addressed. Beginning in 2011, there has been open discussion of creating a state fishing corporation tasked with centrally managing the overhaul of the fleet and processing plants.⁶⁰⁴ A bill to promote aquaculture is also being studied.⁶⁰⁵ An amnesty on trawlers built or repaired outside of Russia, which hitherto were obliged to pay significant taxes upon entering Russian territorial waters, is to be decided. There is thus much room for improvement in the domestic fishing industry, but this demands clear political and financial choices by the central government.

Russia’s position in regard to Arctic economic opportunities has two faces. Cooperation with foreign countries is in the country’s interest, but the fear of losing sovereignty is often perceived as offsetting any of the advantages accrued. Nevertheless, the prospect of profitability in joint economic pursuits does tip the scale in favor of international cooperation. Russian oil and gas fields cannot be developed by Gazprom and Rosneft alone: technological needs, for instance in LNG, require the participation of foreign players, as seen on the Yamal Peninsula. Russian firms have great expertise when it comes to onshore fields, but not so when it comes to offshore ones, and are therefore obliged to acquire foreign technologies, which is precisely what is happening at Sakhalin, for example. Russian private actors like Novatek are more innovative, accept the need to take risks, and are open to international cooperation. The cooperative pattern also recurs in the other economic sectors. For fisheries, the modernization of the fleet cannot be achieved without the purchase of technology from abroad. Despite regular tensions between trawlers, Moscow develops constructive joint-fishery relations with Norway and the United States. Only the domain of mineral extraction has remained immune from large-scale foreign presence, and remains among the most opaque economic sectors in the country.

Russia’s Arctic prospects are paradoxical. They presuppose a favorable combination of elements over which Moscow does not have leverage—changes on the hydrocarbons world market, unexpected energy competition from new technologies or non-conventional resources, world prices for minerals, laws protecting endangered fish stocks, and the level of demand in Europe and Asia—and domestic capabilities that were largely destroyed or rolled back in the 1990s. For the oil and gas industries as well

as in mineral extraction and fishing, existing infrastructure must be upgraded and new operations developed. Maintaining Soviet infrastructures at the same time as creating new logistics for the twenty-first century dramatically increases the costs. Falling behind rising powers like China and India, and also lagging behind in acquiring new technological knowledge, Russia's great power status could depend on its increased ability to exploit the riches of the Arctic. Widespread among ruling elites, the impression that there is "no other choice" for Russia's future but to pursue such an Arctic policy only renders the stakes more sensitive. Russia hopes nonetheless that new technologies such as oil fracking could change the order. This would in fact make it possible to postpone Arctic investments and to continue to live on the Soviet legacy of infrastructures in the more temperate Western Siberia, and therefore to avoid having to choose between resource nationalism and cooperative patterns.

CHAPTER 8. UNLOCKING THE ARCTIC? SHIPPING ALONG THE NORTHERN SEA ROUTE

The question of sea lines of communication, that is, maritime routes between ports used either for trade, logistics, or military forces, constitutes an important element of state security and of the global geopolitical (im)balance. American supremacy on the seas is considered a central component of U.S. global security. Control of the main straits of Hormuz, Malacca, Gibraltar, and the Bosphorus, of the choke points between the Atlantic, Pacific, and Arctic Oceans, and of the Suez and Panama canals, makes it possible to exert pressure on certain states and to privilege others. Given that three-quarters of world trade is conducted via the sea and in light of new factors of instability, such as piracy, the oceans have once again become important in international affairs after having been somewhat forgotten at the end of the Cold War.

The prospect of three new sea lines of communication in the Arctic thus takes on special significance. The Northwest Passage, which runs from the Bering Strait, past the northern Alaskan and Canadian coasts, to the Atlantic between Labrador and Greenland, connects the Atlantic Ocean with the Pacific Ocean without having to go through the Panama Canal or rounding Cape Horn. The Northeast Passage, meanwhile, skirts the north Russian coast, thus linking the Atlantic and Pacific, and obviating the detour via the Suez Canal or the Cape of Good Hope. A third potential sea line, the so-called Arctic bridge, directly crosses the middle of the Arctic Ocean, connecting Eurasia to North America. Of these three sea lines of communication, only the third, a high-latitude one, presents no legal problems, as it crosses mainly international waters that are not subject to the claims of state sovereignty, but it will probably not open before some decades, if ever. The other two routes, although still little used, are topics of more debate. The melting of the icecap is not proceeding at the same pace on the Canadian side as it is on the Russian side. Russia will therefore be the first country to be affected by the prospect of an ice-free Arctic. Since 2007, its navigation season—that is, not requiring the presence of an icebreaker—has extended to two whole months, at least in theory. In August 2008, both the Northeast and Northwest passages were simultaneously open for the first time in recorded history, and this situation is bound to recur with increasing regularity.

Depending on what methods of calculation are used and evolutions in climate that are still unknown, forecasts fluctuate considerably with regard to the prospects of navigation in Arctic ice-free waters. Some assert that the Arctic Ocean will be ice-free in summer as early as 2015. Accordingly, Arctic routes may be open to four months of navigation without an icebreaker in the foreseeable future. An eventual disappearance of the summer ice could mean that parts of the Arctic will face conditions more similar to those that prevail in the Baltic Sea today.⁶⁰⁶ However, the majority of forecasts are more cautious. The Arctic Monitoring and Assessment Programme (AMAP) foresees for instance a summer shipping season along Russia's coasts that will extend from the current 30 days to an estimated 90 to 100 days by 2080. In any case, it will probably still take around twenty to thirty years until conditions become suitable for regular transits. Large-scale, year-round transit operations will barely be possible until the ice cover disappears for most of the year, and this does not seem realistic until at least forty to sixty years from now.⁶⁰⁷ However, private shipping companies and many states, coastal or otherwise, are following closely the still-potential race for the new Arctic sea lane. For Russia, the stakes are multiplied, as the Northeast Passage is not only a communication line open to foreign trade but a strategic domestic issue, a key component of the country's regional development.

Sovereignty issues in the Russian straits

The legal status of the Arctic straits is based on multiple texts that are subject to diverse interpretations. It depends on the classification of the waters (internal, territorial, adjacent waters, exclusive economic zone, and the open sea), the status of the archipelagos crossed, the access points to other seas, the question of whether, historically, these waters were internal ones or were used for international navigation, and so on. In addition to the International Maritime Organization's legislation, the 1982 Law of the Sea Convention states that the regulations for straits used for international navigation are subordinate to those of ice-covered areas.⁶⁰⁸ Coastal states can thus impose limitations when the ice increases the risks of accident or of pollution. Both Canada and Russia view these straits as having historically belonged to them, and oppose international opinion, in particular that of the United States, which argues that they are international waters. Whatever the legal status, the passages are open to foreign commercial traffic, but state prerogatives are more significant if they are recognized as national straits. The state has the right to apply "special conditions" in accordance with the extent of ice coverage and particularly in cases of severe weather conditions. Ships must give advanced notification, apply for guidance, and comply with national laws. In the second case, that of international waters, all ships enjoy the right of transit passage without having to ask for the authorization of any specific body; the littoral states can only enforce fishing and environmental regulations, fiscal and anti-smuggling laws, as well as laws designed to ensure the safety of ships at sea.⁶⁰⁹

The Canadian debate with the United States over the Northwest Passage has shaped Canadian public opinion since the 1960s, but the polemic has intensified recently with increased media focus on the Arctic. U.S. vessels and nuclear submarines are used to traveling unannounced through Canadian Arctic waters, but the trip of U.S. icebreaker *Polar Sea* in 1985 resulted in a diplomatic incident. Ottawa regularly makes unilateral declarations of sovereignty over the Northwest Passage, and the Canadian Parliament passed a bill to this effect in 2006.⁶¹⁰ The issue seems above all a symbolic one: relations between the United States and Canada are good, and both are committed to North American continental security and defense in the NATO framework. Moreover, Canadian military presence in the High Arctic waters is possible only thanks to U.S. icebreakers—the last Canadian icebreaker, the *Labrador*, was decommissioned in 1987, but a new one is under construction. Both countries have signed the 1988 Agreement on Arctic Cooperation, which resolves the practical issues but provides no solutions in regard to questions of sovereignty. The importance of the Northwest Passage for Canadian nationhood, and U.S. arguments asserting the right of free circulation in the world's seas, reduce the possibilities of legal compromise.⁶¹¹

Russia also has to take into account international protests concerning its definition of the Northeast Passage as an internal water strait. In contrast to the Northwest Passage, this route, called the Northern Sea Route in Russian, has predominantly only been used by Russia, an argument that plays in favor of Moscow's claims. Some parts of the route were mentioned since Ivan the Terrible as internal waters and referred in Russia as "bay waters". However the route was traversed in its entirety for the first time in 1878–79 by the Swede Otto Nordenskjöld, and then again in 1893 by the Norwegian Fridtjof Nansen. At the start of the twentieth century, the use of icebreakers opened up new possibilities, such as the hydrographic expedition of the Glacial Arctic Ocean in 1905. Traffic on the *Sevmorput'* reached its peak in the Soviet period with commercial navigation becoming a fairly regular occurrence along it in the second half of the 1930s. This was in large part due to Stalin's voluntarism in developing the High North, particularly through Gulag forced labor. The route was used during the Second World War to reinforce

Soviet convoy escorts to the North Atlantic, and was more extensively developed during the decades of the Cold War with the construction of surveillance stations, missile launching bases, and polar military aerodromes.

