Chapter 13

The 'Regime' Nature of the Arctic: Implications for World Order

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In 2020 the world saw the coronavirus become a new kind of non-military threat and the COVID-19 pandemic an invisible enemy causing terror among citizens and threatening our modern societies. The pandemic became a global crisis, forcing public authorities to make exceptional decisions. Emergency laws were passed and borders were closed, opened and sometimes closed again. Many restrictions have been imposed on daily life. In many cases decisions were implemented very quickly, without real discussion and political debate, even though they often affected and possibly endangered basic rights of citizens, such as freedom of mobility, that of expression, which could potentially be abused by authorities. The economic wellbeing of states, companies and individuals were put in danger, and many collapsed.

On the other hand, the pandemic saved energy, resources and time as most adults started to work, and children and students to study, virtually at home. Conferences, seminars, meetings and lectures went online. Most developed countries were able to demonstrate their flexibility, resilience and ability to operate during the pandemic, thanks to high-technology, good infrastructure, and advanced knowledge and expertise in distance learning, even though many people experienced digital fatigue. There is less air pollution, urban car traffic has been diverted in favor of more space for pedestrians, bikes and cafes. Significant new investments and "Green (New) Deal" policies were pledged for energy efficiency and saving, alternative energy sources, and CO_2 neutrality. Finally, the fight against the pandemic underscored the need for policymakers to lean on scientific research. All in all, COVID-19 has brought new premises and forced us to consider globalization's dark side and the fragile nature of modern societies. It awakened more people to the need to consider that comprehensive security must include non-military threats such as pandemics, environmental degradation, and climate change.

In this situation affecting our planet, the globalized Arctic—an exceptional political space and unique regime—has the potential to nudge a shifting world order toward mutually beneficial cooperation and comprehensive security. The Arctic regime is characterized by high geopolitical stability and functional international cooperation, even as it is threatened by rapidly advanced climate change. This hypothesis of the Arctic regime as a potential asset for world politics is inspired both by Mikhail Gorbachev's 1987 concept of the eight Arctic states as a "zone of peace," and Angela Merkel's 2011 speech in which she stated that solidarity matters the most, and that a nation's political legitimacy comes from having global responsibility.[1] We need not be fatalistic, as the Arctic regime has demonstrated the value of high geopolitical stability and mutually beneficial cooperation. Such cooperation is also inclusive, as all relevant actors—states, nations, Indigenous peoples, regions, NGOs, civil societies, individuals—are involved. This is essential, since in the end power and responsibility are borne by people and civil societies.

In this chapter, I relate the COVID-19 pandemic to the Arctic region, which has moved successfully from military tension to political stability, even as it faces rapid environmental degradation and climate change. I focus in particular on how the pandemic is being interpreted as a global shock or being treated as a "discipline for disciplining," a justification that could open the door to authoritarian rulers imposing solutions they believe could help achieve a different "social order." In this regard, I argue that we face a post-pandemic question and a potential lesson to learn. Unless we are vigilant, climate change mitigation potentially could become a "new discipline for disciplining." Decision-makers could interpret climate change primarily as a threat and let science lead politics in climate change mitigation, i.e. they could use science as an excuse to impose authoritarian solutions. The alternative is to emphasize solidarity; if policymakers explain why it is in society's best interests to mitigate climate change, people are likely to behave accordingly. This was demonstrated by the experience of many countries and regions with the coronavirus threat in spring 2020. It has also been demonstrated by the way in which our understanding and cooperation regarding Arctic security has evolved, from military to environmental and ultimately to human security.

How to Interpret 'Threat' and Define 'Security'

The only certainty in international relations is constant change. Similarly, changing the definition of a problem may be the first step toward its solution. This is particularly pertinent in environmental politics as well as a driving force of the "politicization" of the environment.[2] A change in problem definition is not usually sufficient on its own, but it can potentially generate new discourses, premises, and shifts in paradigms.[3]

We have seen this in how security has been reinterpreted and redefined in the last decades. Among environmentally-relevant factors behind the transformation from traditional conceptions of military-based security to more comprehensive security was the global-scale interdependence between the environment, development and security/peace (disarmament), as originally defined in various United Nations reports.[4] Environmental awakening and protests against pollution and global warming, and for environmental protection, became universal trends and phenomena that were very influential in international Arctic cooperation. Over the past decades, interrelations between climate, energy and development have been reported by scientific research, in particular reports by the Intergovernmental Panel on Climate Change (IPCC). This "everyday security" discourse redefined security to include individuals, and not solely states, as security actors.

