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China's rise and the Arctic region up to 2049 – three scenarios for regional futures in an era of climate change and power transition

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ABSTRACT

Although China has emerged as an increasingly influential global actor over recent decades, it is unclear whether a more fundamental transformation is shaking processes of regionalisation in this context. Our scenario-based case study considers the spatial reconfiguration of the rapidly globalising Arctic with varying degrees of Chinese engagement. More specifically, we examine alternative and transformational configurations of the Arctic in 2049, and ponder upon the plausibility of the hypothesised changes in light of three schools of thought on International Relations – realism, liberal institutionalism and relationalism. Hence, we explore how the rise of China could potentially alter the regional dynamics and whether, consequently, regions should be rethought both empirically and theoretically. We conclude that pluralistic discussion on the multiple regional outcomes is a necessary precondition for achieving a balanced and democratic future in the Arctic and beyond.

KEYWORDS

Arctic; China; futures; power transition; scenarios

Introduction

After the end of the Cold War the Arctic became 'part and parcel of the globalised world' in a range of domains, varying from the ecological to the economic, and from the geopolitical to the cultural.[1] An increasing number of Arctic studies based on distinct scenario methods have been conducted to enhance understanding of these dynamics and thereby anticipate future developments in the region.[2] Although it is emphasised that the Arctic is subject to transformational change fuelled by global heating and various socio-economic drivers,[3] a key variable remains unexplored, namely *power transition*, meaning the shift in power from the West to the East.[4] The contribution of China's rise to the unfolding of regional futures cannot be overlooked: the consensus in existing International Relations (IR)

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This article has been corrected with minor changes. These changes do not impact the academic content of the article.

[1]Finger and Heininen, *GlobalArctic Handbook*, 1.

[2]See Arbo et al., 'Arctic Futures' for a review of over 50 studies published during the early 2000s. More recent examples include Haavisto et al., *Eurasian Arctic by 2040* and Nilsson et al., 'Participatory Scenario Methodologies.'

[3]E.g. Andrew, *Socio-economic Drivers*; Haavisto et al., 'Uncertainties in Arctic'; TemaNord, 'Megatrends.'

[4]Knudsen and Navari, *Power Transition*.

literature is that China's great-power status *will* alter the dynamics of regionalisation globally,[5] including in the Arctic.[6] The contribution of this article is to craft a novel, holistic and distinctively IR-oriented scenario framework, and to conduct a case study on Arctic futures up to 2049, with China's role at the core. The knowledge gained will facilitate not only the formulation of a balanced and comprehensive understanding of Arctic futures but also the drawing of implications of China's rise for global processes of regionalisation. Given the exceptional plurality of 'regionalising actors',[7] including both Western and Russian state and non-state agents, the Arctic case offers useful cross-case insights.

Reflecting its newfound great-power status, China has emerged as a visible actor in Arctic governance, science and business during the past decade.[8] Despite the ambivalence of local and global responses,[9] there is no denying that its urge to build a Polar Silk Road (*bingshang sichouzhilu*) now shapes Arctic processes of regionalisation, namely how the Arctic is configured as a distinct space.[10] Yet, it seems unclear how, and to what extent, China might shape the region's future: in other words, whether a more *fundamental transformation* will mark its entry into the Arctic,[11] and whether the processes of regionalisation must be *rethought* empirically and theoretically. We explore this question by means of *backcasting scenarios*: first, we hypothesise alternative and transformational make-ups for the Arctic in 2049 with varying degrees of Chinese engagement and second, working backwards from 2049 to the present, we construct 'logical sequences of events'[12] to test the feasibility of the hypothesised fundamental changes. Hence, we also contribute to the small but growing pool of scenario studies on polar futures,[13] in particular the qualitative and narrative-oriented branch.[14]

In building these Arctic scenarios we utilise insights from three theoretical approaches to IR: realism, liberalism and relationalism. Whereas realism and liberalism are used in Anglo-centric circles to explain global life, relationalism is an emerging school of thought within IR. With its strong but underdeveloped Chinese 'faction',[15] it fits in the global IR paradigm.[16] This combination facilitates the multidimensional analysis of Arctic futures: on the one hand, realism and liberalism imply notable empirical changes within dominant IR thinking, and on the other, relationalism, especially the Chinese faction, abandons territorial readings and highlights the role of reciprocity and the nurturing of a reputational profile.[17] Although building on these approaches, we do not predict or claim that one of the scenarios will unfold by 2049. Our hope is rather that the whole set will allow readers to imagine and 'practise' how China might shape processes of

[5]E.g. Kavalski, *China and Regionalisation*; Zhang, 'Regional Actor.'
[6]Kauppila and Kopra, 'Responsible International Citizenship'; Kopra, 'China and New Order.'
[7]Söderbaum, *Rethinking Regionalism*, 29.
[8]E.g. Brady, *Polar Great Power*; Lanteigne, 'Storehouses of Snow'; Ruan, 'Jinbeijiguojia.'
[9]E.g. Koivurova and Kopra, *Chinese Policy*.
[10]Kauppila and Kopra, 'Responsible International Citizenship'; Kopra, 'China and New Order.'
[11]Kopra, 'China and New Order.'
[12]Jantsch, *Technological Forecasting*, 180.
[13]E.g. Avango et al., 'Assessing Arctic Futures'; AMAP, *Adaptation Actions*; Brigham, 'Arctic's Future'; Frame, 'Antarctic Scenarios'; Haavisto et al., *Eurasian Arctic by 2040*; Liggett et al., 'Going South?'.
[14]Rintoul et al., 'Future of Antarctica.'
[15]E.g. Qin, *Relational Theory*; Pan, 'New Relational Ontology.'
[16]Acharya, 'Global IR.'
[17]E.g. Qin, *Relational Theory*; Kavalski, *Relational International Theory*.

regionalisation in the Arctic and beyond. They could then evaluate the applicability and sufficiency of the suggested ideas and mental models for analysing and explaining these changes – or it may be that something completely different is needed.

Arguably, 2049 is a well-grounded target year for this thought exercise. First, the People's Republic of China (PRC), established in 1949, will celebrate its 100th anniversary. According to its 13th five-year plan, China seeks to be a strong global power economically and politically by then[18] – purposes that its regionalisation in general and Arctic entrance in particular serve well. Second, given that Arctic autumn and winter temperatures are expected to rise at least 4–5°C above late-20th-century level by 2050,[19] using 2049 as the target year allows for the plausible imagination of fundamental changes in processes of Arctic regionalisation. The Arctic Ocean is expected to be ice-free in summer as early as in the late 2030s.[20] Consequently, by mid-century at least the Northeast Passage between Asia and Europe could be navigable,[21] and several Arctic energy projects could be operational. In particular, these probable developments make it possible to analyse how China's current economic visions[22] may change the region's dynamics. To narrow the scope, we focus on the Arctic's *political* and *socio-economic* futures, and presuppose that climate change and China's rise to great-power status will continue. With regard to internal developments in China, we do not consider the possible collapse of the party-state.