The dispute over the legal status of the strait began during the Cold War, in particular in 1965, when the U.S. Coast Guard icebreaker *Northwind* set out to traverse the Vilkitski Strait between the Kara and Laptev seas, and continues to this day. Moscow defines the Northern Sea Route as “a historically existing national unified transport route of the Russian Federation in the Arctic,”⁶¹² and therefore considers it to be under its exclusive jurisdiction. Although Russia’s Arctic coastline stretches more than 14,000 kilometers across the Barents, White, Kara, Laptev, and East Siberian Seas, the *Sevmorput’* is considered to lie between the port of Kara, at the western entry of the Novaya Zemlya straits, and Providentia Bay, at the southern opening of the Bering Strait, which makes a total length of 5,600 kilometers. The Barents Sea is therefore not a constitutive part of the *Sevmorput’* legal regime. This latter includes the passage of nearly 60 straits, the main ones being the Vilkitski, Shokalski, Dmitri Laptev, and Sannikov Straits, running through three archipelagos, Novaya Zemlya, Severnaya Zemlya, and the New Siberian Islands.⁶¹³ The legal definition is thus made more complex as there is not one single shipping channel per se; rather, there are multiple lanes, and the NSR crosses through waters of different status: internal, territorial, and adjacent waters, exclusive economic zone, and the open sea. Indeed the course of the route depends upon whether the ship crosses close to the coastlines or further out, or chooses to bypass Severnaya Zemlya. In 1978, a Soviet cargo ship escorted by an icebreaker passed north of the New Siberian Islands, in High Arctic seas, confirming that the straits can be avoided when suitable ice conditions prevail. As a result of accumulated pack ice in the straits, the Route may also include sea lanes that are situated beyond Russia’s 200-nautical mile EEZ, but which Moscow continues to regard as under its jurisdiction.⁶¹⁴

Moscow is also in disagreement with international opinion on the classification of internal and territorial waters.⁶¹⁵ In 1985, the Soviet Union drew straight baselines along its Arctic coastline, totaling more than 400,⁶¹⁶ the majority being situated within the 12 miles of territorial waters from the archipelagos. Waters enclosed by baselines are conventionally assimilated into internal waters without any right of innocent passage for foreign ships, but the 1958 convention on the territorial sea, to which the Soviet Union is a signatory member, stipulates that the right of innocent passage continues to apply to internal waters that were once territorial waters or part of the high seas.⁶¹⁷ The process of “territorializing” the Soviet Arctic waters also led Moscow to decree the White Sea, the Kara Sea, and part of the Barents Sea, as Soviet internal waters, which it had already done for the Laptev and East Siberian Seas. However, the international community did not validate this decision. No legal text had set a precedent for this definition, and in fact Soviet practice did not enforce sovereignty by requiring ships or planes to request permission to enter this part of the sea or the air space above it.⁶¹⁸

The first offer to open the Northern Sea Route to international shipping was made by Moscow early in 1967 during the *détente* years, without ever becoming a reality. The offer was repeated in 1987 by Mikhail Gorbachev in his Murmansk speech, and the route was formally opened to foreign use in 1991, just a few months before the collapse of the Soviet Union. The norms for using the route were laid down in the Regulations for Navigation on the Seaways of the NSR (1991), the Guide for Navigation through the NSR, and the Regulations for the Design, Equipment, and Supply of Vessels Navigation in the NSR (1995). Today, Russia has every interest in transforming the *Sevmorput’* into a sea line of communication that is open to foreign trade. The maintenance of its own Arctic fleet, in particular of the icebreakers, and of port infrastructure is extremely costly, and additional revenues are therefore welcome. The more international navigation grows, the lower the costs will be for intra-Russian trade.

Despite the debates surrounding the legal status of the waters crossed, Russian territorial waters are subject to the right of innocent passage, and the Law of the Sea Convention requires that treatment of foreign vessels be non-discriminatory. Russia is legally unable to ask for fees to transit through its Arctic waters but may establish regulations governing passage of vessels in ice-covered areas, especially in accordance with environmental protection and safety laws (civil liability regulations for damage arising from vessel-source oil pollution). In 2012, the Duma passed a long-awaited “Law on the Northern Sea Route,” which stipulates conditions of transit and demands new insurance requirements, under which responsibility for possible environmental damage and pollution is ascribed to ship owners, and which set costly tariffs for assistance and logistical information.⁶¹⁹ These binding rules that have been validated by major international insurance companies, but have been refuted by the United States, which deems that acceptance of such would mean recognizing Russia’s sovereignty beyond its territorial waters. These costly services—icebreaker assistance, sailing master services, radio communication and hydrographic information—are provided by the Marine Operation Headquarters and the Northern Sea Route Administration, which will be based in Arkhangelsk from 2013. If it seems normal that the state should not be solely financially responsible for transit, it seems that so far only foreign ships pay for it, and that Russian ships are exempt, which in legal terms can be regarded as a discriminatory measure.⁶²⁰ The International Chamber of Commerce has therefore expressed its concerns and recalled that the UNCLOS regime on straits used for international navigation should take precedence over the rights of coastal states.⁶²¹

Hopes for an International Trade Lane via the NSR

The question of opening Arctic trade routes and of their profitability has been studied by several programs, beginning with the International Northern Sea Route Programme (INSROP) in the 1990s,⁶²² and continuing with the Arctic Operational Platform (ARCOP) and the Japan Northern Sea Route-Geographic Information System (JANSROP-GIS). Numerous feasibility studies, some of which are published, while others are classified, have also been conducted by the main shipping companies. In 2009, the Norway-based Tschudi Shipping Company opened the Centre for High North Logistics, which aims to become the main logistical and informational gateway for the NSR use.⁶²³ Shipping along the Northern Sea Route can be either destinational (having an entry or arrival port along the NRS), which means regional or trans-Arctic shipping, or transitional, which means crossing the route from two points not in the NRS. This distinction is important as it does not include the same categories of ships (transitional shipping must involve very large tonnage tankers to be profitable) and invokes different commercial profitability strategies and new logistical problems.

The prospect of a new commercial Europe-Asia trade route is one of the most hyped themes related to the Arctic. On the paper an ice-free Arctic could make the transportation of commodities to international markets easier and significantly reduce transportation costs by cutting the distance from Western Europe to Japan or China by 20 to 40 percent. All the Asian cities to the north of Hong Kong could reach Europe more rapidly via the Arctic than via the Suez Canal. The potential benefits brought about by the opening the Northern Sea Route are therefore of greater interest for Japan, Korea, and China than for India. For instance, the route between Hamburg and Yokohama through the Suez Canal (18,350 kilometers) would be reduced to 11,100 kilometers by using the Northern Sea Route, which in theory reduces the sailing time from 22 to 15 days; in other words, a 40 percent reduction. The route

between Rotterdam and Shanghai, meanwhile, would be reduced from 22,200 kilometers (via the Cape of Good Hope) to 14,000 using the NSR.⁶²⁴ The volatile situation in the Middle East, especially since the “Arab spring” of 2011, the overburdening of the Suez Canal, rising tensions in the Hormuz Strait and, more importantly, growing piracy in the Horn of Africa, all encourage the development of new alternatives.

Transit from Russia to the North American continent would also be made shorter by crossing the Arctic. Murmansk is only 9,600 kilometers from Vancouver via the Bering Strait, but is 16,000 kilometers via the Panama Canal. In 2007, Russia and Canada both evoked the concept of an “Arctic bridge” connecting the port of Churchill in Manitoba to Murmansk.⁶²⁵ The project had already been raised some years before; OmniTRAX, a major railroad operator that owns the Churchill port, had been in negotiations with the Murmansk Shipping Company on this issue. In 2007 and 2008, the first shipments of Russian fertilizer from Kaliningrad purchased by the Farmers of North America cooperative of Saskatoon arrived in Churchill from Murmansk.⁶²⁶

This possible new trade route has piqued the interest of many shipping companies. In 1990, six trips—with an approximate duration of 25 days each—took place along the NSR. In 1997, only two ships sailed the entire passage, with freight totaling a mere 30,000 tons. The cargoes consisted mainly of fertilizers, metal, and timber exported from Finland and Sweden to Japan, as well as processed agricultural products transported to Europe from China and Thailand. In the second half of the 2000s, with the confirmation of the icecap’s retreat, an increasing number of shipping companies tested the viability of the route.⁶²⁷ The year 2009 proved to be the test year for Europe-Asia transit: two ships from the Germany-based Beluga Shipping sailed from South Korea to Rotterdam and were the first foreign ships able to cross the NSR without using icebreakers.⁶²⁸ In July 2010, two Russian ice-class tankers carrying 27,000 tons of diesel oil sailed from Murmansk to Pevek. In August of the same year, Sovcomflot sent its first shipment of gas condensate on the *Baltica* to Ningbo in China.⁶²⁹ In September, the Norwegian ship *Nordic Barents*, freighted by Nordic Bulk Carriers and the Tschudi Shipping Company, was the first bulk carrier with a non-Russian flag to use the Northern Sea Route, transporting iron ore from Norway to China.⁶³⁰ These journeys are bound to rapidly grow in number. In 2011, a record number of 34 vessels sailed the route, though this was surpassed in 2012 with 46 vessels transporting a total cargo of 1.2 million tons – a 53 percent increase from 2011, including the first LNG freight, which was sent by Statoil to Japan.⁶³¹

These trade and transit prospects are especially interesting for the Asian nations, which are very dependent upon energy supplies coming through the Hormuz and Malacca straits, and whose trade is mainly directed toward the United States and Europe. Upon the collapse of the Soviet Union, a Japanese team set out to the Arctic and participated in the International Northern Sea Route Program, a large Russian-Norwegian-Japanese research project conducted between 1993 and 1999.⁶³² At the time Tokyo was considering using the NSR to transport its nuclear fuel to reprocessing facilities in Europe, but those plans seem to have been abandoned. Today, growing numbers of Japanese research centers are active participants in international polar stations, and shipping companies are increasingly interested in the prospects brought about by the NSR. South Korea displays a similar interest. While its Arctic scientific research is less developed than that of China or Japan, its naval construction sector is cutting-edge. In 2007, Samsung Heavy Industries delivered a shuttle tanker weighing 70,000 tons that is able to navigate through Arctic sea and break ice at a speed of 2.8 knots, a feat that has been recognized as a technological breakthrough.⁶³³ However, the most advanced Asian country is undoubtedly China.

Ice without hype: the harsh realities of Arctic shipping

But the viability of a new sea line of communication is not a simple fact of representation on a map or a globe. It also depends upon a set of complex practical and technical conditions, as well as factors of predictability, and existing competing lines. These elements combined reduce the NRS's prospects of operationability and profitability.

Travelling along the NSR poses a number of significant challenges. Firstly, the disappearance of the ice-cap during the summer does not mean that the Arctic Ocean will become ice-free in the proper sense of the term. Ice can quickly form in very different locations; there will still be icebergs; and the danger of collision will be considerable. Ice can take ships by surprise and reduce the predictability of the journey. Indeed, the year to year variations in the presence of ice will continue to severely hamper the scheduling of the shipping season and its smooth running. Climate change is also not likely to make the situation of navigation any easier: the polar night will not disappear, temperatures will continue to be extremely cold, periods of rain and fog will increase, and visibility will be reduced. Hazardous phenomena linked to winds and waves will intensify. There will also likely be an increase in the frequency of ice storms and in the intensity of spray freezing, as well as coastal erosion as a result of rocks loosened by permafrost.⁶³⁴ Lastly, depending upon the thickness of the ice, ship speed through the ice floe will vary between 2 and 5 knots, considerably lengthening travel times.