It is understandable and human that we all would like to be secure against whatever dangers may threaten us, hence the importance of societal security. That concept recognizes that pollution kills millions and causes cancer and that global warming threatens the everyday life of hundreds of millions. It understands that the wicked global problems we are facing can destroy the material basis for human existence, i.e. our dependence on the environment and its natural resources. It questions the benefit and sense of arming ourselves with expensive high-tech weapons and weapons systems against potential and hypothetical external enemies when, at the same time, rapidly advanced climate change and pollution threatens human and national security, along with state sovereignty.

When it comes to security and the environment, defining the problem has much to do with risk–threat –dualism: how to define a problem

as a risk, which is then possible to rank and measure; or as a threat, which is mostly subjective and psychological.[5] Other considerations include economic growth and the relative degree of faith and dependence on high-technology. According to Ulrich Beck, we live in a risk society, as exemplified by the risk of nuclear power accidents.[6] Finnish philosopher Georg Henrik von Wright warned of a catastrophe with exponential effects that would challenge people to act rationally to solve it.[7] There is a general understanding that the 1986 Chernobyl and 2011 Fukushima nuclear power accidents, as well as severe nuclear submarines accidents in the North Atlantic, were lethal locally and regionally and have had long-lasting global impacts. They exemplify the criteria of Beck and von Wright, yet do not seem be so catastrophic as to have warranted changes in problem definition or shifts in paradigms. Only a few lessons seem to have been learned, and even fewer actions taken, such as Germany's decision to end its reliance on nuclear power.

The COVID-19 pandemic may perhaps be the type of shock that not only causes a global crisis but also legitimizes exceptional and massive acts to tackle it. Indeed, the pandemic has introduced the need to consider new premises of security as we seek to avoid economic collapse and try to maintain stability and order in our modern societies. The fight against the coronavirus has made it evident that policymakers in charge of making crisis decisions are leaning on scientific research. This could mean either that policymakers are afraid to take hard decisions dealing with basic human rights, or that most of them, as well as their advisers, have understood that COVID-19 is a large-scale catastrophe.

Interestingly, policymakers in most (though not all) states are carefully listening to epidemiologists, virologists and other experts before taking important decisions on restrictions. Thus, the epidemic reminds us of and supports the importance of scientific research and its applications, as well as digitalization and distance-learning, when handling and solving wicked problems and global crises. In this kind of open-ended crisis, proper information and freedom of expression are very important, even crucial. So is the ability of scholars and scientists to continue their research, and students to continue their studies, whether face-to-face or online, and that new information, scientific research findings and results are available and open for all.

Further, exceptional extensions of public authority through regulations, laws, and restriction have been largely accepted and implemented, and a new order applied by people. Citizens need to understand that these measures are being taken to protect them, and that they are fair towards health workers and workers in grocery stores and pharmacies. If they are, they are likely to be legitimized by citizen behavior. If they are not, they are likely to generate concerns that such steps could lead us toward more authoritarian, non-democratic or meritocratic societies.

These extraordinary decisions could signal that policymakers all over the world, and particularly in democracies, are engaged in a paradigm shift in their policies and practices, and are asking citizens to implement what is likely to become a "new normal." Alternatively, they could be breaking new ground by elevating social order as a new top priority that should regulate daily life and influence policies on a host of other issues, from restrictions on human rights or changes to the rules of capitalism. If it is the latter, then the COVID-19 pandemic could be interpreted as a 'new discipline for disciplining,' representing a type of 'social order first' thinking that betrays a poor understanding of the importance of human/societal security. The guiding rationale behind such thinking is that "authoritarian solutions are always required" to force people to change their behavior, whereas what is really needed is solidarity.[8]

From the point of view of this chapter, it is relevant to remember that the original wicked problem—the combination of rapidly advanced climate change, pollution and declining biodiversity—is threatening people and societies more quickly and dramatically in several parts of the globe, from small Pacific islands and countries like Bangladesh to the Arctic region. It is a challenge that cannot be put on hold until the virus is addressed.