The article proceeds as follows. In Section Two below we describe the empirical setting of our case study and discuss the major drivers of ongoing transformational change in the Arctic. We introduce our three-step scenario-building method in Section Three, by means of which we construct Arctic scenarios up to 2049 in Section Four. The focus in Section Five is on the scenario narratives. Section Six concludes the article, underlining the importance of pluralistic discussion on the outcomes of China's rise in the Arctic and beyond.

Changing dynamics in the global Arctic

Few regions are undergoing change on the same scale as the northernmost corner of the world. What has been viewed as a remote – even uninteresting – area is now in the limelight of international affairs.[23] In particular, three megatrends fuel the ongoing Arctic shift: climate change, globalisation and power transition. The focus in this section is on these dynamics and how they facilitate and/or hinder China's participation in processes of Arctic regionalisation.

First, average global temperatures are rising sharply. The Intergovernmental Panel on Climate Change (IPCC) forecasts that, without further efforts to reduce emissions, by 2100 global surface temperatures will have increased by 3.7°C-4.8°C, or 2.5°C-7.8°C including climate uncertainty, above the average for 1850–1900.[24] Although various states have their green economy visions and climate action

[18]State Council of the PRC, 'The 13th Five-Year Plan.'
[19]AMAP, *Snow, Water, Ice.*
[20]Ibid.
[21]Aksenov et al., 'Arctic Sea Routes.'
[22]Cf. State Council of the PRC, 'China's Arctic Policy'; Kauppila, 'Primary Node.'
[23]Temanord, 'Megatrends,' 188.
[24]IPCC, *Synthesis Report*, 20.

plans,[25] the ambition level is far from the goal in the Paris Agreement to limit the rise to 1.5°C.[26] Temperatures have risen rapidly in the Arctic, putting local populations, species, and ecosystems at risk, and initiating a profound change in Arctic economies related to shipping and the exploitation of natural resources such as oil, gas, fish and minerals.[27] The United States (US) abandoned its leadership role in international politics during the Trump administration, which fuelled climate scepticism and eroded multilateral cooperation on climate change.[28] Although China is keen to benefit from the melting Arctic, Chinese society is very vulnerable to impacts of climate change such as flooding and drought.[29] To alleviate climate-related risks to stability and to enhance soft power, the party-state has pledged to scale up its climate policies to achieve carbon neutrality by 2060, enhancing hydro and nuclear power in its energy portfolio, for example.[30] Yet, it remains unclear how much Chinese emissions will grow before peaking by 2030 – a factor that will determine the Arctic's future given China's global status as the biggest carbon emitter.

Second, globalisation has proceeded quickly since the 1960s. The world has become interconnected through transnational flows of people, capital, knowledge, goods and energy, and the future of regions is increasingly shaped by external forces of change.[31] In the Arctic, a growing number of external stakeholders seek political and economic cooperation, not least related to natural resources and opening sea lanes. China achieved observer status in the Arctic Council (AC) in 2013 and issued its first-ever Arctic strategy in 2018,[32] and many other non-Arctic states have published their visions for Arctic development.[33] From their perspective, legitimate and effective regional governance is impossible without the participation of non-Arctic actors.[34] To complement regional cooperation within the AC, there have been more open and informal gatherings among Arctic stakeholders such as the Arctic Circle Assembly, as well as the establishment of new, more inclusive global organisations and agreements such as the Arctic Economic Council and the Central Arctic Ocean Fisheries Agreement.[35] Together with Korea and Japan, China has launched a high-level trilateral Arctic dialogue to deepen their mutual cooperation.[36] Despite the active participation of environmental non-governmental organisations and other civil-society actors in Arctic governance forums, initiatives to establish an Arctic treaty similar to the one governing the Antarctic have not succeeded. The emergence of the five Arctic littoral states (Arctic Five), in turn, could be a weak signal that counterbalances globalisation in the region.[37]

[25]Temanord, 'Megatrends,' 148–66.
[26]UNEP, *Emissions Gap*.
[27]Temanord, 'Megatrends,' 62, 70–2.
[28]Eckersley, 'Great Expectations.'
[29]Kopra et al., 'China, Climate.'
[30]State Council of the PRC, '14th five year plan'; State Council of the PRC, 'Energy.'
[31]E.g. Söderbaum, *Rethinking Regionalism*.
[32]State Council of the PRC, 'China's Arctic Policy.'
[33]For an overview, see Heininen et al., *Arctic Strategies*.
[34]Shibata et al., *Non-Arctic Actors*; Yang, Liu and Xin, 'Woguo zai beiji.'
[35]E.g. Coates and Holroyd, *Handbook of Arctic*.
[36]Yonhap News Agency, 'Trilateral Summit.'
[37]E.g. Kuersten, 'Arctic Five.'

Third, the hub of political and economic life is shifting from the West to the East: US power is declining, and Russia is revitalizing its strength in Europe, as the ongoing Ukrainian war illustrates.[38] Moreover, China has become the second largest economy and a major power in all sectors of global politics, from environmental issues to traditional security. A participant in all major international regimes, it has established institutions such as the Asian Infrastructure Investment Bank. Militarily, China is among the few nuclear-armed states, having made rapid progress in modernising its armed forces, especially its air and naval capabilities.[39] It is also an authoritarian state uncommitted to democratic values, and the ongoing power transition has therefore fuelled various 'China threat' theories[40] speculating on the motivations behind and the global impacts of Xi Jinping's more assertive foreign policy and economic investments along the Belt and Road Initiative (BRI). In the Arctic, the resurgent great-power rivalry is evident in the increasing speculation over the strategic nature and dual-use potential of investments by authoritarian states,[41] as then Secretary of State Mike Pompeo illustrated in his speech at the AC Ministerial meeting in Rovaniemi, in May 2019. Pompeo challenged the intentions of China and Russia, and for the first time in its history, the Ministerial meeting failed to issue a joint statement. Although we question Pompeo's conclusion that China's growing influence in the Arctic will allow the 'Arctic Ocean to transform into a new South China Sea, fraught with militarisation and competing territorial claims',[42] we acknowledge that China's rise, and power transition more generally, *will* fundamentally transform international and regional orders and their constitutive norms.[43]

The growing mistrust and antagonism between the West and the East, and the strengthening of the Russo-Chinese authoritarian partnership has resulted in sharper criticism of the liberal world order, and has inhibited multilateral cooperation in addressing common concerns such as climate change, the coronavirus pandemic, terrorism, resource scarcity and environmental degradation.[44] Meanwhile, non-state actors have become prominent in tackling global problems in general, and climate-change mitigation in particular. Complementing various transnational governance mechanisms and declarations of an emergency, litigation on climate change has expanded globally in the past decade.[45] Technology development and the high price of fossil fuels provide economic incentives to invest in the green economy, a tendency to which China's efforts to 'greenify' the BRI contribute.[46] As indigenous peoples become increasingly involved in global politics and science, there is growing pressure to acknowledge their traditional knowledge.[47] Nevertheless, they are seldom involved in political decision-making.[48] As a result of these trends, the future of the Arctic is uncertain and open to alternative scenarios.