In addition, travelling in extreme climate is expensive. The ice conditions in the straits between the Severnaya Zemlya archipelago and the New Siberian Islands are difficult to negotiate even for icebreakers. Straits tend to accumulate large ice masses that may block the progress of vessels. The ships have to travel in convoys which are often subject to long waiting times and immobility. The shallowness of the shelf areas— less than 100 meters in the Kara Sea and about 50 meters in the Laptev and Eastern Siberian Seas—also sets limits on the draughts of ships. In the Sannikov Strait the maximum depth is a mere 13 meters and in the Laptev Strait it is even shallower: eight meters.⁶³⁵ This excludes passage by ships with conventional hulls larger than 20,000 deadweight tons (dwt), and in any case ships cannot be larger than the nuclear-powered icebreakers used to open the route. A large number of the world's container ships are already too large for the Suez or Panama Canal, and the booming trade between China and the West has fuelled the development of even larger container ships.⁶³⁶ As a result of these very specific conditions, shipping companies would have to charter ice-class vessels with double hulls and to train teams in operating in circumpolar environments. Nevertheless, technological innovations are emerging in this domain. The Finnish shipbuilders Aker Arctic (formerly Kvaerner Masa-Yards) have designed a new type of double-acting vessel that has the same open sea characteristics as other ships in its class, but is combined with the breaking capacity of a powerful icebreaker.⁶³⁷

On a strictly financial level, several barriers have to be taken into account and the administrative procedure of transiting the NSR is time-consuming. Russia demands that foreign ships pay fees for chartering icebreakers, for obtaining weather and ice reports, and that they hire two Russian pilots to guide them in the straits and pay the clean-up costs after accidents. The ice-breaking fee depends on ship size (the larger the ship, the lower per ton tariff), ice class, the route, and the level of support required. In the 2000s, the fee was increased to an average of \$23 per ton of cargo in order to maintain and modernize the icebreakers.⁶³⁸ These expenses are considered too costly by the main international shipping companies. But fees are set based on the current cargo flow, such that should the cargo flow

increase to 40 million tons or more per year, the fees could probably decrease to around 1 dollar per ton.⁶³⁹

Furthermore, the requisite insurance for an Arctic trip puts an added strain on budgets. Similar to Antarctica, shipping in the Arctic is among the most expensive in the world. Presently, the NSR has no real operational rescue system, the number of ports able to host ships in need of repairs is insufficient, and the risks of collision are considerable, as the lanes of direction are not defined, not even in the Barents Sea, which already sees a fair amount of traffic.⁶⁴⁰ Even though vessel fuel efficiency and reduced distances may, on paper, appear to be one of the drivers of the NSR development, the route has major disadvantages, such as its seasonality, its excessive technological costs, and its unpredictability. For world container transit the “just-in-time” issue is an overriding one, while the time required for an Arctic transit could never be guaranteed. This does not encourage shipping companies to develop their own Arctic fleets and to train personnel in circumpolar navigation unless the route can become functional all year round. And even combining a summer route via the NSR with a winter route via the Suez Canal would create planning challenges with respect to the development of the vessel fleet.⁶⁴¹

In terms of ecology, maritime traffic in the Arctic region will increase the likelihood of accidents. In July 2010, two oil tankers belonging to the Murmansk Shipping Company collided along the NSR, fortunately without causing too much damage.⁶⁴² But the pollution of sea waters and Arctic coasts could have an unprecedented impact on already weakened systems. Around 20 percent of marine pollution originates from ships, drilling platforms, and other maritime installations. The new law “On Management of Radioactive Waste,” signed in 2011 after several postponements, puts Russia's national radioactive waste management system into line with the requirements of the Joint Convention on the Safe Management of Spent Nuclear Fuel and on the Safe Management of Radioactive Waste, and is therefore an encouraging sign of the Kremlin's awareness of the risks of carrying nuclear waste into the Arctic environment.⁶⁴³ Apart from the risks of accidents, it is also necessary to take into account eventualities such as the possibility of invasive species entering the Arctic eco-system, the disturbance of mammal life, and a boost in the levels of low-lying ozone, as ship exhausts pump pollutants into the pristine environment. Growing economic activity in the Arctic thus multiplies the risks of oil spills (during exploration, exploitation, storage and/or shipping; accidental releases in oil harbors and terminals; accidents on the major transportation routes), spillages of hazardous material waste; radioactive releases associated with nuclear power plants and nuclear waste storage facilities, accidents in mining structures such as fires and explosions, as well as of accidental releases of tailings and oil, heavy metals, and divers oxides.⁶⁴⁴ Moreover, there are over 12 million empty barrels and fuel containers still remaining in the Russian Arctic zone, 3 percent of which are potentially dangerous.⁶⁴⁵

Under these conditions, questions concerning the securitization of navigation are crucial, especially in a region that will have to manage a number of different vessels ranging from icebreakers, tankers, bulk carriers, tug-barge combinations, to fishing vessels, cruise ships, and research vessels. What is more, the Arctic tankers will essentially transport hydrocarbons and minerals, and not manufactured products, so the environmental risk in case of accident is even higher. These issues are being discussed within the International Maritime Organization, as is the possibility of implementing voluntary Guidelines for Ships Operating in Arctic Ice-covered Waters, or even the future implementation of a binding Polar Code.⁶⁴⁶ In this way, the EU, several non-EU member states, and the International Association of Classification Societies (IACS) have developed non-mandatory Unified Requirements for their members that address ship construction standards for the Polar Classes, which are defined in the IMO Guidelines.⁶⁴⁷

The implementation of strategies of prevention and training for emergency situations in the Arctic is also a core activity of the Emergency Prevention, Preparedness and Response (EPPR) Group of the Arctic Council. Russia, represented by the Ministry of Emergency Situations (EMERCOM), is particularly active in questions of sea and rescue (SAR) systems.⁶⁴⁸ Sea and rescue capabilities are in place in Murmansk and Arkhangelsk for the western part of the Arctic, and in Vladivostok and Petropavlovsk-Kamchatksii for the eastern part. The Murmansk Basin Emergency Rescue Service (MBERS) and the company Ekospas-Murmansk are the two service agencies in the region responsible for cleaning up after emergency situations involving oil and gas. The international cooperation framework is also well developed. The Barents Rescue Cooperation, for instance, improves the ability of rescue services agencies to coordinate emergency and rescue issues across national borders in the Barents Region.⁶⁴⁹ In 2012 Russia and Norway signed an agreement for a mandatory ship reporting system in the Barents Sea, the first International Maritime Organization-approved ship reporting system in the world that does not require verbal communication.⁶⁵⁰ MBERS has also been contracted by the Rosmorport Company to provide emergency rescue services in the White Sea. In the Bering Sea, regional SAR agreements between the U.S. Coast Guard and Russia's EMERCOM have improved response and coordination. The United States and Russia are leading cooperation on nuclear and radiological emergency management issues.

However, there is a large SAR gap along the central section of the Northern Sea Route in East Siberia, where almost no infrastructure has been set up. If the region's transit of people and commodities is lower than in the western part of the Arctic, the so-called Trans-Arctic Air Corridor, i.e., the Primorie-Kamchatka-Magadan region, is teeming with flights traveling between North America and Asia. The Eyjafjallajökull Volcano eruption in 2010 suddenly brought to light the importance of this transit air corridor able to connect the Eurasian and American continents via the North Pole. This major global evolution therefore requires the development of rescue systems in the over-flight regions. Originally introduced in 2001, these routes have seen a year on year increase of 30 percent and fly over extremely remote territories. In order to make up for the security deficit in this region, ten new rescue centers in Arkhangelsk, Salekhard, Dudinsk, Tiksi, Pevek and Anadyr, to be manned on permanent basis by 150 personnel, and equipped with rescue and fire-guard material, helicopters, and small boats, are to be created by 2015.⁶⁵¹ Russia also plans to design the next generation of icebreaker fleet with multi-function equipment, such as SAR helicopters and firefighting equipment for off-shore oil rig fires. These systems will be designed to supervise navigation in the NRS, but also to prepare for emergency situations stemming from air travel over the North Pole.

The question remains as to how the 14,000 kilometers of Russian coastline will be monitored and patrolled, especially with the rapid evolution of nautical realities in the face of climatic changes. The existing navigation aids, radio stations, and hydro-meteorological services are largely insufficient and polar aviation brigades are unable, in the current state of affairs, carry out rescue operations in all Russian parts of the Arctic. A large part of the central section of the Arctic coastline is reportedly not covered by radio, with the result that Moscow is obliged to buy the information from the United States and Canada.⁶⁵² To resolve this, Russia will have to catch up on its immense accumulated lag in communication technologies, in particular satellite based ones, and improve observation techniques to allow ship operators to monitor the conditions of ice and pack ice. The authorities plan to create a unified space of communication in the Arctic by 2015 with the installation of Polarnet, a new generation international telecommunications network consisting of a cable fiber optic system. The system, also called Russian Trans Arctic Submarine Cable System, is set up to run through Russian waters from Great Britain to Russia, before splitting for the United States, Japan, and China, respectively.⁶⁵³

This communication system can only operate with the aid of satellites. So far Russia's satellite network has fourteen stations dedicated to the NSR, but this is viewed as the minimum requirement for route finding through the ice. Four low-orbit satellites and five geo-stationary satellites will be used for the COSPAS-SARSAT system, developed jointly by the United States, Canada, France, and Russia for maritime SAR. Whereas the GPS system is relatively dysfunctional in the Arctic for the moment, its Russian equivalent, GLONASS (*Globalnaia navigatsionnaia sputnikovaia sistema*), a radio-based satellite navigation system developed in the 1970s, seems more effective for the Arctic. Since 2011 the full orbital constellation of 24 satellites was restored, offering full coverage of the Russian territory.⁶⁵⁴ This air balisage system and satellite communications were a core issue of the second forum international The Arctic–Territory of Dialogue, held in Arkhangelsk in 2010.⁶⁵⁵ The Russian state space agency, Roskosmos, is going to play an important role in managing the launch of several satellites to be committed to the Arctic region. This eventuality is explicitly part of plans drawn up in the Federal Space Program for 2013-2020, and cooperation with Roshydromet has increased.⁶⁵⁶ A new system, called Multipurpose Space Systems Arktika, ought to permit Russia to get all the resources required for a better monitoring of urgency situations and climate change in the Arctic. It will comprise three phases: first, radar monitoring, which is set to be operational by 2005; second, hydrometeorological monitoring; and, finally, mobile communications and broadcasting in the Arctic.⁶⁵⁷

A more realistic future: NSR as a domestic/destination route

The future of the NSR is clearly linked to destinational shipping. It includes international shipping, mainly in the Barents Sea between the Nordic countries and Russia (timber has been exported since the 1920s by this route, and supplies of oil and LNG to Europe today), or in the Bering Sea between Russia, Asian countries, and the United States. However, it chiefly involves domestic shipping within Russian regions. Indeed, the NSR constitutes a strategic internal communication route for the country. Although the Trans-Siberian delivers the majority of the freight circulating between the European regions, southern Siberia, and the Russian Far East, delivery north of the Trans-Siberian or of the BAM is extremely difficult. Here again, the figures on the paper seem to speak in favor of Arctic transit. The trip between Murmansk and the Bering Strait is 5,600 kilometers along the Arctic coastline, 4,600 via the north of Severnaya Zemlya and the New Siberian and Wrangel Islands, and only 4,300 via the pole itself.⁶⁵⁸ The distance from St. Petersburg to Vladivostok via the NSR is 14,800 kilometers, whereas through the Suez Canal it is 23,200 km, and around the Cape of Good Hope it is 29,400 kilometers. However, when it comes to transiting products from European Russia to the Far East, the Trans-Siberian, with a length 6,400 km and only seven days of required travel, remains the quickest and most economical route.

