Why Does China Seek Arctic Minerals?

Categories as Tools for Shaping and Navigating Foreign Policy and Industrial Development Priorities

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CATEGORIES AS TOOLS FOR SHAPING AND NAVIGATING FOREIGN POLICY AND INDUSTRIAL DEVELOPMENT PRIORITIES

BY
PATRIK STIG ANDERSSON

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DENMARK

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by

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To Minli, Linn, and Milo

CV

From January 2018 to December 2021, Patrik Stig Andersson was an industrial PhD student at the Department of Politics and Society, Aalborg University, and the Center for Minerals and Materials (MiMa), Geological Survey of Denmark and Greenland. His PhD project studied the complex relations between Chinese national foreign policy and industrial development priorities and the decisions and approaches pertaining to Chinese engagement in Arctic mining and mineral exploration projects. Prior to his PhD studies, Patrik lived in China from 2006 to 2014, where he obtained a bachelor's degree in Chinese from Sichuan University, followed by a master's degree in ancient Chinese literature from Beijing Normal University. In 2014, he returned to Sweden to pursue a master's degree in Asian studies at Lund University, which included one semester as an exchange student at Tsinghua University's Department of International Relations. His master thesis focused on political experimentation at the local level in China. Patrik's broader research interests cover Chinese politics and international relations.

ENGLISH SUMMARY

WHY DOES CHINA SEEK ARCTIC MINERALS? CATEGORIES AS TOOLS FOR SHAPING AND NAVIGATING FOREIGN POLICY AND INDUSTRIAL DEVELOPMENT PRIORITIES

This compilation thesis is the result of a public sector industrial PhD project made in collaboration between the Geological Survey of Denmark and Greenland (GEUS) and Aalborg University. Part of GEUS' task is to produce knowledge about China's mineral interests and its effects on the Danish realm for the use of Denmark's central administration. The foundation for this task includes understanding the machinations behind Chinese decisions on what and where to mine. Prior to this PhD project, GEUS had a solid understanding of potential economic and strategic incentives for China's engagement in mining and mineral exploration projects. This thesis adds to this understanding by studying how political framing in the Chinese state system plays out and how this framing along with a number of already well-known factors affect the decisions of state and semi-state-owned enterprises to engage in projects outside China, especially in the Arctic.

Chinese interest in minerals overseas has raised concerns, not least in Western countries. Fears have ranged from state-backed Chinese companies taking control over overseas mining operations to Chinese demand driving up commodity prices globally. There have also been concerns that Chinese state and private firms act not only as profit-seeking businesses but also to accomplish the long-term geopolitical goals of the Chinese Communist Party. This is especially the case in the Arctic, where Chinese companies' engagement in Arctic mining operations are often viewed through the prism of Arctic geopolitics and China's growing Arctic ambitions.

However, while scholars tend to agree that China has both a strategy for securing supply of mineral raw materials and a regional foreign policy strategy for the Arctic, there is a lack of qualified knowledge about the precise relationship between Chinese state policies and priorities and on-the-ground activities of Chinese companies in the Arctic. This compilation thesis, which consists of four freestanding papers, contributes to filling this research gap, specifically departing from Arctic mining and mineral exploration projects. Hence, the overarching research aim is to improve the understanding of the complex relations between, on the one hand, the Chinese central state's foreign policy and industrial development priorities and, on the other hand, the decisions and approaches of state and semi-state enterprises and other actors.

Drawing extensively on Chinese-language policy and planning documents and academic articles, as well as field research in China and Greenland, the four papers explore this problématique through a focus on hierarchies of territories – defined and bargained as part of China foreign policy – and of minerals – defined and bargained

as part of China's mineral policy. They take a view of categorization and hierarchies as "performative," meaning that actors construct and use them to achieve things. In the fragmented authoritarian context, companies, academics, and bureaucratic bodies, who all compete over political attention and limited state resources, not only interpret and adjust to official categories and hierarchies – they also participate in their construction and use them strategically to elevate the political priority of issues in which they have a vested interest or stake.