[38]E.g. Stares et al., *Changing Order*.
[39]E.g. Jones, 'Great Powers.'
[40]E.g. Broomfield, 'Perceptions of Danger.'
[41]E.g. Office of the Under Secretary of Defence for Policy, 'Report to Congress.'
[42]Pompeo, 'Looking North.'
[43]Buzan, 'China's Rise'; Kauppila and Kopra, 'Responsible International Citizenship'; Knudsen and Navari, *Power Transition*; Kopra, 'China and New Order.'
[44]Stares et al., *Changing Order*.
[45]Setzer and Higham, 'Climate Litigation.'
[46]CCICED, 'Green BRI.'
[47]Cf. Wheeler et al., 'Transformative changes.'
[48]United Nations, 'Indigenous Peoples.'

Furthermore, many China-originated developments shape China's participation in Arctic regionalisation. Xi Jinping's China is increasingly assertive on the global stage, but continues to seek 'mutually beneficial relations with the world'.[49] This is evidenced in its participation in formal and especially informal forms of Arctic governance, scientific cooperation, tourism, shipping and natural-resource-extraction projects, most prominently in Russian liquefied natural gas (LNG) schemes.[50] These forms of cooperation support China's economic reforms in advancing a shift from manufacturing to innovation- and knowledge-based industries.[51] At the same time, they satisfy the government's desire to find a balance between growth and tolerable levels of pollution, which could be considered a life-and-death question for the party-state: as a result of growing awareness among the middle class, environmental issues have become a source of discontent that may shake social stability.[52] Recently, especially in light of the US-China trade war, China has sought to become more self-sufficient in advanced technologies, which is evident in its enthusiasm to build ice-class vessels and nuclear ice-breakers, for example.[53] Similarly, economic nationalism is evident in the rise of its entertainment industry and domestic production of coronavirus vaccines. These aims and trends will shape the steps that China takes in the Arctic region in the future.

Crafting a backcasting scenario method for mapping possible futures

Below we introduce our three-step method for constructing Arctic scenarios extending to 2049. Basing our approach on *pluralistic backcasting from possible futures*, we begin the process by drafting several possible endpoints and then 'working backwards' to find plausible pathways to them.[54] Unlike forecasting (building forward-looking scenarios) and the normative form of backcasting (reaching desirable futures), this approach facilitates evaluation of whether great changes could plausibly take place.[55] Through this methodological choice, we aim at a diverse and intriguing outcome – a set of scenarios – rather than linear extrapolations of probable developments that could turn into self-fulfiling prophecies.[56] We suggest a variety of possible futures for the Arctic of 2049 – which is more fruitful in supporting policy-making in the face of extreme uncertainty and transformational change.

We divided the scenario-building process into three steps to make it transparent. In line with backcasting logic, first we formulate scenario endpoints reflecting three alternative IR takes on global and regional life; second, we consider how these endpoints could plausibly unfold; and third, we 'write up' the scenarios into narratives depicting the concrete developments that these (rather abstract) trends may facilitate. We make the scenarios tangible at this point to facilitate 'mental time travel'[57] – a key prerequisite for an influential study.

[49]World Bank, *China 2030*; see also World Bank, *Innovative China.*
[50]Koivurova and Kopra, *Chinese Policy*.
[51]World Bank, *China 2030*; see also World Bank, *Innovative China.*
[52]Kopra et.al, 'China, Climate.'
[53]Kauppila, 'Primary Node.'
[54]Cf. Robinson, 'Futures'; Tuominen et al., 'Pluralistic Backcasting.'
[55]Tuominen et al., 'Pluralistic Backcasting,' 43.
[56]Van Vught, 'Pitfall of Forecasting.'
[57]Cuhls, 'Mental Time Travel.'

Step one: formulating scenario endpoints in futures tables

The scenario endpoints indicate alternative futures for the Arctic region in 2049 in light of China's ascendance. As internally coherent combinations of various elements of the future, scenario endpoints are complex systems requiring rigorous organisation and presentation. In the absence of a suitable framework, we crafted one 'from scratch'. We formulated a *futures table*, a basic matrix with slots for 'variables' (key uncertainties) and 'values' (alternative entries for variables),[58] and identified a *novel combination* of variables by integrating insights from relevant previous studies and key ideas from IR and regional studies. More specifically, the first set of variables defining the *normative and power-political set-up of the Arctic of 2049* reflect the core tenets of IR, aspects of global life that all IR theories purport to explain. The second set, defining its *regional form*, was inspired by key insights from regional studies and theories of regionalisation that explain how regional spaces come into being. The third set, the *socio-economic set-up of the Arctic of 2049*, is based largely on the seminal study of O'Neill and colleagues: a comprehensive scenario framework for studying 'shared socio-economic pathways' for large regions in the era of climate change.[59] Further inspiration for the variables in this category came from key insights into Arctic futures drawn from prominent reports produced by the AC and the Nordic Council of Ministers.[60]

We relied on IR theories to find alternative entries for our variables: these are abstract models and *predictions* about the workings of the international system/society in the past, present and future. More specifically, three established idea systems – realism, liberalism and relationalism – constitute the backbone of our alternative futures to add rigour to the production of internally coherent scenario endpoints. First, realism rests on the assumption that the potential for conflict is unavoidable in global politics, and that state participation in processes of regionalisation is motivated by self-interest, namely maximising political and economic power at home and abroad.[61] Second, liberalism reflects the belief that states are able to cooperate, and that it is in their interests to do so in resolving global problems via dialogue, cooperation and institutional arrangements on the regional and global level.[62] Third, relationalism emphasises the importance of maintaining and managing relationships and nurturing a reputational profile to shape processes of regionalisation for mutual, or at least one party's, benefit.[63]

When we needed more concrete entries for socio-economic variables that did not derive directly from IR theories and regional studies we consulted the above-mentioned reports on driving forces in the Arctic region, and literature on trends originating in China and its engagement with the Arctic region (see Section Two). Naturally, these entries were influenced and shaped by the theory-oriented ideas that preceded them: futures tables allow different aspects of alternative futures to be linked to form 'chains of elements'.[64]

[58]Cf. Seppälä, *84 Tuhatta Tulevaisuutta*, 20–51.
[59]O'Neill et al., 'New Framework,' 396.
[60]Andrew, *Socio-economic Drivers*; Temanord, 'Megatrends.'
[61]E.g. Mearsheimer, *Great Power*; Luttwak, 'Geo-economics.'
[62]E.g. Keohane and Nye, *Power and Interdependence*.
[63]Qin, *Relational Theory*; Kavalski, *Relational International Theory*.
[64]Auvinen, Tuominen and Ahlqvist, 'Long-Term Foresight,' 196.