Since Bolshevik times, the Soviet regime considered the NSR to be a key component of its strategies for economic development in the High North and remote Siberian regions. The opening of shipping routes during the summer season was always presented as a transport priority. Since 1978, the Russian icebreaker fleet has succeeded in keeping open all year round the stretch from Murmansk to Dudinka, on the banks of the Yenisei River. Traffic from west to east was essentially devoted to fuel and coal, construction materials, and consumption goods (manufactured and food products) for the Arctic and Siberian populations, while returning ships were loaded with timber and minerals. The link between the

ocean and remote regions via rivers was conceived as a totally integrated system. In many Arctic ports, cargoes discharged directly onto the ice in winter and in the river estuaries in the summer. A large number of 3,000-ton river-sea shallow-draught freighters and tankers were used between northern coastal ports and stations located deep in the interior; the towing of large barges was not a developed practice in the Soviet Union.⁶⁵⁹

Though trans-Arctic shipping did take place in Soviet times, transport was mainly regionalized and confined to two main routes: between Murmansk or Arkhangelsk and the Taimyr Peninsula; and between Vladivostok and Chukotka. Between 1950 and 1980, more than 400 ice-strengthened freighters were used in operations along the NSR on an annual basis.⁶⁶⁰ Up until 1987, the state subsidized the *Sevmorput'* to the tune of about \$400 million per year, and in the 1980s, yearly traffic accounted for nearly 7 million tons. This figure declined dramatically to around 2 million tons in the 1990s.⁶⁶¹ In 1993, with the Russian state experiencing total bankruptcy, the management of the *Sevmorput'* was handed over to the regions in the name of decentralization, but the latter also found themselves in financial dire straits. As a result, the NSR became seriously jeopardized as costly infrastructures were no longer maintained and security ceased to be assured.

By 2000, upon Putin's coming to power, the volume of NSR traffic had dropped to a mere 1.6 million tons, or a quarter of its 1980s' level. This was well below the minimal threshold—4 million tons—to ensure the profitability of the icebreakers.⁶⁶² The new president then decided to set up a new centralized service called the Administration of the Northern Sea Route, which comprises part of the Ministry of the Merchant Fleet. It manages the icebreaker services which accompany ships, and the use of nuclear energy in maritime transport. It is also in charge of the prevention and management of environmental accidents, as well as navigation aid systems, the monitoring of hydrographic conditions, and access to ports.⁶⁶³ The resumption of shipping since 2008 is modestly backed up by the freight figures transiting through Russian Arctic ports. Main oil terminals— Arkhangelsk, Kolguev, Mokhnatkina Pakhta, Murmansk, Ob Bay, Varandey, Vitino— have undergone expansions and witnessed an increase of oil shipments from approximately 4 million tons of crude in 2002 to 10 million tons in 2008. In 2012, freight volume for all Russian ports increased 5.9 percent, reaching 560 million tons. This resumption is, however, uneven: while the Arkhangelsk port has had an increase of 20 percent, those of Murmansk, Vitino, Varandey, and Kandalaksha have experienced decreases.⁶⁶⁴

The Russian administration has calculated an increase in volume of shipping transit to 15 million tons by 2015,⁶⁶⁵ solely on domestic transport needs, mainly on account of increasing oil-related activities but also rising exports of roundwood, lumber, pulp, and paper. Today the traffic is almost exclusively limited to the western section of the Russian Arctic coasts, between Murmansk and Dudinka. With the increase in gas exploitation and cooperation between Norway and Russia, the Barents Sea—which is not legally part of the NSR—is bound to become the most dynamic part of the Russian Arctic and the most congested with ships and vessels. Even moderate forecasts predict that transportation of oil from Russian ports in the Barents will increase by 50 percent by 2020.⁶⁶⁶ The West Kara Sea is also experiencing an increase in oil traffic from the west Siberian fields to Northern Europe, and the exploitation of the South Kara Sea deposits by Rosneft ought to speed up the traffic. Since 2000, small tankers have transported gradually increasing volumes of oil from the new Varandey terminal on the Pechora coast. Timber exports, ores, and processed metals are also shipped from the port of Igarka via the Kara Sea.⁶⁶⁷ Once the deposits of the South Kara Sea are under exploitation, and the Yamal Peninsula starts production of LNG, domestic freight could grow rapidly up to 50 million tons by 2020.⁶⁶⁸

The eastern part of the Russian Arctic sees much less traffic—albeit with some notable, one-time exceptions: in 2004, several tens of thousands of tons of tubes destined for a Gazprom gas pipeline were transported by sea to Chukotka.⁶⁶⁹ Around 60 percent of the freight passing through the Igarka and Kolyma rivers comes directly by sea, while the rest comes along the Lena River.⁶⁷⁰ The Pevek port is therefore busy during the navigation season. The potential exploitation of new deposits in East Siberia could revive some of the traffic as the sites will require heavy construction materials that are easier to transport by sea. Moreover, Russian firms do not pay, or pay lower, fees than foreign companies when using the services of the Marine Operation Headquarters and the Northern Sea Route Administration, or when requiring use of port infrastructures. This division of the Russian Arctic into East and West is reflected in the Russian fleet. The Russian state has authorized two private shipping companies to act as Marine Operations Headquarters: the Murmansk Shipping Company has its operations headquarters at Dikson in charge of the western portion; while the Far East Shipping Company (FESCO) has its own at Pevek, responsible for the eastern section.⁶⁷¹

Modernizing the fleet and the shipyard sector

At the start of the 1970s, the Soviet Union had 138 ice-class freighters in the Arctic Basin, whose deadweight attained close to 500,000 tons. At the end of the Soviet period, their number approached 350, added to which were sixteen icebreakers, eight of which were nuclear powered.⁶⁷² The first nuclear-powered icebreaker, the *Lenin*, entered into service in 1960. The other nuclear icebreakers were built at the Baltic factory in Leningrad from 1974. Their flagship, the *Arktika*, ensures year-round navigation between Murmansk and Dudinka and extends the shipping season in Arctic regions. Shallow-draught icebreakers were also introduced to operate in rivers and their estuaries. The 1990s were harsh years devoid of finances, which saw the virtual dismantlement of the ice-breaker construction industry. From the time the atomic icebreaker *Yamal* joined the fleet in 1993, it was a full fourteen years before the *Fifty Years of Victory* was launched in 2007. Although Russia still has the world's largest and most powerful icebreaker fleet, it is aging: of the seven nuclear-powered icebreakers constructed in the 1970s and 1980s, all will have to be decommissioned by 2020, with the exception of the *Fifty Years of Victory*.

Russian shipbuilders resumed work in the 2000s. The Maritime Doctrine of Russian Federation by 2020,⁶⁷³ adopted in 2001, plans the revival of maritime transportation, the development of coastal port infrastructure, and the upgrading of maritime trade and mixed (river-sea) shipping.⁶⁷⁴ It is accompanied by another ambitious text titled the Strategy for the Development of Port Infrastructures by 2030, the program of which is to be implemented by the state-run corporation Rosmorport. Icebreakers are a key priority in ensuring implementation of the Doctrine: six nuclear icebreakers, four of the heavy *Arktika* class and two of the shallow-draft *Taymyr* class, are charged with maintaining the NSR. In 2009, Putin gave the go ahead to construct three nuclear-powered icebreakers with a capacity of 60MW to be ready by 2020, a lead icebreaker with a capacity of 110MW, as well as seven diesel-electric and four port-supporting icebreakers.⁶⁷⁵ However, given the time required for construction, technological lags, and the financial difficulties, Russia risks finding itself in a transition period, around 2017–20, in which it will have only one or two operational icebreakers, an insufficient number to ensure the passage of tankers. Moreover, because of the 2008 economic downturn, Russian projects are behind schedule. The budget to commission a new icebreaker for active service in 2016 was received from the Ministry of Transport only in 2011.⁶⁷⁶ In addition, to ensure year-round shipping along the polar route, Moscow needs third

generation icebreakers that are more powerful and meet the expectations of large energy companies. The Russian nuclear fleet is managed by Atomflot, the control of which was transferred from the Ministry of Transport to the State Atomic Energy Corporation Rosatom, which is itself in charge of supplying the nuclear fuel needed for the fleet. The Iceberg Central Design Office is the leading designer of icebreakers and ice ships, including those propelled by nuclear power.⁶⁷⁷ However, it is not only icebreakers but also the Russian fleet of hydrographic ships that is in need of renewal, three-quarters of which have been in operation for over twenty-five years.⁶⁷⁸

Despite the state orders, the main actors in today's market for Arctic ships are public and private companies.⁶⁷⁹ The metallurgic holding Norilsk Nickel, the gas corporation Gazprom, the oil enterprises Rosneft, Lukoil, and Novatek, and the two maritime companies, the Murmansk Shipping Company and the Far Eastern Shipping Company are the two main clients of the shipping industry. Since domestic shipbuilding capabilities drastically decreased in the 1990s, the Russian merchant fleet has been obliged to order 95 percent of its new ships from abroad and only five percent from Russian companies.⁶⁸⁰ The market that has been lost by the Russian shipyards is thus immense—orders placed abroad amount to about \$1 billion—and with it has also come the loss of knowledge; Russian yards need double the time and double the money compared to other countries to build similar ships. Their specialized engineers have also gone to work abroad, as the shipyard market is largely international.⁶⁸¹

In terms of exploiting resources in the continental shelf of both the Arctic and the Caspian seas, Russian companies claim that they will need 55 extraction platforms, floating or submarine edifices, 85 transport ships, and 140 auxiliary ships by 2030.⁶⁸² The main naval military sites thus have every interest in diversifying their orders to meet the expectations of the civil fleet. Today they are largely run by market principles and not military-strategic considerations. As a sign of this evolution, these shipyards now fall under the Ministry of Commerce and Economic Development, and not the Ministry of Defense. The shipbuilding sector is set to double production by 2015-20, with civilian vessels accounting for at least 33 percent of total output.⁶⁸³

At the end of the 1990s, Lukoil availed itself of a new fleet of ten ice-class oil tankers of 15,000 to 20,000 tons for the transport of crude oil, tankers which belong to its subsidiary, Arctic Tankers. Some of them were resold in the 2000s to enable purchase of the Varandey multi-purpose icebreaker, built by Keppel Singmarine (Singapore).⁶⁸⁴ Since 2009 it has been deployed near the stationary sea ice-strengthened shipping platform of the Varandey terminal, ensuring safe operations during tanker loading.⁶⁸⁵ Another terminal close to Murmansk will be able to accommodate tankers of 250,000 deadweight tonnages, onto which will be loaded the crude arriving in ice-class ships. Lukoil has also acquired majority control in the capital of the Northern Shipping Company based in Arkhangelsk, and 51 percent of the shares of the Murmansk Shipping Company. The Lukoil fleet is intended to ensure the continuous year-round export of the company's oil production from the Timan-Pechora district. Today it is the main operator of the Arctic Basin with around 200 vessels of different types.⁶⁸⁶