Although the COVID-19 pandemic and climate change are both interpreted as unprecedented global, non-military threats that caught the world by surprise, it is important to understand that climate change differs from the pandemic.[9] First of all, climate change is a holistic and long-lasting phenomenon. It is a wicked problem that affects the entire globe at all levels of modern society. The pandemic does not mean ecological collapse, even if it has generated an eco-

nomic crisis in many countries. Ecological collapse could result, however, from our failure to stop rapidly advanced climate change and loss of biodiversity. Severe disturbances of the environment (defined as the material basis for human existence, which is in danger due to human activities[10]), in turn will easily generate significant risks for economics, food security, human health and wellbeing—even the entirety of humankind and civilization.

The two phenomena exhibit a similarity that is important for public policy. The longer the pandemic has lasted, the more we know that we must take it seriously. We also understand enough about the loss of biodiversity and the effects of climate change to know we cannot afford to underestimate them. We know that ecological collapse will happen if we continue to believe in unfettered economic growth and efficiency.[11] And while as of this writing we do not yet have a vaccine for COVID-19, we do possess the medicine needed to mitigate climate change. Political paralysis has simply stopped us from using it. Therefore, it is very important that post-pandemic recovery and growth efforts enhance sustainability, equality and a new green deal, as well as assist and enhance climate change mitigation and emission neutrality.

If climate change mitigation will become another "new discipline for disciplining," then it matters how we do it. Will we ask people to follow and obey slavishly the new regulations, laws and restricts, and apply to a new normal mostly for the benefit of their own? Or will we expect citizens to change their behaviors in ways that respect human lives and nature, for the benefit of all humankind, as civilized, smart human beings with high ethics could be expected to do?

There is no solution to ecological problems once and for all. A new combination of rationality and solidarity should be elaborated as a practical task.[12] This could be done through open and lively dialogue within civil society, and among policymakers and legislators, as well as by making a paradigm shift in mindset. This kind of change in problem definition on security is urgently needed if we are to address climate change, pollution and the COVID-19 pandemic as new, non-military security threats, and include them in a new security agenda. A paradigm shift is possible if decision-makers, in particular the military-security/security-political elite, are ready to demystify the traditional under-

standing of security, in particular national, competitive, military security, and broaden it towards one that is far more comprehensive.[13]

Fortunately, this is not totally unknown territory. We have already experienced a shift from traditional to comprehensive security definitions. There is greater understanding that this kind of transformative approach would be beneficial to all parties. It represents an immaterial value that could be transferred into human capital, as it has been done in the Arctic, to strengthen geopolitical stability and deepen functional cooperation on environmental protection.

Transformation from Traditional to Environmental Security in the Arctic

The Arctic offers an instructive, even perfect, case for world politics, global studies and discussions of interdependence. The focus of Arctic security has been transformed from traditional considerations to those surrounding environmental security. There is widespread recognition that the environment matters, and that globalization has brought to the security debate new non-state actors, as well as critical approaches toward state sovereignty by local, regional and Indigenous actors. There is also greater awareness of how global changes affect the Arctic, and how the region affects the rest of the planet. It is possible to argue that the 'wicked' problem of combined pollution and climate change puts pressure on Arctic states and other Arctic actors to accelerate their cooperation.

The Arctic has been facing these significant changes, global threats and 'wicked' problems in its geopolitical and security dynamics at least since the last decade of the Cold War period.[14] Although climate change is interpreted as the most severe trigger, it is not the first or only cause, as long-range pollution (radioactive contaminants, Arctic haze, heavy metals, persistent organic pollutants) was a long-standing source of concern to Indigenous and other local peoples, NGOs, and the research community. Nuclear safety as the main environmental concern and trigger[15] was transformed first into pressure on the Arctic states' governments and then into functional cooperation among them.