Step two: constructing signposts

Next, we constructed logical and plausible sequences of events from 2049 to 2022, thereby 'testing' the credibility of the hypothesised scenario endpoints: a future state is possible and realistic enough if it is within the limits of the imagination to consider a plausible and logical path connecting the future with the present. Backcasting such pathways involves identifying and constructing possible *signposts*, 'recognisable future events that signal a significant change',[65] or more specifically for present purposes, potential events that signal development towards the key aspects of the scenario endpoints. In practice, to identify types of imaginary development regarding the *defining aspects* of each endpoint we asked: 'What must have happened to make this element of the future possible? What had to emerge and what must have vanished?' In cases of extreme transformation, we considered *x-events*, transitions from one trend to another through instances causing 'great social damage in lives, dollars and/or existential angst', such as major accidents.[66] The scenario endpoint implying the most ambitious levels of environmental awareness required consideration of these events, which unlike trends effect sudden change.

Step three: writing up the scenarios

In this final step we produced creative narratives, tangible 'manuscripts of the future'[67] located at the crossroads of art and science. The purpose was to make the scenarios immersive by adopting a futures-oriented writing style: we used the past tense to depict all sequences of events leading up to 2049, and the present tense with reference to the year 2049. We formulated more detailed signposts and crafted imaginary names of institutions and meetings to facilitate mental time travel. At this point, we gave the scenarios catchy names that captured their essence.

Although we conducted the process as an intellectual thought exercise based on our previous China-Arctic research,[68] we presented the finalised narratives at a research seminar in the broad field of Russian Studies at University of Helsinki, and at three conferences focusing on China, IR and the Arctic.[69] This added to the level of iteration and helped us to improve the scenarios.

Constructing scenarios for Arctic futures up to 2049

Below we present our scenario framework in the form of three futures tables. Each of the three sets of variables represents a different combination of key uncertainties defining the alternative regional futures in the Arctic of 2049: (1) a *normative and power-political set-up*, (2) a *regional set-up* and (3) a *socio-economic set-up*. We discuss these variables, and how they play out in light of the three IR theories, respectively, in the following three subsections, and then proceed to identify the signposts that

[65]Cf. Bengston, Westphal and Dockry, 'Back from the Future,' 273.
[66]Casti, 'X-Events,' 3, 9.
[67]Heinonen, Ruotsalainen and Karjalainen, *Energy Futures 2050*.
[68]E.g. Kauppila, 'Primary Node'; Kauppila and Kopra, 'Responsible International Citizenship'; Kopra, 'China and New Order.'
[69]The European Association for Chinese Studies (Glasgow, 2018), Regional Challenges to Multilateralism (Tampere, 2018), and the Arctic Circle Assembly (Reykjavik, 2018).

facilitate the unfolding of the scenario endpoints. In other words, we explain what the year 2049 may 'look like' in each scenario, and then consider how things could plausibly develop accordingly.

The normative and power-political set-up

No region develops in a vacuum. Hence, the first task in any IR-oriented analysis of regional life is to define the dominant values and power relations of the international system/society, as shaped by the conduct, practices, conceptions and mutual relations of the *great powers*.[70] First, therefore, we identified the key uncertainties defining the normative and power-political set-up of the Arctic in 2049: the Organising Principle of Regional Life (Variable 1), Regional Power Distribution (Variable 2), and the Normative Foundation of Regional Life (Variable 3) (Table 1).

Variable 1: the organising principle of regional life

The fundamental uncertainty regarding the future dynamics of the international system/society is the ethos of global life: the principle guiding the coexistence of great powers. If the Arctic of 2049 were to unfold along the lines of realism, implying that states aim to outdo each other, the organising principle of regional life would be *competition*. If it were part of a liberal institutionalist world, the ethos would be *cooperation*: it would be in their interests to collaborate. If it were to follow the core tenets of relationalism, it would be based on *guanxi*, i.e. *reciprocal obligation*: states' actions would be guided by attempts to manage their relational circles for mutual benefit.

Variable 2: regional power distribution

In IR, great-power relations define the nature of the international system/society at any given time. The same applies to the regional context, and it is generally held that one, two or several powers exercise the most influence within a given regional space. Because the three IR theories selected for this exercise differ in their takes on what counts as power, the scenario endpoints also differ with regard to the variable 'regional power distribution'. If power is about *material capabilities*, as realism implies, the Arctic of 2049 is characterised by *US-Russo bipolarity*: both of these regional great powers are likely to continue to possess

Table 1. The normative and political set-up of the Arctic in 2049.

Variable	1. Realism	2. Liberalism/ Global Institutionalism	3. Relationalism
1)The organising principle of regional life	Competition, state survival	Cooperation	*Guanxi*, reciprocity
2) Regional power distribution	Russo-US bipolarity	Multipolarity	Multinodality; China as the primary node
3) The normative foundation of regional life	National security	(Individual) liberty → climate responsibility	Value pluralism

[70]E.g. Simpson, *Great Powers*.

notable military and economic strength. In particular, Russia's sovereignty over large areas of Arctic territory and waters, and its vast natural resources, prevent the otherwise wealthier US from attaining a hegemonic status. However, on the global level the two competing superpowers are the US and China,[71] whose material capabilities are likely to be different but beyond compare with all other states. If power is about *exerting influence within institutions*, as liberal institutionalism implies, the Arctic of 2049 remains a multipolar region: institutions also restrain the power of states, making uni- or bipolarity harder to reach.[72] If, however, '*relations are power*'[73] and power is built on a relational field[74] instead of being 'set' in one place in the possession of a great power, any state able to maintain large relational circles could become the most influential regional actor; note that this status is not tied to location on the non-Arctic/Arctic axis. For this reason, power distribution should also be defined in nodal rather than 'polar' terms.[75] Given that China is particularly well-placed to use economic leverage in its attempts to manage its Arctic relations, especially with Russia, we picture *China as the primary node* of the Arctic of 2049.[76]

Variable 3: the normative foundation of regional life

Values and norms matter in international relations. Imagining regional futures, therefore, necessitates contemplation of the normative foundations of the international system/society – of which the Arctic of 2049 is a part. Against conventional wisdom, realism does not dismiss ethics, but assigns states the moral duty to preserve national interests in general, and national security in particular. Hence, *national security* constitutes a key normative foundation of regional life. Liberal institutionalism, in turn, perceives *democracy* and *individual liberty* as universal values that processes of regionalisation also advance by establishing international institutions on the regional level. Given that China does not subscribe to such values, liberalism has significant limitations in explaining the unfolding of Arctic futures after its ascendence. That said, liberal institutionalism *could* maintain its explanatory power if its core values were replaced with universal values. It has been suggested recently that the norm of *climate responsibility* could emerge as such a value: not based on Western norms, but reflecting a genuinely global standard of conduct that does not collide with China's core interests.[77] Although the agency of a global civil society would be significant in the process, such a normative change would not be realistic without China's strong commitment. Given that the core tenets of liberal institutionalism would thereby undergo a profound change, we give the -ism a new, more encompassing label, *global institutionalism*. Relationalism, in contrast, is based on *value pluralism* rather than the idea of universal values: various values may be equally important and 'correct' but nevertheless conflicting.