Norilsk Nickel is itself on the verge of becoming a key actor in Arctic shipping. Since 2004 it has been building a fleet of ice-breaking cargo vessels, rendering it almost independent of icebreaker assistance. The firm concluded a contract with Finnish shipbuilder Aker Yards to develop and build 14,500-ton container ships of up to 400 TEU (foot equivalent units) designed for year-round operations. The first one was delivered by Finland in 2006, and four more are being built by the German Aker dockyards. All are equipped with AZIPOD double-action propelling units: each ship is independently capable of plowing sternforemost through 1.5-meter thick Arctic ice at speeds of up to 3 knots.⁶⁸⁷ Norilsk Nickel has therefore an operational fleet of five icebreaking carriers capable of operating autonomously through

the winter season to serve Dudinka. In 2009, the holding received an exemption from Russian-state measures to ensure that carriers comply with Russian customs regulations, which include customs duty payments, customs support, and fixed transport routes.⁶⁸⁸ It now transports about one million tons of goods, mainly metal products and nickel matte, and also gas condensate from the Petlyatkin field on the Taimyr Peninsula. Also in 2009, Norilsk Nickel opened a logistics office in Rotterdam to serve the company's cargo transport interests between Dudinka and Europe.⁶⁸⁹

The Murmansk Shipping Company, the world's only owner of nuclear-powered civil ships, has sold some of its ice-class ships and henceforth has been supplied from abroad. For a longtime it was in charge of servicing Dudinka for Norilsk Nickel, at a time when the mining combine was without its own fleet. It also transports apatites from Kandalakcha, on the Kola Peninsula, and it services the oil terminals of Varandey, Kolgev, the Ob estuary, and Yakutia-Sakha. At present it has about twenty ships able to transport up to 460,000 tons, and six tankers with a total capacity of 340,000 tons.⁶⁹⁰ The Far Eastern Shipping Company, the country's largest private intermodal transportation group, also owns icebreakers, but these are not nuclear-powered. Every year FESCO icebreakers patrol the Eastern Arctic and provide services to over 600 vessels, which deliver about 2 million tons of cargo. It mainly serves the ports of Chukotka and Yakutia-Sakha and has an active fleet of about 80 ships.⁶⁹¹ Both companies should be able to avail themselves of a new generation of nuclear-powered ships of 60,000 kW around 2015.⁶⁹²

For its part, Gazprom is in need of more than 50 ships and floating storage facilities to exploit the Arctic shelf. It has launched plans for a large-scale construction program of 20 LNG tankers to transport production from Shtokman.⁶⁹³ As a state-run corporation, it has been decided that Gazprom carriers should be built at Russian shipyards, even though it could be done more inexpensively at foreign shipyards. In any case many of the parts and materials for the vessels, from pipes to paint, will still have to be imported. In 2009, Gazprom concluded an agreement with Northern Shipyard on the production of LNG carriers and signed an agreement with Sovcomflot. While imports constitute a large share of the supplies in the production of offshore vessels, those of Russian origin have recently increased from 40 to 50 percent.⁶⁹⁴ A new generation of Arctic class tanker, the *Mikhail Ulyanov*, is scheduled to start serving the Prirazlomnoye field. Gazflot, Gazprom's offshore exploration subsidiary, is also in need of drilling capacities and geological and geophysical ships. In 1995, it ordered an Arctic platform—being built in Severodvinsk it is set to play a key role in the development of Arctic offshore resources—as well as the Prirazlomnoye one, but the completion of both platforms has been delayed several times, incurred additional costs, and delivered only in 2011.⁶⁹⁵

The state-run company Sovcomflot, one of Russia's largest infrastructure companies—25 percent of whose shares the state is planning to privatize—operates the fleet of about 150 vessels with a total deadweight exceeding 10 million tons. It is the number one operator of Arctic shuttle tankers and ice-class gas carriers, and already has a dozen ice-class 1A tankers.⁶⁹⁶ It has commissioned its third 70,000 dwt dual-acting tanker for use along the NSR. It is specialized in the transport of crude oil bound for Europe, the use of floating storage facilities, and renders procurement services for drilling rigs and production platforms using specialized procurement vessels. In 2011, Novatek, Russia's largest independent gas producer and second-largest natural gas producer, signed an agreement with Atomflot in order to secure reliable supply routes for the delivery of materials and the technological infrastructure necessary for constructing its surface facilities and LNG plant in the Yamal Peninsula.⁶⁹⁷

To meet these pressing needs, in 2007 Moscow launched a "Development Strategy for the naval industry for 2020," and in 2008, a "Federal Targeted Program in the Development of Civilian Marine Engineering."⁶⁹⁸ The government has planned investments of more than \$5.5 billion for the

development of shipyards between 2010 and 2015.⁶⁹⁹ Alongside aviation and space, nautical activities are one of the three priority areas the Kremlin has identified in order to revive its domestic industry; Russian ambitions have been slow to become reality, however. The hope is to transform the shipyards into a competitive industry by 2016 and, in addition to exports, to be able to respond to a large share of domestic needs. If the scheduled year of 2016 seems highly optimistic, a revival is nonetheless underway in the main shipyards. Putin's recentralization strategies have yielded a new holding, the state-run Unified Shipbuilding Corporation (OSK), combining the Northern Centre for Shipbuilding and Ship Repairs—that is, Russia's two main shipyards, Sevmash and Zvezdochka, both based in Severodvinsk—as well as smaller yards and associated production companies; the Western Centre for Shipbuilding in Saint Petersburg, which includes the Admiralty yards, several smaller yards, and part of the Northern Yard (*Severnaya verf'*); the Far Eastern shipbuilding and the Rubin Central Design Bureau for Marine Engineering; and the firm Iceberg in charge of designing new Arctic vessels.⁷⁰⁰ Although state-run, the Unified Shipbuilding Corporation has clashed many times with the Ministry of Defence around the building of the Alexander Nevski.⁷⁰¹

Despite this logic of returning to the bosom of the state, three of the most important yards are still privately owned: the Vyborg Shipyard and, partly, the Northern Yard and the Baltic Factory (*Baltiiskii zavod*) in Saint Petersburg. Their owners are all close associates of Putin's inner circle and the policies they pursue remain in total agreement with the Kremlin's choices. The Vyborg shipbuilding company, which has very close ties to Gazprom, specializes in building small- and medium-tonnage vessels and offshore drilling rigs. It has experience in semi-submersible floating drilling and production platforms, and soon it plans to build stationary production platforms and deep sea jack-ups.⁷⁰² The Northern Yard and the Baltic Factory, both created in Czarist times, are owned by the private investment company United Industrial Corporation (OPK), which also has majority shares in Iceberg. Both are specialized in large nuclear vessels, such as the *Fifty Years of Victory*, and have recently built two diesel-electric icebreakers, including the *Moskva*, which has been commissioned by Rosmorport. They are also in charge of constructing four Orlan nuclear cruisers and are expecting orders for large tankers.⁷⁰³

The OPK's ambitious aim is to set up a modern world-class compact shipyard, by merging existing facilities of the Northern Yard and the Baltic Factory. This will be done by revamping and re-equipping the existing facilities and building new ones, which will mean that OPK is able to make the entire line of ships of up to 300,000 tons in deadweight, something it would like to do in partnership with the South Korean companies Daewoo Shipbuilding and Marine Engineering (DSME).⁷⁰⁴ Specializing in small coastal vessels, the new site could theoretically build 30 corvettes, 30 frigates, six escort squadrons, and 30 auxiliary vessels by 2020. The challenge of this new shipbuilding project is immense and there are conflicting interests between private and public actors; indeed, competition between both yards has long been headline news.⁷⁰⁵ Russia's first floating nuclear power plant, construction of which began at Sevmash but was transferred to the Baltic facility, was inaugurated at the end of 2009. It is the first of eight floating nuclear power plants to be built, and will be delivered to Viliuchinsk in Kamchatka.⁷⁰⁶

The Petersburg and Vyborg-based yards will play a central role in offshore projects, although the technological level of the Severodvinsk yards was higher in Soviet times, and Sevmash is still Russia's largest submarine yard. Today Sevmash and Zvezdochka are in charge of building Borey class submarines: the *Alexander Nevsky*, which was moved to Sevmash floating dock at the end of 2010, and the forthcoming *Vladimir Monomakh*. Zvezdochka has also built a series of carrier vessels for the shallow waters of the Barents Sea, the White Sea, and the Sea of Azov. Russia's border guard service has additionally commissioned a series of small patrol vessels for coastal surveillance.⁷⁰⁷ Both yards also deal with repairs to atomic cruisers such as the *Admiral Rakhimov* and nuclear submarines such as the

Pantera. Several ships and submarines decommissioned from the Russian Army are used at Sevmash in cooperation programs with the United States and NATO.⁷⁰⁸ To cope with the collapse of the domestic military command, since 1997 both yards have initiated cooperation with the Indian Ministry of Defense, which ordered the modernization and transformation of a cruiser aircraft carrier and several diesel-electric Soviet submarines. But it has had to deal with multiple delays, surplus costs, and technological non-completion. The Indian Navy recommissioned a diesel-electric submarine, the *Sindhujay*, in 2008,⁷⁰⁹ but has to wait until 2012 to receive the cruiser aircraft carrier, the former *Admiral Gorshkov*, recently renamed the *Vikramaditya*.⁷¹⁰ In 2003, Zvezdochka won the right to independently conduct business operations abroad, and since 2008, has been authorized to renovate the 956th escort squadron. Using its status, it sold over \$30 million worth of military spare parts to foreign companies in 2009, mainly in India and China.⁷¹¹

Since the 1990s, when military orders dropped by 95 percent, Sevmash and Zvezdochka were forced to convert to dual-use technologies. In 2005, 33 percent of Sevmash orders came from the Ministry of Defense, 30 percent from the oil industry, and 25 percent from foreign companies. In terms of civilian seafaring, the building of trawlers, tug boats, and various types of passenger vessels makes up an increasingly important part of their portfolio. Nonetheless, several of their projects have been either partly or completely unsuccessful—these have included the so-called “Arctic Platform,” a 85,000-ton ice-resistant oil platform intended for the Prirazlomnoye field, and the aborted contract with Norwegian Dan Odfjell for a series of twelve chemical tankers, Sevmash’s largest civil contract.⁷¹²

Sevmash has renovated cruise ships such as the *Alushta*, transformed a submarine into a museum, and built a fish factory for the American company Sea Wing, as well as several piers for the Swedish company Promar, floating docks, barges, yachts, and frigates. The shipyard is also involved in the construction of several types of platforms planned for the Pechora Sea or the Shtokman site. Together with Norilsk Nickel, it has explored the possibility of converting Typhoon submarines for the purpose of transporting nickel from Dudinka to Murmansk. It also collaborates with foreign companies such as Conoco, Total, and Halliburton, and is involved in extraction activities at the Ardalin and Khariagin deposits in the Nenets autonomous district. Finally, it provides pipelines to several national companies, such as Transneft, several Lukoil subsidiaries, Surgutneftegaz, and Yuganeftegaz.⁷¹³

Zvezdochka is more advanced in its civilian conversion and has even retrained its staff in activities totally unrelated to its primary expertise, such as precious stones processing. It has also managed to penetrate the market of civilian seafaring. Since the early 1990s, it has won tenders from Dutch companies like Swets Shipping and Trading, has received orders for a series of tug-boats from Damen Shipyards, and now works closely with Finnish and Norwegian companies. It has built metal elements destined for Statoil, Kvaerner Oil and Gas, and Aker Solutions, and has expanded its partnership with Moss Maritime, a Norwegian leader in maritime technology. Domestically, Zvezdochka works with major Russian energy companies and is also part of the Union of Producers of Oil and Gas Equipment. The plant is also well-known for its construction of 50010 trawlers, considered the best in their class in terms of Russian-built vessels. Zvezdochka’s strategy seems to be paying off—orders for 2011 were 71 percent higher than for the previous year, and it maintains nearly 300 vessels at the plant.⁷¹⁴ Despite the shipyard industry revival throughout the 2000s, Russian companies have found it difficult to be competitive on a now widely globalized market, in which Nordic countries, as well as some Asian ones like South Korea or China, control a large part of the production. Russian firms will therefore have to create their own

specific niches of excellence, which will in all likelihood be linked to Arctic shipping or dual-use ships, if they want to remain market players.