Following from this, there was a change in problem definition as well as transformation of (post-Cold War) Arctic security, as well as

that of Arctic geopolitics, from traditional security towards environmental and societal security. This shift resulted in significant changes in the Arctic security nexus.[16]

The Cold War security nexus, from the 1950s to the 1980s, was defined primarily by the hegemonic competition between the Soviet Union and the United States, based on technology models of geopolitics. It was dominated by traditional military security, in particular the nuclear weapon systems of the Soviet Union and those of the United States, each of which sought the ability to retaliate against a nuclear attack through a "second-strike" capability that could serve as a global deterrent. This led to the militarization of the Arctic, as well as to nuclear accidents by the military as collateral damage.

The security nexus during the transition out of the Cold War, through the 1980s and 1990s, introduced both U.S.-Soviet arms control and disarmament measures as well as new kinds of security threats, fostering new "risk society" theory discourses as introduced by Ulrich Beck and others. It was animated by growing concern about pollution and environmental degradation due to nuclear accidents and radioactive wastes. It led to functional cooperation on environmental protection and nuclear safety, for instance through Arctic Military Environmental Cooperation (AMEC), and efforts to identify practical ways to implement the concept of "environmental security."

The security nexus of the post-Cold War era brought geopolitical stability, with new globalist security premises beginning to become accepted since the 2000s. The current security nexus is driven by a commitment to maintain peace, stability and constructive cooperation, and to protect the state sovereignty/national security of the Arctic littoral states and human security in the face of climate change. It has led, so far, to geopolitical stability, even though still-deployed heavy military (nuclear weapons) structures are juxtaposed against climate change effects. The need to aggressively restrain further climate change, versus the opportunity to exploit potential advantages in shipping, mining, drilling and national security as climate change proceeds, has created what some call the "Arctic paradox."[17]

These changes, as well as those of Arctic geopolitics, show how the environment, as well as comprehensive security, was put onto the Arctic agenda when the Arctic states in the Ottawa Declaration of 1996

first affirmed their commitment to "sustainable development in…the protection of the Arctic environment",[18] and subsequently reaffirmed their "commitment to maintain peace, stability and constructive cooperation in the Arctic" in 2011.[19] Not only did they recognize the importance of peace, stability and constructive cooperation; they have been successful in maintaining them. This is rather rare, even exceptional, in world politics today.

In the contemporary world these interrelationships, together with the societal dimension, form an important nexus. The climate is dependent on how (many) resources and energy, especially hydrocarbons, are used, since emissions from the energy sector represent roughly two-thirds of all anthropogenic greenhouse gases. Fossil fuels, when supporting modernization, (artificial) economic growth and the military, contribute to climate warming and pollute the environment as human impacts on rapid climate change. Following from this, environmental and climate policies have become parts of high-level global politics aiming to reach the goals of environmental protection and climate change mitigation, for example by developing more efficient energy technologies, promoting cooperation for low-carbon and clean energy sources, and aiming to search for a paradigm shift in security. This kind of new "high politics," not "Great Power rivalry," is the core of the 21st century's Arctic (geo)politics, security and governance, as well as resource geopolitics and societal security.

This new kind of "high politics" is reinforced by the mainstream narrative of international Arctic "constructive cooperation," as the Arctic states, through their commitment to sustainable development and protection of the Arctic environment, recognize the value of high geopolitical stability and are committed to maintaining it through international, mostly functional, cooperation. This state of the Arctic geopolitics is based on two politically relevant and scientifically interesting phenomena and features that have served to reduce military tension after the end of the Cold War and to implement, maintain and enhance mutually beneficial cooperation.[20] First, there are common interests between the Arctic states and other Arctic actors, such as the lesson to "decrease military tension and increase political stability," promote scientific and economic cooperation, transboundary collaboration on environmental protection, and circumpolar cooperation by major non-state actors, and "region-building" by states; Second, there are a few

important prerequisites for international cooperation, including the original nature of Arctic militarization as a means of global nuclear deterrence, the high degree of legal certainty, related policies to avoid armed conflicts, and a shared positive approach to regional devolution of power.