Based on the approach of fragmented authoritarianism (FA), the thesis viewed Chinese mining companies, mineral resource experts, and foreign policy scholars as part of a state bureaucracy and thus capable of acting as what Andrew Mertha calls "policy entrepreneurs" – or at least as sufficiently close to a bureaucracy to take on such a role. Unlike what is usually found when applying an FA approach, it argues that these policy entrepreneurs not only frame their activities in ways that address the policy frameworks or classification schemes most useful for them, but they also contribute to constructing or at least shaping some of the political language that becomes part of their framing. They do this, not only as FA has told us, by using categorization strategically to add political priority to issues and areas in which they are engaged or seek to engage, but they might also, earlier in the policy process, shape the labelling and content of political categories. In this way, they not only shape policies made at the center, as FA has found, but also to some degree contribute to shaping the state agenda. The thesis thereby also challenges the often-held assumption among China scholars that political language in China is produced by a narrow political elite and used as a tool for discourse control over lower-level cadres, intellectuals, and the masses.

DANSK RESUME

HVORFOR SØGER KINA EFTER MINERALER I ARKTIS? KATEGORIER SOM REDSKAB TIL AT SKABE OG NAVIGERE I UDENRIGSPOLITISKE OG ERHVERVSUDVIKLINGSMÆSSIGE PRIORITETER

Denne artikelbaserede PhD-afhandling er resultatet af et offentligt erhvervs-PhD-projekt lavet i samarbejde mellem Danmarks og Grønlands Geologiske Undersøgelse (GEUS) og Aalborg Universitet. En del af GEUS' opgave er at indsamle viden om Kinas interesse i mineraler og indvirkningen af denne interesse på rigsfællesskabet til brug for Danmarks centraladministration. En af forudsætningerne for at varetage denne opgave er en grundlæggende forståelse af mekanismerne bag kinesiske beslutninger om, hvilke mineraler, der skal udvindes hvor. Forud for dette ph.d.-projekt havde GEUS en solid forståelse af potentielle økonomiske og strategiske incitamenter for Kinas engagement i minedrift og mineralefterforskningsprojekter. PhD-projektet supplerer GEUS' viden ved at undersøge, hvordan politikker rammesættes i det kinesiske statssystem, og hvordan denne rammesætningsproces sammen med en række allerede velkendte faktorer påvirker statslige og semi-statsejede virksomheders beslutninger om at engagere sig i projekter uden for Kina, især i Arktis.

Kinesisk interesse for mineraler i udlandet har givet anledning til bekymring, ikke mindst i Vesten. Frygten har bl.a. gået på, om statsstøttede kinesiske virksomheder ville tage kontrol over oversøisk minedrift og på, om kinesisk efterspørgsel ville drive råvarepriserne op globalt. Der har også været bekymring for, om kinesiske statslige og private virksomheder ud over at søge at maximere deres profit også arbejder for det kinesiske kommunistpartis langsigtede geopolitiske mål. Dette har særligt været tilfældet i Arktis, hvor kinesiske virksomheders engagement i arktisk minedrift ofte ses gennem et prisme af arktisk geopolitik og Kinas voksende arktiske ambitioner.

Mens forskere er tilbøjelige til at være enige om, at Kina både har en strategi for at sikre forsyningen af mineralske råstoffer og en regional udenrigspolitisk strategi for Arktis, mangler der kvalificeret viden om det præcise forhold mellem den politik og den kinesiske stat fastlægger og hvordan kinesiske virksomheder rent faktisk engagerer sig i Arktis. Denne PhD-afhandling bidrager med sine fire fritstående papers til at fylde dette hul i forskningen, ud fra et særligt fokus på arktiske mine- og mineralefterforskningsprojekter. Det overordnede formål er således at forbedre vores forståelse af den komplekse sammenhæng mellem, på den ene side, den kinesiskes centralregerings prioriteringer hvad angår udenrigspolitik og erhvervsudvikling, og på den anden side, beslutninger og tilgange hos stats- og semistatslige firmaer og andre aktører.