The idea that Arctic shipping might come to replace or rival the main communication sea lines has produced a lot of hype, fueled by the epics of navigation history. The private firms interested in the “shipping race” have set themselves far more limited goals. Their interest in Arctic shipping is largely in its potential either as an area of research and innovation, whose repercussions on the industry will go way beyond Arctic transit, or as constituting specific commercial niches, which, albeit limited in size, meet precisely identified market mechanisms. If the ice does not melt as expected, the Arctic route will be too difficult to use and therefore not viable commercially. But even if the Arctic becomes an ice-free ocean, the technological challenges, the financial cost, and unpredictability do not guarantee its transformation into a major trading route. Its geographical location between Europe, America, and Asia-Pacific does not suffice to impact market-based principles; shipping companies presently prefer their tankers to traverse more southerly seas rather than risk Arctic transit. Only catastrophist scenarios forecasting an unprecedented destabilization of the Middle East, causing a disturbance in the traffic of the Suez Canal or the Hormuz Strait, an epidemic of piracy, or blockages in the Indian Ocean and the Malacca Strait, could force shipping companies to suddenly turn toward the Arctic.

Failing this, it is likely that using the NSR will be of interest only to certain sectors of world trade. The actors that will specialize in Arctic traffic will chiefly be Asian companies, as China, Japan and South Korea want to become less dependent upon the southern straits and diversify their supplies, even at a higher cost. Their concerns are thus more geopolitical than purely commercial. Other actors include German and Nordic companies, which are targeting destinational transit to and from Russia. The transported goods on the NSR will mostly consist of hydrocarbons, minerals, and wood, the exploitation of which is booming, but not manufactured objects such as textiles or (less still) appliances of any kind.

For Russia, the stakes are of an entirely different nature: the NSR is above all a domestic route, and a part of strategies devised for developing Siberian regions. Climate change or not, Moscow hopes to revive the Arctic Route, and is in theory ready to pay the price for the necessary technological challenges. Destinational traffic is indeed bound to play a growing role in the energy-based revival of the Arctic regions. It could even render the use of the main rivers less costly, making it possible to provide supplies to some Siberian populations. Moscow would like also to recover its know-how in the shipyard industries, as well as its human capital: the Russian sailors, who are well-trained, have largely gone abroad chasing more attractive salaries, and the generation gap is immense. Russian companies, both public and private, all of whom are linked to the gas and oil sector with the exception of Norilsk Nickel, will play a driving role in the future of this Arctic shipping. The NSR will therefore be used for ends that are more commercial than military, and become one of the main venues of cooperation between public and private sectors, between foreign and national actors. Although the NSR is highly unlikely to become a very busy trade route, the high potential for accidents, the fragile ecosystems, and more internationalized shipping, will force Moscow to emphasize soft security issues alongside growing international cooperation, the latter mainly being in terms of research and rescue systems.

CONCLUSION

As stated by the Canadian explorer and ethnologist of Icelandic descent Vilhjalmur Stefansson (1879-1962), “there are two kinds of Arctic problems, the imaginary and the real. Of the two, the imaginary are the most real.”⁷¹⁵ Indeed, in many various ways, Arctic affairs are marked by statistical hype and utopian hopes, as well as rooted in national imaginaries. However, Arctic affairs do not merely involve the placement of old topics in a new territory. The region, precisely because it is largely uncharted territory, is bound to give rise to innovative solutions, as the classic means used in discussing international affairs will not always return satisfactory answers here. This can be seen, for example, with the setting up of the collective sea and rescue system, which comprises the first soft security, binding agreement to have been ratified by the Arctic Council, or with the American proposal to create an Arctic Coast Guard Forum.⁷¹⁶

If, thus far, all the Arctic stakeholders have adhered to and praised the existing legal framework, it is nonetheless likely that in coming years, the need for new regional platforms or new, more binding legislation will arise. The Arctic should throw up specific challenges that go beyond the current framework on international debate. Some states may decide to bypass UNCLOS in case of a failure to determine the delimitations of the continental shelf; tensions may come from non-Arctic actors that wish to have a recognized right to oversee the future of the region; an absence of discussion framework on the security stakes could lead to conflict-proneness; and the unpredictability of Arctic resources could pressure both private and public actors to move forward being unprepared for risks. Though matters here would not seem to involve the hydrocarbon deposits, which essentially fall under national jurisdictions, fishing could, as for it, become an element of tension, especially with the increasing scarcity of specific species and the still booming Asian demand.

Though Arctic affairs will probably never stand in the center of international tension, as do other regions of the world like Middle-East – and one can only hope this will be the case – they will remain important in terms of regional projections of power. The Arctic is an unrivalled theater for testing notions of soft power, or of peaceful leadership. Symbols here are just as important as realities on the ground. Moreover, although it is largely internationalized, Arctic questions are paradoxically shaped by domestic agendas above all else. While it is a minor stake for the United States, the Arctic will remain firmly on the Canadian agenda, and could gain in significance as part of the debate over the future of the trans-Atlantic commitment. Europe as a whole, although more oriented around the Mediterranean Basin and the Eastern Partnership, will probably push for more integration between Arctic and Nordic affairs. For Norway in particular, the Arctic is destined to remain a major element of its identity on the international and regional scenes. It is, however, Russia for whom the underlying stakes in the Arctic are the most vital.

As seen from Moscow, the Arctic is an important piece of Russia’s statehood puzzle. The country’s quest to regain its superpower status – essentially defined by the recognition afforded by the other stakeholders – will continue to involve the Arctic region: the mere presence of its nuclear arsenal there makes it a key element of the much sought-after parity with Washington. More generally, the Kremlin hopes for a positive outcome from its role in regional bodies such as the Arctic Council and the Barents Euro-Arctic Council. Along these lines, it has actually succeeded in changing its image in what is an uncertain geopolitical context, since the shadow of NATO’s presence allows a doubt to hover as to the absence of conflictuality in the region. Moscow sees the Arctic as a new space in which it is possible to

express an identity that is more consensual with the international community – the rest of the post-Soviet space is in fact more conflictual in terms of geostrategic influence, whether it is a matter of Ukraine, the Caucasus, or Central Asia – and to test out its soft power tools. Russia has succeeded in building many cooperative patterns in terms of search and rescue systems, knowledge production and sharing, and legal debate. For the present, however, it has failed to become a proactive stakeholder on environmental and climate change-related issues, on the status of indigenous peoples, and on the long-term sustainability of human resources in the Arctic.

The role of the Asian countries could alter the shape of Russia's Arctic theater, both strategically and commercially, and its integration into the Asia-Pacific region. Relations with Japan and South Korea may well develop in the name of greater Arctic cooperation. Increasing Chinese shipping on the Northern Sea Route could open up new possibilities for Russia's resources strategies around the Yamal fields and potentially also the South Kara Sea ones, to say nothing of the lesser known ones of East Siberia, all of which have a greater likelihood of finding more clients in Asia than in Europe. Chinese traders and migrants are still rare to the north of BAM, but the interest in Arctic resources, in particular in trade with Yakutia-Sakha, might grow in magnitude in the years ahead. However, the sentiment that China presents a strategic risk, which has already found expression in relation to Chinese economic activities in the Far East, could work to hamper Russia-Chinese cooperation in the Arctic. Their partnership, which is often defined as an "axis of convenience," is indeed paradoxical in many regards,⁷¹⁷ and the Arctic is set to become one of its new drivers.

Unique in many ways, the Arctic is an extraordinary revealer of Russia as a whole. It sheds light on the past: patterns of colonization and human settlement, the notion of *osvoenie* (appropriation) of the territory, and the contemporary "memory wars" between Russians and indigenous peoples, all illustrate the weight of the imperial past. Arctic development also has its roots in the authoritarian Soviet management of human resources, industrial gigantism, and resources mismanagement. The Arctic sheds light on the present: whenever it is promoted by the presidential administration, it comes in for intense media attention, yet it remains largely absent from public debates and people's everyday preoccupations. Indeed, the interest that the Russian authorities have for it zigzags between absence and hype, between being a periphery and being in the media limelight. The prism through which the Arctic is seen is twofold. It is above all a statehood symbol of Russia's international status as a great power, of the immensity of its territory, of the withdrawal of its population toward the European regions, of the imbalance between a potential "Nordic identity" and the weight of the South Caucasus. But it is also one element among others of the strategies of Putin's inner circle in terms of connecting their political and business interests.

Lastly, the Arctic sheds light on Russia's long-term future. In its report on climate change in Russia, the US National Intelligence Council states that the country "is reaching a point where serious deterioration of its physical and human capital is a major obstacle to sustainable economic growth and Russia's capacity to adapt and protect its people will be tested out to 2030."⁷¹⁸ Adaptive capacity presumes a certain level of decentralization in order to enable local and regional governments to respond to challenges, and to allow decision-makers to interpret information; it needs to make it possible for human capital to inform, predict, and manage challenges; and to provide better decision-making in sustainability and competence-building in emergency response. Russia is relatively well-armed in terms of its emergency response capacity, with a relatively efficient Ministry of Emergency Situations; but it is not so in terms of environmental planning and prevention, decentralization, or sustainability, and has put its human capital at risk. In addition, climate events or technological/ecological catastrophes can prompt political discontent by undermining the image of the state as a good manager of technology.

Russia faces growing challenges in its economic development strategies. The authorities have to deal with the rising costs associated with maintaining Soviet-era infrastructure and diminishing human and technological capacities while simultaneously looking to develop new investment sectors. The Russian state therefore tends to promote ways to camouflage its deficiencies while also trying to overcome them—opening itself to international cooperation without which it cannot modernize its industries, but without having to pay a political price. In the Arctic, Moscow has to learn to manage the rather classical contradiction between the imperatives of competitiveness, which imply more openness to industrial partnerships with foreign companies, and considerations of sovereignty.