Narratives and New Trends in Arctic Governance and Geopolitics

A global and stable Arctic is being interpreted in a new geopolitical context and as part and parcel of the overall earth and ocean systems, including global political, economic, technological, cultural, and environmental changes. It has acquired global significance due to immaterial issues (e.g. cultural diversity, biodiversity, Indigenous and traditional knowledge about the environment and climate, broader issues of political stability and peace).[21] Building on a shared understanding that these principles can be mutually beneficial, the Arctic states, supported by Indigenous peoples and local communities, have consciously constructed their own reality of post–Cold War governance and geopolitics.

As narratives regarding the future development of the Arctic region are being constructed and reconstructed, it is important to consider whether state-centric approaches that treat the state as "the central negotiator… in the 'hegemonic project' of developing the frontier" are the right way to view the Arctic region, where development needs and desires differ.[22] It is also important to ponder whether different (regional) development trajectories need to be captured, given that the pathways of different Arctic regions toward sustainability differ one from another. For example, might ecological balance be best maintained by Indigenous self-reliance in managing renewable resources, or by a triangular alliance of government, academia, and private business that draws on successful development pathways as determined by public policy, research, and public and private sector economic activities?

One new trend in Arctic geopolitics and governance is state domination by the eight Arctic states and their national policies and strategies, as they play a crucial role in controlling the region, despite globalization, growing pressures and demands by Indigenous peoples, and

greater interest by non-Arctic states in the future development of the Arctic.[23] The Arctic states are reluctant to acknowledge that the Arctic is being globalized, even though they are among the most active states in international cooperation and the global economy, and quite dependent on foreign trade, as the COVID-19 pandemic made clear. The intention of Arctic states to dominate in the region and take control back is due to globalization and rapidly advancing climate change—which means better access to Arctic resources and better chances for economic activities and development for them. This does not necessarily mean, however, that they are willing, yet, to incorporate considerations of globalization into their Arctic policies.

In contrast, Arctic Council observer states, as non-Arctic states, prefer the perception of a global Arctic, and have applied the interpretation that the Arctic is globalized. While they recognize the existing governance structures and the national jurisdictions/state sovereignty of the Arctic states over the Arctic, they very much support, and are ready to implement, international treaties and agreements, in particular the United Nations Convention on the Law of the Sea (UNCLOS), in order to adopt and maintain universal freedom (of the seas) and rights in Arctic Ocean governance. Correspondingly, Arctic Indigenous peoples, as Permanent Participants of the Arctic Council, support and implement their rights (e.g. harvesting rights) through international cooperation, treaties and agreements (e.g. UN Declaration on Indigenous Peoples Rights) and international organizations (via UN bodies and the Arctic Council). These tie Indigenous rights into international Arctic politics through the recognition of Indigenous peoples as legitimate political entities and as part of the internationalized and digitally connected world. Correspondingly, "Indigenous rights," meaning individual and collective rights, are connected to their right to manage (their own) territory, and use and develop its resources. In this regard, the economy is a means to self-determination/self-governance, and could be interpreted through different stages of nation-building.

Following from this, one of the new overall trends of Arctic governance and geopolitics is a new and potentially competitive interrelationship among a) state domination by the Arctic states, based on geopolitical stability and state sovereignty; b) internationalization/globalization (prompted by the Observer states and due to the growing number of Arctic stakeholders) based on international maritime law

and other international treaties and c) UN declarations regarding Indigenous rights and self-determination. [24]

When defining societal security, the question of future development is not only about how to tackle resources and what kind of regulations there are, but also how to resolve ethical questions as well as the role of environmental protection and sustainable development. Key questions of the global climate ethics debate, such as moral responsibility and distribution of burdens and benefits, have recently found their way into Arctic politics as part of the "global Arctic" narrative.[25] There are conflicting views, ranging from support for unlimited oil and gas development by state-owned and private oil companies to the proposal by international environmental organizations for an offshore oil drilling ban. There are also varying views regarding the extent to which stakeholders—governments, companies, communities, Indigenous peoples, and the scientific community—are responsible for mitigating climate change and reducing related uncertainties at a time when some are stressing economic growth and others are highlighting the environmental risks of exploitation.