[71]Bertelsen, 'Sino-American Bipolarity.'
[72]Meiser, 'Introducing Liberalism,' 22–7.
[73]Qin, *Relational Theory*.
[74]Clegg, *Frameworks of Power*.
[75]Cf. Womack, 'Multinodal Order.'
[76]Cf. Kauppila, 'Primary Node.'
[77]Kopra, 'China and Climate Regime,' 69–70.

Table 2. The regional form of the Arctic in 2049.

Variable	1. Realism	2. Global Institutionalism	3. Relationalism
4) Regional space	Territorial entity	Constellation of institutions	Network-like constellation, a nodal space of flows
5) Dominant region-building practice	Building security coalitions	Establishing multilateral mechanisms for cooperation	Building networks of relations
6) Key regionalising actors	(Littoral) Arctic states	Arctic and non-Arctic states, non-governmental organisations, indigenous peoples	Non-Arctic (especially Chinese) and Arctic governments, companies
7) The role of external actors	No role	Collaborative	Significant role (especially China)
8) Institutions and governance	Bilateral contracts, coalitions, unions	Multilateral treaties, global partnerships	Informal and formal forums, actor-to-actor networks

The regional form

Regions are products of the times in which they emerge rather than fixed geographical entities.[78] In other words, what constitutes a meaningful spatial unit during one period of time might not maintain its relevance in another. Therefore, it is largely up to the political elites and other influencers to define what constitutes the Arctic region in any given time period, meaning the norms and principles, as well as the spatial imaginations, fears and hopes that define who is a legitimate regional 'insider'. Given this dynamic, the following five key uncertainties relate to the Arctic's future: 'regional space' (Variable 4), i.e. what counts as the distinct spatial configuration and meaningful unit understood as the Arctic[79]; 'dominant region-building practice' (Variable 5), i.e. how the Arctic region is made; 'key regionalising actors' (Variable 6), i.e. who is involved in processes of Arctic regionalisation[80]; 'the role of external actors' (Variable 7), i.e. to what extent non-Arctic states are included in processes of regionalisation[81]; and 'institutions and governance' (Variable 8), i.e. what arrangements organise regional politics (Table 2).[82]

Variables 4 and 5: regional space and dominant region-building practice

Given that the realist Arctic of 2049 is characterised by the attempts of states to survive in global competition, what could plausibly bring them together are *Arctic security coalitions* built on patterns of security interaction. The regional space emerging from such forms of interaction would be a *territorial unit with rigid borders*. At times, this unit would be divided into blocs that are held together by partnerships of nationalist, selfish states rather than real alliances. The global institutionalist Arctic of 2049, in turn, is a manifestation of institutional cooperation, and will continue to be synonymous with the institutions that govern it, namely a *constellation of institutions*. The dominant region-building practice is to *set up multilateral mechanisms* that establish rules and guidelines for coexistence and cooperation – and especially for jointly exercising climate responsibility.

[78]Agnew, 'Arguing with regions,' 7.
[79]Cf. Söderbaum, *Rethinking Regionalism*, 2.
[80]Cf. Söderbaum, *Rethinking Regionalism*.
[81]Ibid.
[82]Cf. O'Neill et al., 'New Framework.'

Within the relational scenario, the Arctic regional space in 2049 corresponds with that of relational 'unbounded regions':[83] there are no clear territorial borders and the Arctic is understood as a *network-like constellation, a nodal space of flows*. The dominant region-building practice is to *construct networks of relations* through different methods located at hard, soft and even sharp ends; the region largely reflects the relational circles of the primary node. As China is pictured as the primary node of this unbounded Arctic, the region is a larger unit that, if cast on a territorial map, would extend from areas north of the Arctic Circle to China, formulating a somewhat parallel constellation with that of the 'Asian-Arctic'.[84]

Variables 6 and 7: key regionalising actors and the role of external actors

The key regionalising actors in the territorially organised realist scenario of the Arctic in 2049 are states with sovereignty over the Arctic Circle, i.e. the *Arctic states* in general, and the five *littoral states* in particular given their strong national interest in Arctic maritime security. *External actors* are considered a threat and are largely *excluded* from the key processes of regionalisation, although China indirectly shapes them through its global role. The Arctic in the global institutionalist scenario, in contrast, is constructed around the norm of climate responsibility in processes that are global in scope, whereby key *collaborators* in the process of regionalisation include not only Arctic but also external, *non-Arctic states. Non-governmental organisations* and *indigenous groups* have a similar role, given their climate-related expertise and the strong role of civil society in this scenario. The relationalist scenario assigns a *significant* role to 'external' actors in general, and to China's decisive regional standing in particular. At such an endpoint, the key regionalising actors include the governments of China and other 'traditionally non-Arctic' and Arctic countries. Moreover, given that economic leverage makes China the primary node of this distinct space of flows, companies also count as key regionalising actors.

Variable 8: governance and institutions

Bilateral agreements and *coalitions* seeking to secure the survival of states replace multilateral institutions in the realist Arctic of 2049; rivalling great powers complicate the workings of contemporary regional institutions such as the AC. In turn, multilateral governance is significant in the global institutionalist scenario: the Arctic in 2049 is held together by *multilateral treaties* and *global partnerships*. Given China's great-power status, some of these institutions may be China-initiated. Conversely, formal institutions no longer have similar importance in the relationalist scenario: both *informal* and *formal forums* and *networks* emerge as platforms on which to nurture reputational profiles, and to establish and organise relationships among stakeholders of the Asian-Arctic. In other words, institutions no longer *primarily* serve to coordinate common efforts, but rather allow networking and the polishing of reputational profiles.

[83]E.g. Allen, Massey and Cochrane, *Rethinking Region*; Amin, 'Regions Unbound.'::
[84]Cf. Bennett, 'Asian–Arctic Region.'

Table 3. The socio-economic set-up of the Arctic in 2049.