De fire papers bygger hovedsageligt på kinesisksprogede politik- og planlægningsdokumenter og akademiske artikler samt feltarbejde i Kina og Grønland. Artiklerne undersøger hierarkier af territorier – defineret og forhandlet som en del af Kinas udenrigspolitik – og mineraler – defineret og forhandlet som en del af Kinas mineralpolitik. De analyserer kategorisering og hierarkier som "performative," hvilket betyder, at aktører konstruerer og bruger dem til at opnå ting. I den fragmenterede autoritære kontekst fortolker og tilpasser virksomheder, akademikere og bureaukratiske organer, som alle konkurrerer om politisk opmærksomhed og begrænsede statsressourcer, sig ikke kun officielle kategorier og hierarkier – de deltager også i deres konstruktion og bruger dem strategisk til at løfte den politiske prioritering af emner, hvori de har en særlig interesse.

Afhandlingen har med udgangspunkt i tilgangen fragmenteret autoritanisme (FA) betragtet kinesiske mineselskaber, eksperter i mineralske ressourcer og forskere i international politik som enten dele af det statslige bureaukrati eller tæt knyttet til det og dermed i stand til at kunne opføre sig som, hvad Andrew Mertha kalder "policy entrepreneurs." I modsætning til hvad man normalt finder, når man anvender en FA-tilgang, hævder afhandlingen, at disse "policy entrepreneurs" ikke kun rammesætter deres aktiviteter på måder, der tilpasser dem de sæt af politiske rammer eller klassifikationer, der er mest nyttige for dem, men de bidrager også til at konstruere eller i det mindste ændre dele af det politiske sprog, og dermed den politiske rammesætning. Dette gør de ikke kun ved, som vi har lært gennem FA, at kategorisere strategisk for at få prioriteret emner politisk, som de er engagerede i eller gerne vil beskæftige sig med, men de kan også på tidligere tidspunkter i policy-processen forme navne og indhold af politiske kategorier. På den måde tilpasser de ikke politik blot policies fra det politiske center som FA har vist, de bidrager også til at skabe statens policy agenda. Afhandlingen udfordrer således den hyppige antagelse blandt Kina-forskere om, at politisk sprog i Kina er produceret af en snæver politisk elite og brugt som et værktøj til diskurskontrol over kadrer på lavere niveau, intellektuelle og masserne.

EQIKKAANEQ

SOORUNA KINA ISSITTUMI AATSITASSARSIORTOQ? NUNANUT ALLANUT POLITIKIMIK SULIFFISSUAQARNERULLU INERIARTORTINNEQARNERANI SALLIUTINNEQARTUNIK ILUSILERSUINERMI AAMMA AJORNAATSUMIK APORAAFFIUNNGITSUMILLU AQQUTISSIORNERMI SUMUT ATASSUTIT SAKKUTUT ATORNEQARNERI

Katersugaatinit ilisimatuutut allaatigisaq una pisortani suliffissuaqarnermi PhD-imik suliniutip inerneraa taanna Kalaallit Nunaata Danmarkillu naalagaaffeqatigiit akornanni nunap sananeqaataanik misissuisoqarfiat (GEUS) aamma Aalborg Universitet suleqatigalugit suliarineqarsimavoq. GEUS-ip suliassaasa ilagaat Kinap aatsitassanik soqutigisai taakkulu Danmarkimi Naalagaaffimmut sunniutai pillugit ilisimasanik Danmarkimi naalakkersuisoqarfiit qitiusumik allaffeqarfiannit atorneqartussanik pilersuinissaq. Suliamut matumunnga tunngaviit ilagaat Kinami aatsitassat suut sumilu piiarneqarnissaannut aalajangiisarnernut ataqatigiimmik aaqqissussinerit tunuliaqutaasut paasinissat. PhD-imik suliniut una sioqqullugu Kinap aatsitassanik piiaanermi aatsitassarsiornermilu suliniutinut pimoorussineranut aningaasaqarnikkut aamma siumut isigaluni iliuusissanik pilersaaruteqarnissamut pilerineranut GEUS-i annertuumik ilisimasaqarpoq. Ilisimatuutut allaatigisaq una, Kinami naalagaaffimmi ataqatigiimmik aaqqissuussinermi politikikkut killissaritat qanoq malunnaateqarnersut aamma killissarititat taakku pissutsit ilisimaneqareersut arlallit ilagalugit suliffeqarfiit naalagaaffimmit tamakkiisumik pigineqartut aamma piginneqataaffigineqartut, Kinap avatanni, ingammik Issittumi suliniutinut aningaasaliinissamut aalajangiisarnerinut qanoq sunniuteqarnersut misissuinikkut paasinninnermut ilanngussivoq.