Despite some progress, the current functional Arctic cooperation on environmental protection and scientific collaboration on climate change (adaptation and mitigation) has been more rhetoric than reality. Mitigation efforts are largely on hold as the Arctic states have proven unable to make the tough political choices needed to move forward. Nonetheless, the environment, as well as climate change, have become major factors, even triggers, of mutually-beneficial international Arctic cooperation among Arctic states, Indigenous peoples' organizations, and the scientific community. Consequently, in the post-Cold War period, Arctic geopolitics and security are closely related to the environment, which has become a special feature of Arctic security and Arctic geopolitics.

The new ethical questions regarding Arctic oil and gas development have a fundamental global dimension: first, because of the "Arctic Paradox," namely that global warming will open access to resources whose utilization will speed up the changes and the melting of sea ice; and second, because of the spillover effect that climate change mitigation, together with increasing volumes of delivered renewable energy and decreasing need of fossil fuels, might trigger a change in the defini-

tion of the problem. There is both need and potential to find solutions that are based on solidarity, high ethical principles, and top-level scientific and technological expertise, instead of an authoritarian "discipline-for-disciplining" approach.

There is also a narrative that both recognizes and analyzes existing and potential changes in defining the security problem in the Arctic,[26] and seeks an urgent shift in mindset that can unleash political energy to advance a new security paradigm for the region.[27] Advancing this narrative is unlikely in and of itself to shift the prevailing paradigm. Nonetheless, there are indications of change.

Conclusions

I have argued that the post-Cold War Arctic based on high geopolitical stability and constructive cooperation can help to ameliorate currently turbulent and uncertain world politics. The current Arctic regime does not result from either classical Great-Game geopolitics or the Hobbesian zero-sum approach. It derives from the application of a critical, constructivist and cooperative approach to governance, geopolitics and security. It also goes beyond the game of power and hegemony; the Arctic states are reconstructing their reality by redefining environmental protection to achieve their aim "to maintain peace, stability and constructive cooperation." They are implementing a discursive devolution of power (based on knowledge) and soft laws, and applying the interplay among science, politics and business into a multidimensional dialogue with several voices across sectors.[28] Finally, the globalized Arctic can offer greater insights into the meaning and realization of "societal security," including through non-authoritarian solutions and a non-disciplining political ecology with regard to climate change mitigation.

The "Arctic paradox," however, is not inevitable. Much depends on the criteria Arctic states use to make their decisions and whether they believe they can (re)construct their reality of post-Cold War Arctic geopolitics, since anarchy is what states make of it. Much also depends on how security is (re)defined, if stability will be maintained, and who are understood to be subjects of security: whether climate change will be declared a severe security factor, and whether a comprehensive se-

curity concept will be applied through mitigation, for example by dramatically decreasing CO_2 emissions.

The rapid warming of Arctic climate could and should be interpreted as a last warning and opportunity to heed the recommendations of scientists and the relevant demands of international non-governmental organizations. That means not becoming reliant on a single solution. It means forgetting political jargon, such as "sustainable" development. It means rejecting the "new discipline for disciplining" moment. Most of all, it means implementing the commitments states have made to mitigate climate change (in particular in Paris Agreement) and to the "global environmental security" approach.[29] Following from this, resilient solutions must be rooted in high ethical principles with regard to resource utilization. Decision-makers must summon the political ability to adopt stricter environmental regulations, in particular in Arctic offshore drilling.

Finally, the global Arctic offers experiences relevant to global, ethical issues, such as environmental awakening, implementing empowerment, understanding and assessing climate change, and premises that underpin environmental security premises. It offers common ground for lessons-to-learn, as well as for brainstorming, as this is this chapter's aim.

Notes

1. See Mikhail Gorbachev, "The Speech in Murmansk at the Ceremonial Meeting of the Occasion of the Presentation of the Order of Lenin and the Gold Star Medal to the City of Murmansk," *Novosti Press Agency*, October 1 (1987); and Angela Merkel, "Speech by Federal Chancellor Angela Merkel at the World Economic Forum Annual Meeting 2011 in Davos," January 28, 2011.

2. Yrjö Haila, "Johdanto: Mikä ympäristö?," in Yrjö Haila and Pekka Jokinen, eds., *Ympäristöpolitiikka: Mikä ympäristö, kenen politiikka* (Jyväskylä: Vastapaino, 2001), pp. 9-20.