Variable	1. Realism	2. Global Institutionalism	3. Relationalism
9) Regional economic policy	Protectionism	Green economy, de-commercialisation	Mixture of authoritarian state capitalism and liberal capitalism
10) Dominant industries	Exploitation of natural resources	Traditional sources of livelihood, ecotourism, virtual travel, science projects, renewable energy	Shipping, exploitation of natural resources, tourism, science projects
11) Resources	Fossil fuels, fish, minerals,	Renewables	Fish, fossils fuels, minerals, renewables
12) Ambition and the effectiveness of climate policies	Low	High	At least intermediate
13) Speed, type and direction of technological progress	Slow progress Military and extraction technologies	At least intermediate progress High technology	Fast progress Radical technologies (e.g. geoengineering)
14) Attitudes to the environment	Resource value	Intrinsic value	Instrumental value
15) Types of dominant middle-class lifestyles	Materialism	Low-carbon	Consumerism, search for peak experiences
16) The role of indigenous peoples	Marginalised	Significant	Collaborative
17) Types and levels of conflict	Conventional and hybrid conflicts, great power rivalry	Conflicts of interest, civil and indigenous resistance, terrorism	Clashes of values, tensions related to asymmetric economic interdependence

The socio-economic set-up

The alternative futures of the Arctic are also shaped by the key uncertainties that define the regional reality 'on the ground' in Arctic societies and economies. In identifying these key uncertainties we relied on O'Neill and colleagues' existing framework. First, we formulated three variables defining the economic set-up of the Arctic in 2049: 'regional economic policy' (Variable 9), 'dominant industries'[85] (Variable 10) and 'resources' (Variable 11).[86] Given that state climate policies strongly affect the (socio-) economic set-up, it was also necessary to formulate a variable that accounts for potential variation in content and implementation: 'ambition and the effectiveness of climate policies' (Variable 12).[87] To improve the plausibility of the climate-policy variable we also added a related key uncertainty 'speed, type and direction of technological progress' (Variable 13).[88] Lastly, we considered what O'Neill and colleagues would refer to as 'broader societal factors': 'attitudes to the environment'[89]/ 'the value of nature in mainstream thinking' (Variable 14), 'types of dominant middle-class lifestyles' (Variable 15), 'the role of indigenous peoples' (Variable 16) and 'types and levels of conflict' (Variable 17) (Table 3).[90]

[85]Cf. O'Neill et al., 'New Framework.'
[86]Ibid.
[87]Ibid.
[88]Ibid.
[89]Ibid.
[90]Ibid.

Variable 9: regional economic policy

Given the competitive and exclusive spirit of the realist scenario, Arctic states would implement a *protectionist* economic policy shielding domestic industries from foreign competition, including Chinese engagement. In the case of global institutionalism, they adopt *green economic* policies, and even initiatives to de-commercialise parts of the region. A mixture of authoritarian *state capitalism* and *liberal capitalism* defines the economic policy-making of the Asian-Arctic in the relationalist scenario.

Variables 10 and 11: dominant industries and resources

The Arctic countries seek to *exploit* their *natural resources*, including *fossil fuels, fish and minerals*, for their own benefit in the realist scenario. In a global institutionalist Arctic, however, dirty industries give way to more sustainable forms of economic activity: *traditional sources of livelihood, eco-tourism, virtual travel, renewable energy* and *science* predominate, and *renewables* constitute the most significant resource. A relationalist Arctic in 2049 witnesses the effect of China's extensive economic leverage in promoting larger-scale *shipping* on Arctic sea routes and the *exploitation of natural resources*, especially in the Russian Arctic. *Fish, fossil fuels, minerals* and *renewables* are the key resources in the region. *Science projects* are also cherished, not least because they advance further economisation, and Chinese *tourism* in particular flourishes.

Variable 12: ambition and the effectiveness of climate policies

It is unlikely that a nationalist world of competition can mitigate climate change in a realist Arctic of 2049, which would necessitate collaboration *beyond* geographically clustered security coalitions. Therefore, climate policies are, most plausibly, *low-level* in terms of ambition and effectiveness. As for the global institutionalist scenario, the envisioned collaborative mechanisms and value change provide the basis for instituting climate policies that are *high* in ambition and effectiveness. Levels of ambition and effectiveness in the relationalist scenario, with China as the primary node, need to be *at least intermediate*: the Arctic ice caps have melted substantially, facilitating the brisk economisation of the region and giving China the necessary economic leverage to reach such a position. Nevertheless, the most dangerous climate change must have been avoided for the pros to outweigh the cons.

Variable 13: speed, type and direction of technological progress

Technological progress is *slow* in the realist Arctic of 2049: hostile competition *limits* major technological breakthrough due to the secretive research environment. However, competition and the urge for self-sufficiency fuel the search for solutions, especially regarding *military technology*. Furthermore, the prominence of Arctic fossil fuels in this scenario motivate advances in *extraction technologies*. International collaboration and ambitious climate policies facilitate *intermediate* technological progress in a global-institutionalist Arctic, especially in *high-technology* given its crucial role in mitigating climate change. Technological progress is also *rapid* in the relational scenario, with at least an intermediate level of ambition in climate policies: developing *radical technologies* such as geo-engineering is the only option to facilitate the balancing of Arctic economisation and not-too-dangerous levels of global heating.

Variables 14, 15 and 16: Attitudes to the Environment, Types of Dominant Middle-Class Lifestyles, and the Role of Indigenous Peoples

As with Variables 10 and 11, 'attitudes to the environment' and 'types of dominant middle-class lifestyles' differ fundamentally in each scenario. The realist Arctic of 2049 attributes *resource value* only to nature, defining people's lifestyles in terms of *materialist* desires, whereas the *intrinsic value* of nature is cherished in the global institutional scenario, the majority of middle-class people being committed to *low-carbon* lifestyles to protect the planet. The relationalist Arctic gives the region *instrumental* value in terms of providing the necessary resources to satisfy *consumerist* needs and greed, both material and experimental. Similarly, indigenous peoples are largely *marginalised* in state-centric realist decision-making, whereas they have a *significant* role in the global institutionalist scenario given its emphasis on civil society and the utilisation of indigenous knowledge. Indigenous peoples must be engaged as *collaborative* partners in the relationalist scenario, otherwise China will hardly win the necessary trust to realise its economic projects in the region.

Variable 17: types and levels of conflict

This variable reflects the basic tenets of the chosen IR theories. In the realist Arctic, *great-power rivalry* and *conventional and hybrid tensions* cannot be avoided. *Conflicts of interest* are likely to emerge in a global institutionalist Arctic of cooperation, as states seek to align their interests. Due to the active role of civil society in this scenario, we picture the emergence of *civil resistance* in general, and *indigenous resistance* in particular – on occasions when these groups' interests continue to be overlooked. *Terrorism* will also increase, as people fight fervently for their causes. In light of the value pluralism in the relationalist scenario, *clashes of values* will also arise in the Arctic of 2049. Moreover, the deeply intertwined Arctic and Chinese economies allow *tensions related to the asymmetric economic interdependence* to emerge.