The country cannot remain a major power without energy and mineral resources, which make up the backbone of its economy. Even if the strategies of modernization—which have remained mere rhetoric until now—that former President Dmitry Medvedev⁷¹⁹ proposed had been implemented and Russia transformed into a kind of post-industrial economy focused on services and the high-tech sector, the Russian state would have to spend enormous amounts from its budget for at least two decades to finance structural economic changes, the necessary funds for which would still have to come from its hydrocarbons rent.⁷²⁰ Yet, these huge energy revenues needed for modernization cannot be maintained without immediate massive investments of hundreds of billions of dollars in currently degrading infrastructures. The still high price of oil, and the rapid emergence of new technologies, such as oil fracking, could spell some rosy years ahead for Russia, despite the drastic changes in the world gas picture. The real stake, for Moscow, is to know what to do with its energy rent: is it simply an additional source of revenue for the artificial boosting of standards of living, or a tool to be used for innovation? An oil and gas-based economy is not outdated if the hydrocarbons industries are fundamentally high-tech, and if some diversification strategies are implemented thanks to the oil revenues. An Arctic-based economy can therefore turn out either to be a way of postponing the need for an in-depth reformation of the country's structure or an engine of Russia's modernization.

Today's Russia must also manage the heritage of its Soviet past in terms of human management while simultaneously breaking free from old patterns. Russia is "Europeanizing" massively: its material (GDP per capita) and social and cultural wealth (education, travel abroad, access to the media) is mostly concentrated in the country's European regions. The rest of the territory is either in a situation of economic and social crisis (Siberia, Arctic regions, and Far East) or in a state of huge political crisis (North Caucasus). The imbalance in population issues intersects with that of territory: in the European parts people are richer, younger, and healthier; in the Siberian regions people are poorer, older, and not as well cared-for, with the exception of the North Caucasus, which is poorer but not older.

The question remains whether a sparsely populated territory is a risk for national security and border stability. Since Australia is an island and Canada has a unique relationship with the United States and has no other neighbors, these countries do not view their low-population zones as problematic. However, this is not the case for Russia: the authorities' aim to repopulate the Far East, at the border with China, is rather revealing of this perception of "invasion," whether conceived in demographic or economic terms. The Arctic regions, however, do not face the same imaginary peril, even though it is likely that China's growing role in the high latitudes will provoke some anxiety in Russia. The statement that the population is "too small" as compared with the size of the country - even if is "too big" in terms of the level of productivity⁷²¹ - will probably remain part of the discursive agenda for quite some time. Whatever the case, the Russian Federation of today is not the Soviet Union of yesterday. Freedom of movement is spontaneously driving the Russian population toward the western and southern areas of the country, leaving the eastern and northern regions deserted. The Russian state will not again turn into an authoritarian regime with a capacity to send forcibly its population into zones deemed

unpropitious. It will be pushed by the lack of workforce, and of market mechanisms, to shift from labor-intensive methods to labor-saving technologies, with increasing labor immigration coming from the southern republics. Siberia in general and the Arctic in particular will remain border resources, to be considered separate from the rest of the Russian mainland. If the authorities change the definition of development patterns, the need for increasing infrastructure for human settlement will be less pressing, and therefore less costly.

Rethinking the role of the Arctic in twenty-first century Russia thus presumes that the ruling elites open a public debate on the notion of connectedness, and that the emphasis on economic development is focused on technology, communications, and transportation as opposed to size and location.⁷²² As such, the Arctic could see the emergence of a new Russia, or a resurgence of the old. Regardless of the chosen strategy, Russia's Arctic is anything but a unified region. The absence of a comprehensive federal policy specifically designed for all of the Arctic provinces confirms, as if it were needed, that the region is not conceived by the Kremlin as a unity per se, but as belonging to different regional contexts. Indeed, there exist multiple Arctics in Russia, all of which have very different economic and demographic outlooks. A developed North va coexist with a non-profitable one.

The Murmansk-Arkhangelsk Arctic, a European transborder region

The western part of the Russian Arctic, which stretches from Murmansk to Arkhangelsk, is a specific region. Administratively it is part of the federal district of the north-west, which includes Moscow and Saint-Petersburg, and the Barents Sea's shipping lanes, which do not belong to the Northern Sea Route. The region is relatively well-connected to both Moscow and St. Petersburg, and the large majority of its population is made up of ethnic Russians. It also benefits from well-developed infrastructures: the region is host to Russia's main naval industries and to the Northern Fleet; its ports are ice-free all year round; and several nuclear plants as well as mining industries are active there. Whereas during the Soviet period, its proximity to Finland and Norway turned it into an outpost of the Cold War, the dynamism of relations between Russia and the Nordic countries has since deeply transformed the region, as have the prospects for the exploitation of hydrocarbons. In terms of domestic geopolitics, the Murmansk-Arkhangelsk region, despite its specific geographical and climatic conditions, is likely to become part of Russia's "West," that is, of the set of regions whose economies interact and are interlinked with those of European neighbors.⁷²³ This Arctic region, linked to the Baltic one, is bound to become a driving force in Russia's relationship with Europe through the "Northern Dimension". An initiative in the European Union regarding the cross-border and external policies covering Nordic countries, Baltic states and Russia, the Northern Dimension, first proposed by Mikhail Gorbachev and and Finland president Urpo Kivikari, provides a good example of constructive cooperation between all the stakeholders in the North.⁷²⁴

This European Arctic can further be divided into three sub-regions: Murmansk and the Kola Peninsula; the Republic of Karelia, which has access to the White Sea through the Baltic-White Sea Canal; and Arkhangelsk. The future of the Kola Peninsula is that of the trans-border European region, while Arkhangelsk, even if becomes integrated into the same trend, remains more remote and will have some time to wait before it can benefit from the same level of cross-border activities. Economic development is progressing all throughout the region, though at different paces in different places. The ice-free ports

of Murmansk, Severomansk, and Kandalaksha have been renovated as part of the modernization of the Northern Fleet. Murmansk and Kandalaksha are the main commercial ports of the Russian western Arctic with many trawlers unloading their stock there; and the region is considered to be one of the richest in terms of fishing.⁷²⁵ The port of Murmansk also hosts the Russian atomic icebreaker fleet. Further, the extraction industry will continue to develop as the Kola Peninsula is particularly rich in rare minerals. If it becomes a reality, the exploitation of Shtokman gas field should serve to make the entire region more dynamic. The small port of Teriberka/Vidyaevo will be the culminating point of a sea pipeline connecting gas fields to the continent along 570 kilometers of sea bed. A transport and technological complex has been planned for the port, hosting an unloading terminal, a factory for producing liquefied natural gas, and installations for preparing the gas for transport overland. The overland gas pipeline between Vidyaevo and Volkhov, about 1,300 kilometers in length, will connect with Europe and should enable the industries of the region to switch to gas.⁷²⁶

The region's future is drastically influenced by the relationship to its Nordic neighbors. Transborder cooperation has developed between Russia, Finland, and Norway, the aim of which is to increase cross-border activity and to unify the transportation routes. The Barents Euro-Arctic Transport Area (BEATA) plans to improve the transport linkages by road, air, and rail between the Nordic countries and the northwest regions of Russia, and to develop joint security projects on the external maritime connections.⁷²⁷ In 2007, Moscow and Oslo set up a Vessel Traffic Centre to facilitate the exchange of data between the Norwegian and Russian maritime transport authorities.⁷²⁸ Many cross-border projects between Finnish and Russian Karelia and between Finnish and Norwegian Lapland and the Murmansk region have taken shape. Not being part of the EU, Norway has implemented a simplified system of multi-entry visas for persons living near the borders, called Pomor visas, and this has led to a verifiable boom in transborder tourism.⁷²⁹ A Pomor Zone for joint industry and commerce, with Kirkenes as the main center, has also been created.⁷³⁰

In Arkhangelsk, meanwhile, transformations have been much slower to take shape. The region's economy is dominated by the naval industries of Sevmash and Zvezdochka at Severodvinsk, Russia's Nuclear Naval Construction Center, and the fishing industry. Administratively, the region also controls Novaya Zemlya and the Franz Joseph Islands, and could therefore also see military and commercial activities develop much further to the north.⁷³¹ The port of Arkhangelsk, Russia's first port, created in 1584, is today in competition with Murmansk. It would like to host the Northern Fleet if it is moved in order to free up Murmansk solely for commercial activities. The Arkhangelsk port is in the process of being renovated in order to cope with the revival of industrial fishing, but above all to handle the development of the transit of hydrocarbons through the Arctic. It henceforth has an oil-loading terminal at its disposal as well as a Belokamenka floating storage unit for the oil production that arrives from the Timan-Pechora region. The region can also pride itself on the Plesetsk cosmodrome, which is likely to play a central role in the development of satellite navigation in the Arctic, and as well as on a new federal Arctic university.⁷³²

The Mineral and Hydrocarbon-rich Central Arctic

Further to the east, stretching from the Urals to the Taimyr Peninsula, a second Arctic displays an economic unity through its wealth of hydrocarbons and minerals but has no administrative unity. It

includes the three autonomous districts of Nenets, Yamalo-Nenets, and Taimyr, to which can be added the Republic of Komi and its mines, and the autonomous district of Khanty-Mantsi which partly belongs to the same hydrocarbons-related industrial base. The Nenets district is attached to the Arkhangelsk region and therefore comprises the furthest most eastern part of the Northwestern federal district. The Yamalo-Nenets and Khanty-Mansi districts are under Tyumen's administration, which is itself part of the Ural federal district. The Taimyr district was established as part of the Krasnoyarsk region, in the Siberian federal district.

This region is set not only to be Russia's center of extraction in the twenty-first century, but also, because of the demand for transport, play a key role in destinational shipping along the Arctic routes. Its infrastructure is essentially directed toward the western, European regions, and not toward Asia. This orientation, due to historical reasons, could nonetheless be reversed in the decades to come, as the main future markets are bound to be Asian and not European ones. The region hosts numerous industrial towns, such as Norilsk and Vorkuta, which have specialized in mineral extraction since the 1930s, and includes others such as Khanty-Mansi that embody the oil boom of the 2000s, and, albeit more modestly, Naryan-Mar, Noyabrsk, and Novyi Urengoy. It is also the key Arctic/subarctic region in terms of indigenous groups, since the Nenets and other less numerous groups live there and increasingly interact with industrial actors.