3. Lassi Heininen, "Security of the Global Arctic in Transformation—Changes in Problem Definition of Security," in Lassi Heininen, ed., *Future Security of the Global Arctic: State Policy, Economic Security and Climate* (Basingstoke: Palgrave Macmillan, 2016), pp. 12-34.

4. See, for example, United Nations, *Common Security: A Blueprint for Survival*, UN/A/CN.10/38, Independent Commission on Disarmament and Security (1983).

5. Lassi Heininen, "Before Climate Change, 'Nuclear Safety' Was There—A Retrospective Study and Lessons-Learned of Changing Security Premises in the Arctic," in Lassi Heininen and Heather Exner-Pirot, eds., *Climate Change and Arctic Security. Searching for a Paradigm Shift* (Cham: Palgrave Macmillan, 2019), pp. 107-129.

6. Ulrich Beck, "From Industrial Society to Risk Society: Questions of Survival, Social Structure and Ecological Enlightenment," in M. Featherstone, ed., *Cultural Theory and Cultural Change* (London: Sage, 1992), pp. 97–123.

7. Georg Henrik von Wright, *Vetenskapen och förnuftet:ett försök till orientering* (Tukholma: Bonniers, 1987).

8. Yrjö Haila and Lassi Heininen, "Ecology: A New Discipline for Disciplining?" *Social Text* 42 (Spring 1995), pp. 153-171.

9. Charlie Campbell and Alice Park, "Anatoly of A Pandemic," *Time*, August 3/10, 2020, pp. 64-73.

10. Haila (2001), op. cit.

11. Yuval Noah Harari, *Homo Deus: Huomisen lyhyt historia* (Helsinki: Bazar, 2017).

12. Haila and Heininen (1995), op. cit.

13. Lassi Heininen, "Uusista uhkista selviytyminen edellyttää laajaa turval-lisuuskäsitystä—ilmastonmuutokseen on rokote ollut jo jonkin aikaa," *Kaleva*, June 28, 2020.

14. E.g. Barry Scott Zellen, ed., *The Fast-Changing Arctic: Rethinking Arctic Security for a Warmer World* (Calgary: University of Calgary Press, 2013).

15. See *Arctic Pollution: Persistent Organic Pollutants, Heavy Metals, Radioactivity, Human Health, Changing Pathways* (Oslo: Arctic Monitoring and Assessment Program, 2002).

16. Heininen (2019), op. cit.

17. E.g. Cristine Russell, "The Arctic Paradox Poses Questions about Sustainable Development," *Scientific American*, Nov. 5, 2015, https://blogs.scientificamerican.com/guest-blog/the-arctic-paradox-poses-questions-about-sustainable-development/.

18. Ottawa Declaration on the Establishment of the Arctic Council, Sept. 19, 1996, http://www.arctic-council.org/establ.asp

19. Fairbanks Declaration on the Occasion of the Tenth Ministerial Meeting of the Arctic Council (2017), https://oaarchive.arctic-council.org/handle/11374/1910.

20. Lassi Heininen, "Special Features of Arctic Geopolitics—A Potential Asset for World Politics," in Matthias Finger and Lassi Heininen, eds., *The GlobalArctic Handbook* (Cham: Springer, 2018), pp. 215-234.

21. Ibid.

22. Andrei Petrov, "Re-Tracing Development Paths: Exploring the Origins & Nature of the 20th Century's Northern Development Paradigms in Russia and Canada," *Arctic Yearbook 2018*, pp. 21-34, https://arcticyearbook.com.

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24. Ibid.

25. Teemu Palosaari and Nina Tynkkynen, "Arctic securitization and climate change," Leif Christian Jensen and Geir Hönneland, eds., *Handbook of The Politics of the Arctic* (Edward Elgar Publishing Ltd., 2015); Conference Statement, Conference of Parliamentarians of the Arctic Region in September 2018 in Inari, Finland (mimeo).

26. Ibid.

27. See Heininen and Exner-Pirot, op. cit.

28. Heininen (2018), op. cit.; AHDR, *Arctic Human Development Report* (Akureyri: Stefansson Arctic Institute, 2004).

29. E.g. "A Circumpolar Inuit Declaration on Sovereignty in the Arctic," adopted by the Inuit Circumpolar Council (2009).