Working backwards from 2049 to the early 2020s: constructing signposts

Although, theoretically, backcasting allows consideration of all imaginable kinds of great change, the usefulness of the scenario exercise in policy-making depends on the construction of a plausible path connecting the future with the present. Our aim in this section is to identify the essential signposts required to construct a logical sequence of events from 2049 to the early 2020s; to avoid repetition, apart from one x-event described here, all the individual signposts, or *concrete* imaginary events, are presented in the narratives.

Realism

The defining elements in the realist scenario endpoint are: (1) great-power rivalry; (2) the trend among external actors (especially China) to move away from regionalisation; (3) the scattered and clustered regional governance structure; and (4) the dominance of resource extraction over other economic activities. Corresponding signposts that would indicate the onset of these changes by 2049 include: (1) conflicts and military incidents involving the great powers; (2a) China's voluntary turn to other energy frontiers (e.g. Antarctica and China itself) and forms of energy (hydropower and nuclear energy) and (2b) its deliberate exclusion from Arctic governance and economic projects (e.g. domestic laws regulating foreign ownership, changes in regional organisations' rules); (3a) the break-up of multilateral regional institutions (e.g. the AC) and (3b) the emergence of

governance mechanisms *only* engaging some Arctic actors; (4a) the emergence of new resource-extraction projects (e.g. LNG and oil) and (4b) the relative decline of other economic activities (e.g. shipping and tourism).

Global institutionalism

The corresponding features of the global-institutionalist scenario endpoint are: (1) supply-security-motivated concerns to reduce dependency on fossil fuels; (2) high ambitions for global (including Chinese) climate-change mitigation and environmental awareness; (3) multilateral and inclusive regional governance structures; (4) collaborative and active external actors; and (5) predominantly more sustainable economic activities. The signposts thus include: (1) changes in national energy portfolios; (2a) increasing numbers of climate-litigation cases and demonstrations demanding urgent climate actions; (2b) the implementation of policy measures to mitigate climate change; (2c) launching climate-change-mitigation mechanisms (e.g. carbon tax); (2d) a large-scale, high-impact accident strengthening China's commitment to protect the Arctic and (2e) the 'greenification' of China's domestic policies and energy portfolio (e.g. campaigns, increasing the proportion of non-fossil fuels); (3a) the adoption of global treaties concerning the Arctic (e.g. the de-commercialisation of the Central Arctic Ocean) and (3b) Russia's increased commitment to multilateral Arctic governance reflecting internal changes; (4) China-initiated measures regulating Arctic activities (e.g. banning fossil-fuel projects); (5a) reviving traditional livelihoods and the emergence of less-heavily-polluting industries (e.g. virtual travel) and (5b) running down extractive industries (e.g. banning fossil-fuel projects, de-commercialising the Central Arctic Ocean).

Relationalism

The defining features of the relationalist scenario endpoint include: (1) China's ascendance to the primary node of the Arctic; (2) a Sino-Russian authoritarian partnership; (3) a network-based regional governance structure; (4) China successfully nurturing its reputational profile and (5) economic activities predominantly based on radical technologies. The corresponding signposts are: (1) China's enhanced engagement and investment in the Arctic (e.g. shipping, energy, company acquisitions, infrastructure); (2a) consolidation of the Xi-Putin 'double cult' and (2b) the selection of authoritarian successors; (3a) the break-up of multilateral regional institutions (e.g. the AC) and (3b) informal China-backed regional and bilateral bonding (e.g. development banks); (4a) successful advancement of China's soft practices and trust-building (e.g. panda and vaccine diplomacy, cultural exports) and (4b) China's successful balancing between the West and Russia; (5) global (especially Chinese) investments in climate-change mitigation and Arctic-related high-tech industries (e.g. geo-engineering, ice management and nuclear-fuelled ice-breakers).

Three scenarios: the Arctic for the Arctic, the Frozen North and a Red Star over the Asian-Arctic

This section presents three Arctic futures (scenario endpoints and paths) up to 2049, with varying Chinese engagement.

Scenario one: the Arctic for the Arctic – They Don't Play with Us . . . but We Don't Care!

The Arctic in 2049 is a region with rigid, exclusive borders, its only members being sovereign states with territorial rights above the Arctic Circle. The two great regional powers are the US and Russia, the littoral states are the dominant regionalising actors, indigenous peoples are marginalised, and external players such as China are excluded – both politically and economically. Yet, China is a global superpower and its practices have an indirect impact on the regional dynamics. The focus is on survival, national security and material interests, thus genuine international cooperation is rare – a system of self-help prevails. Given the materialist lifestyles, the relatively slow development of technology and lacking political willingness, ambitions for climate-change mitigation are low. Hence, the Arctic states are able to exploit their area's resources to some extent.

The international community was thrown into confusion following the United Kingdom's withdrawal from the EU in the late 2020s, the coronavirus pandemic and the escalation of the Ukrainian crisis in the early 2020s. The Arctic of the 2010s was largely insulated from great-power conflicts, but the spill-over effects of the Ukrainian conflict and the US-China trade war intensified great-power rivalry in the region in the 2020s. Hybrid tensions between Russia and the other Arctic states were rampant in the 2020s. The work of the AC became increasingly difficult, and was paralysed during the late 2020s. The role of observers became symbolic and, during the 2030s, major powers such as China were dismissed to save an organisation that was on its last legs. By the 2040s there was no major intergovernmental institution in the region, merely a set of unions advancing the causes of different interest groups with changing compositions. Alarmed by China's neo-authoritarianism, company acquisitions in strategic industries, rumours of industrial espionage and alleged dual use of Arctic stations, various Arctic countries tightened their laws on foreign ownership during the 2020s. Although China's role in several Arctic energy projects had been decisive, by the late 2020s mutual mistrust among all actors reached a point at which no new partnerships with Chinese companies were being signed. The racism and the lack of tour operators meant that Chinese tourists were no longer interested in Arctic travel. Given the modest development of technology resulting from protectionism, the general trend of rapid Arctic economisation, enabled in part by climate-change scepticism, also slowed during the 2030s. This was not an issue for China, which had invested heavily in nuclear energy and was constructing super dams in Tibet and Yunnan. Moreover, with its New South Silk Road launched in 2025, China was prepared to extract Antarctic resources after the expiration of the Antarctic Treaty in 2048.

Scenario two: the Frozen North – Proud to Protect the Arctic . . . Applause from the Global Community!

Unlike in the 2020s, the 'Arctic region' of 2049 no longer carries strong connotations implying the existence of a distinct economic or political community. Instead, it is primarily a geographic-ecological and cultural spatial unit, a zone north of the Arctic Circle, governed by a mixture of local arrangements and global initiatives and treaties. At its heart is the Central Arctic Ocean, a cherished global common, regulated by a strong

civil society and multilateral cooperation in which China has a strong role. Solidarist cooperation based on climate responsibility, the development of advanced technologies and low-carbon lifestyles has enhanced the ambition and effectiveness of climate policies. Driven by domestic concerns, China is an important global partner in scientific and renewable projects in the Arctic and beyond.