The region's industrial revival has fostered numerous infrastructure projects. Some of the local administrations, in this case the Tyumen region, Cheliabinsk further to the south, as well as the Nenets and Yamalo-Nenets districts, have initiated a huge project called "Urals industrial - Urals Polar." It plans to build a new industrial-and-infrastructure complex to ensure the connection between the Arctic/subarctic regions and the old industrial core of the Middle and Southern Urals, and thus facilitate the export of resources to Europe.⁷³³ The Belkomur railway project was, for instance, conceived in order to connect the railway infrastructures of Finland and Norway to the Trans-Siberian by linking up several ends of lines between Arkhangelsk and Perm over a distance of more than 1,500 km. Designed to facilitate the transportation of industrial products both to the east and to the west, the Belkomur railway will be one of the first large infrastructure projects with Chinese participation.⁷³⁴

Lastly, a new line Obskaia–Bovanenkogo of close to 600 kilometers, the northernmost railway in the world, became operational in 2010, and links the Bovanenskoe deposit to the so-called Transpolar Mainline. The Salekhard–Igarka railway, an unfinished line dating from the Gulag period, was partly completed in the 1970s so as to link up the deposits of Novyi Urengoy and Yamburg, and its extension to Vorkuta has remained functional. Since 2010, the Salekhard-Nadym section has undergone works to connect the railway system at both ends. In addition, a railway line from Norilsk, which is totally cut off from the national network, connects the mining towns of Talnakh and Kayerkan with the port of Dudinka more than 300 kilometers away. It has not carried passengers since the end of the 1990s, but it still serves the function of transporting minerals and has been modernized by Norilsk Nickel.

In terms of port infrastructure, only Dudinka, which was privatized by Norilsk Nickel, is developed, whereas the other ports are waiting for a potential boom in Arctic resources to take off. Simultaneously a sea and river port, Dudinka has the largest docking capacity of anywhere along the Northern Sea Route with nine posts along a quay of 1.7 kilometers in length, added to which are twenty others allocated for river boats. Shipping between Dudinka and Murmansk, which takes place all year round, mainly comprises mineral and timber exports. Compared to Dudinka, the other ports of the region are found wanting. The port of Naryan-Mark in the Nenets district, situated hundred kilometers from the mouth of the Pechora River, will probably be turned into an oil port with the exploitation of the Timan-Pechora

reserves.⁷³⁵ The port of Amderma, which opens onto the South Kara Sea, only has a limited function, receiving construction materials and coal. Moscow has planned to revive its activities by building a railway from Vorkuta, and the exploitation of the South Kara Sea deposits could also serve to redynamize it. The settlement of Indiga, situated further west, could well become a deep-water port for the transshipment of cargo and industrial exports from the Komi Republic.⁷³⁶ The small capital of the Yamalo-Nenets district, Salekhard, has a modest level of port activity, as do the Kharasavey and Yamburg/Novyi ports: all three are specialized in oil products, and have hedged their bets on the development of the Ob-Tazov deposits.⁷³⁷ Activities at the port of Dikson, meanwhile, have pretty much dried up, whereas Khatanga is primarily used only by Norilsk.⁷³⁸

The Sakha Arctic: Looking both North and South

The republic of Yakutia-Sakha, in the Lena basin, forms a third Arctic on its own. Part of the Siberian federal district, it is the largest autonomous Arctic republic, with more than 40 percent of its territory above the Arctic Circle. It is presented as a model of harmonious relations between the Yakuts and ethnic Russians; each constituted about 45 percent of the population at the 2002 census.⁷³⁹ The republic has tried to develop its own Arctic brand by hosting numerous international conferences on the subject, and by promoting its indigenous culture and its network of ecological protection zones. However, the political establishment is distinctly dominated by Russians and the industrial riches are at the core of development strategies. The diamond, gold, and tin ore mining industries are the major focus of the local economy, dominated by the Alrosa holding.⁷⁴⁰ Yakutia-Sakha advertises its geographical position as a way of campaigning for a revival of the Northern Sea Route, but also, and above all, to open itself up to Asia-Pacific. It seeks to develop its economic links with southern Siberia, in particular the Irkutsk region, and with the Primorie (Far East) territory, which serves as its path of access to China, a direction in which it does not conceal commercial ambitions.⁷⁴¹

The Yakut administration traditionally presents the Northern Sea Route as its “Arctic road of life.”⁷⁴² It calls for the improvement of port infrastructure on its Arctic coastline between the mouth of the Anabar River and that of the Kolyma. It hopes to revive its main port, Tiksi, which is situated on the Lena River and has fallen into partial disrepair, and that of Zelenyi Mys located on the Kolyma River, which has been practically shut down. Both ports are only open seasonally. In view of this, Yakutsk has proposed to host an Arctic rescue center with modern technology and transport, in order to exploit its proximity to the Poliarnaya station and the neighboring geophysical observatory, and to exploit the fleet of Roshydromet, part of which is based at Tiksi.⁷⁴³ The prospect of cross-continental transit of Asian ships has created great hopes for the development of the republic’s Arctic coastline, which also counts amongst Russia’s most isolated.⁷⁴⁴ For the whole of Yakutia-Sakha, the Arctic Ocean-rivers’ connection is conceived as a means of unified transport.⁷⁴⁵ Indeed, most freight is still transported along the Lena River and its tributaries Vilyui and Aldan, and also via the Yana, Indigirka, and Kolyma Rivers.⁷⁴⁶

Other transport means are also being developed. In 2008, the federal highway “Kolyma” connecting Yakutsk to Magadan was opened for year-round use. An 800-kilometer-long railway line connecting the capital Yakutsk to the BAM, thus serving as a connection with southern Siberia, is in the process of being finished (the line is planned to be fully opened in 2013). This will make it possible to allow scattered populations to travel between regions, to export mineral productions from Sakha to Asia, and, in

exchange, to obtain Chinese goods at the lowest possible price. It is likely that of the two Sakha strategies—one directed toward the north, and the other south—the latter will prove to be more commercially dynamic than the former.

The Bering Arctic: winning out from the American and Asian Neighborhoods?

The fourth Russian Arctic is that of Chukotka and Kamchatka, which includes the country's Pacific façade which opens onto the Bering, Chukchi and Okhotsk Seas. Part of the Far East federal district, this Arctic is probably the most marginalized one. It has a particularly small population, has experienced an acute migration crisis since the 1990s, has a high unemployment rate among those ethnic Russians that have remained, and its indigenous peoples have been forced to resume their traditional livelihoods due to the lack of central subsidies. Whereas its proximity to the United States made it a point of tension during the Cold War, Moscow now dreams of exploiting more peaceful ties with Alaska, and even more so with Asia. Asian dynamism is the only opportunity for the region's economic revitalization, but this presupposes that transcontinental shipping via the Arctic really does take off, and that the fishing industry revives, which is far from certain. The population of this fourth Arctic is essentially composed of ethnic Russians and Ukrainians, while there are a statistically small number of indigenous peoples; the presence of Chinese migrants is currently limited for the time being to the border regions of Amur and Primorie.

There are still too many unknowns concerning the region's prospects for subsoil exploitation, so that it is too early to place any hope in a hydrocarbons- or minerals-based economic revival. But other dimensions of development have to be taken into account. Growing Arctic tourism, coupled with eco-tourism and volcano-viewing on the Kamchatka Peninsula, harbors the potential to revitalize some small settlements in the most isolated regions. The growing use of the Trans-Arctic Air Corridor also requires the development of rescue systems in the over-flight regions. The administration of Chukotka has for instance proposed to create a Crisis Management Center and Rescue Center to be based in Anadyr under the control of the Ministry of Emergency Situations.⁷⁴⁷

However, the main regional economic project remains the transformation of the port of Petropavlovsk-Kamchatskii in the bay of Avacha into a hub for North Pacific trade.⁷⁴⁸ The port has maintained its industrial fishing activities, but on a lesser scale than during the Soviet period.⁷⁴⁹ Part of the Pacific Fleet is stationed there, as well as at Viliuchinsk, albeit under the command of Vladivostok. Prospects of a trade boom, however, seem limited: not even the southernmost ports of Vladivostok and Nakhodka, whose geographical location is clearly more advantageous, are able to rival the major Asian ports, which are mostly based in southern seas. Petropavlovsk-Kamchatskii's own location on a peninsula makes the transport of goods to the continent both costly and technically challenging.⁷⁵⁰ Meanwhile, the world's northernmost port of Pevek, on the Arctic coast of Chukotka, was all but deserted by its population in the 1990s.⁷⁵¹ It still serves as an outlet for the gold extracted from the Kolyma basin, one of the only industries that remained active in Chukotka, but which only operates in summer. Projects to revive the port will not be able to make any substantial headway, since it is exclusively seasonal and its infrastructure old. The Bilibino nuclear power plant, likewise the northernmost in the world, has been in operation since the 1970s⁷⁵² but offers no prospects for economic development.

Any kind of port development is based on the capacity to connect to remotely situated territories deep in the country. Hitherto, wintertime ice roads (*zimniki*) have been the main transportation system between remote settlements, but climate change could have the effect of rendering such means of transport obsolete. Railways projects are more likely to take shape; although the harsh climatic conditions and increased melting of the permafrost present considerable technological problems. The Amur-Yakutsk line could for instance be extended to Uelen in Chukotka, which is Russia's easternmost settlement. The possibility has also been raised of building a 5,000-kilometer railway line to connect the port of Petropavlovsk-Kamchatskii to the Siberian continent and to the Primorie. This line would join the BAM and then the Trans-Siberian, but the project appears unrealistic in view of the actual freight opportunities, and will involve huge detours to bypass the Kamchatka Peninsula by the Magadan region. The Russian Transport Development Strategy for 2030 plans the construction of a railway line connecting Russia to Alaska via a tunnel beneath the Bering Strait (less than 100 kilometers wide). An investment promotion agency, InterBering, has been created to promote this utopian project: the agency calculates its cost at around 100 billion dollars, for a potential of 100 million tons of freight.⁷⁵³ The hope of Vladimir Yakunin, the CEO of Russian Railways, to see a passenger railway line between New York and London via Siberia, seems nonetheless to be even more detached from reality.⁷⁵⁴

The Arctic illustrates Russia's current crossroads of demography or geography as a destiny, and space as a blessing or a burden. This is not a new choice for the country: it is a recurrent pattern which has returned at different moments of national history since the nineteenth century. The mental geography of the country will deeply evolve in the years to come, and the idea that size and location gave international stature to Russia must be reformulated, placing the emphasis on efficiency, productivity, and the well-being of the population. The incumbent regime refuses to engage in any head-on reforms of its political and economic system: its memory of the trauma of the 1990s and fears of further desegregation of the country, with, as a corollary, yet another erasure from the international arena, have created a pressure to maintain the status quo. This situation is still supported by sections of the population, which share with the authorities the idea of a progressive but not revolutionary transformation of the country. This consensus, challenged by parts of the new middle and upper classes, is based on the regular increase in living standards and the state's ability to manage, for better or for worse, the Soviet legacy, recurrent corruption and the implementation deficiency. Russia is therefore wagering on its ability to postpone having to make any radical changes: the need for these changes is not denied, but simply pushed further into the future, in the hope that in the years to come, there will be more leeway in which to achieve reforms all the while maintaining political and social stability. In this postponement strategy, the Arctic occupies a flagship position, but the cost of an Arctic-centered development is probably higher than is estimated by the Russian authorities, and the relevance of this strategy could find itself brutally undermined by evolutions in the international and domestic contexts.

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