Motivated by supply security considerations, extensive climate litigation, civil resistance and eco-terrorism, various governments took a sharp turn towards a fossil-free future in the early 2020s. Having painstakingly realised the risks of their dependency on fossil fuels from overseas, many Arctic countries rapidly greenified their energy portfolios after the outbreak of war in Ukraine in the early 2020s, and extensively exploited the traditional knowledge of indigenous peoples in formulating ambitious climate strategies. A major international milestone was the launch of a global carbon-taxation system in 2030. The Arctic had become a symbol of the climate crisis, and there was a strong political will to protect it on the institutional level: instigated by the Nordic countries, the global institution of *Arctic Science and Renewables Forum* was established in 2030. The AC preserved its role as coordinator of cooperation on the local level, and Russia became increasingly committed to its work after bringing about major internal changes.

China was active in these developments: 'airpocalypses' and climate hazards, such as heavy floods in the greater Shanghai region, had caused social discontent and began to threaten the legitimacy of the party-state in the mid-2020s. The government was also painfully aware of the risks related to Arctic activities since 2026: the polar cruise vessel MV *Xue Jiqiren* (*Snow Robot*), en route from Zarubino (with piers leased to China) to Akureyri with a number of elite Chinese tourists on board, sank due to human error, putting an abrupt end to the emerging trend of transformative polar travel. In this atmosphere, the party-state advanced its socio-economic vision of a 'Harmonious Green Society' by launching moral campaigns advocating low-carbon lifestyles and heavy investment in renewables, fusion energy and nuclear power. China also started to 'greenify' the BRI and promoted the establishment of 'ecological civilization' – a concept that was officially added to the Constitution in 2012. To advance its soft power and to reconstruct its identity on the global stage, the government also reversed its rhetoric by means of catchwords such as 'respect for the rights of nature' and 'lose-lose', prohibiting Chinese investments in Arctic fossil fuel projects in 2035. This decision attracted global support and accelerated the discussion about values that led to the establishment of the Arctic treaty system at the UN General Assembly, and eventually to the de-commercialisation of the Central Arctic Ocean by the mid-century.

Scenario three: a Red Star over the Asian-Arctic – shared resources for humankind from the Northern Sphere of China's world

The regional architecture of the northernmost part of the world has undergone a major transformation, which reflects China's status as a primary node of the global economy. Its extensive economic and political engagement in the Arctic is evident in the structure of the Asian-Arctic region, a network-like nodal space of flows in which China is a major member, mainly constructed by governments and companies of different types. Indigenous peoples also have a collaborative role. There are occasional small-scale regional tensions, fuelled by value clashes and asymmetric economic interdependence.

Key regionalising actors view nature as a never-ending stock of resources, but the rapid technological development ensures that the world is still on track to avoid dangerous levels of global warming. Arctic ice caps have melted enough to allow shipping and the exploitation of natural resources, but the most serious risks related to climate change have so far been avoided.

Chinese stakeholders became active participants in science consortiums and informal forums of Arctic governance in the 2010s, especially in Nordic assemblies. The country strengthened its overall role throughout the 2020s, carefully fostering *guanxi* – relations – within these actor-to-actor communities by building trust through panda diplomacy and cooperation in winter sports. Most importantly, China managed to find a balance between the West and Russia, although the authoritarian partnership between Russia and China had been strong since the early 2010s when the Ukrainian crisis began to draw a deep line between Russia and the West. The ties were first strengthened by the Xi-Putin 'double cult' that reached new heights in the late 2010s and early 2020s when both states changed their legislation to favour long-standing leaders, and was further consolidated by their successors. China gradually became accepted as a legitimate Arctic stakeholder and a country that could satisfy its thirst for fossil fuels, especially LNG. China's emergence as a global and Arctic superpower stood in stark contrast to the decline of the US, whose downfall accelerated in the late 2010s and early 2020s when businessman and reality TV star, populist Donald Trump became the president. Many countries also benefited from China's mask-and-vaccine diplomacy during a series of global pandemics in the 2020s. Consequently, there were relatively few liberal challenges to China-led authoritarianism, especially given that China had even proved its capability of acting as a mediator in resolving tensions between the West and Russia.

Those formal global governance structures whose membership was based on territorial rights (including the AC) gradually lost their meaning from the late 2020s onwards, further instilling the idea of an Asian-Arctic region among the global community. This change was anticipated by critics of China's limited role in global governance and the liberal international order in general. To build the necessary trust to make Arctic investments and obtain technology through acquisitions, an ever-more-assertive China established a multilateral financial institution, the *Polar Silk Road Infrastructure and Energy Bank* (PSRIEB), in 2035 – a move that also increased its political leverage in the region, along with the production of Chinese-built nuclear icebreakers, ice-class vessels, geoengineering technology and other high-tech masterpieces. It also strategically prioritised infrastructure investments that were least controversial from the indigenous perspective. Significant developments in cementing China's role as an integral member of this Asian-Arctic region included the establishment of the *United North Exchange Study Programme*, which favoured indigenous people, and informal bonding arrangements such as the *United North Peace and Development Council* and the *Asian-Arctic Games*, launched in 2035. On the cultural front, the Chinese integrated into the community by producing Arctic-themed global box-office hits such as *Harmonious Polar Night* (2028) and *Dreams of the Polar Silk Road* (2033). By the late 2040s, along with other neighbouring regions the Arctic had become an interlinked sphere of China's world.

Conclusion

We propose in this article that China's rise could potentially alter processes of regionalisation in the Arctic and beyond. Using scenarios and drawing insights from IR theories, we provide glimpses of *alternative regional futures*. Although these scenarios have a fictional component, they are by no means merely imaginative: we were rigorous in constructing and communicating various futures in a balanced and open-minded manner so as to enhance understanding of these processes and their multiple outcomes, which we believe is essential in a discussion that is coloured by prejudice, fears and hopes. Theoretically, we provide food for thought on whether or not existing IR theories maintain their explanatory power *despite and because of* the decline of the liberal order.

The need to understand China's Arctic engagement, now and in the future, affects the entire international community. In particular, the country plays a significant role in the fight against global heating. We suggest the possibility of a *Frozen North*, a less alarming Arctic future, which unfolded here as a result of supply-security-motivated concerns, an attitude change induced by global civil society, multilateral cooperation that engages China on its own terms, and an accident that dramatically turned the tide there. The scenario exercise also allows for imagining China's role in processes of regionalisation beyond the Arctic. For example, the risks suggested in the realist scenario may loom in other contexts, too. That said, in that the Arctic states are advanced economies, and most of them are Western democracies, the findings may be less useful in advancing understanding of non-Western processes of regionalisation with China at the centre.

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