Kinamiut nunani allani aatsitassanik soqutigisaqarnerat aarlerilersitsimavoq, minnerunngitsumik nunani killerni. Aarlerinerit Kinamiut suliffeqarfiutaat naalagaaffimmit tapiiffigineqartut nunani allani aatsitassarsiornermik ingerlatsisut aqunneqarlernissaannit Kinamiut nioqqutissat piumaneqartut nunarsuaq tamakkerlugu akiisa akitsorterinissaannut allanngorarsimapput. Aarlerigineqarsimavortaaq Kinami suliffeqarfiit naalagaaffimmit tamakkiisumik pigineqartut aamma piginneqataaffigineqartut niuernermi sinneqartooruteqarnissaq anguniaannarnagu aamma Kinami Kommunist Partiip piffissaq ungasinnerusoq eqqarsaatigalugu nunarsuarmi tamarmi naalakkersuinermik ingerlatsinermi anguniagai aamma anguniagarigaat. Tamanna immikkut Issittumi atuuppoq, tassani Kinamiut suliffeqarfiutaasa Issittumi aatsitassarsiornermik pimoorussinerat amerlasuutigut Issittumi tamarmi naalakkersuinermik ingerlatsinermik aamma Kinap Issittumi angusaqarluarusunnerata annertusiartorneranik isiginneriaaseq aqqutigalugu isigineqartarmat.

Taamaattoq, Kina aatsitassanik nioqqutissianik pilersuinerup qulakkeernissaanut aamma nunarsuup ilaanut Issittumut nunanut allanut pilersaaruteqartoq ilisimatuut isumaqatigeeqqajasarput, tassani Kinap naalagaaffiata politikiisa salliutitaasalu aamma Issittumi nunani Kinamiut suliffeqarfiisa piviusumik ingerlatsisut akornanni uppernarsarneqarsinnaasumik ilisimasat amigaatigineqarput. Katersugaatinit ilisimatuutut allaatigisaq una allakkianik immikkut sisamanik katitigaasoq, ilisimatusarnermi amigaatigineqartunik matusinissamut tuniseqataavoq, ingammik Issittumi aatsitassanik piiaanermik aatsitassarsiornermillu suliniutinik aallaaveqartut immikkut ukkataralugit. Pingaarnertut ilisimatusarnermi anguniarneqartoq tassaavoq attaveqatigiinnerit katitigaasut, illuatungaanik Kinami qitiusumik naalagaaffiup nunanut allanut politikia suliffissuaqarnerullu ineriartortinneqarnerani salliutitat aappaatigullu naalagaaffiup aamma naalagaaffimmit piginneqatigiiffigineqartut peqataasullu allat aalajangiisarnerinik aamma suleriaasaannik paasinninnerup pitsanngortinneqarnissaa.

Politikit aamma pilersaarusiornermut uppernarsaatit ilisimatusarnermilu allaatigisat annerusumik Kinamiut oqaasinik tunngavillit kiisalu Kinami Kalaallit Nunaannilu ornigulluni misissuinernik tunngaveqarput. Allakkiat sisamat ajornartorsiut taanna nunap ilaasa qullersaqarnerannik allersaqarnerannillu ukkataqarneq aqqutigalugu misissorsimavaat – Kinap nunanut allanut politikiatut – aamma aatsitassanut politikiatut – nassuiaaserneqarpoq isumaqatiginninniutigineqarlunilu. Taakku immikkortiterineq aamma qullersaqarneq allersaqarnerlu "takoqqusaarutitut" isigaat, taassumalu isumagaa, peqataasut arlaanik anguniagaqarlutik taakku ilusilersortaraat aamma atortaraat. Kisermaassilluni naalakkersuinerni agguataarsimasumi atorneqarpat, suliffeqarfiit, ilinniagartuut aamma allaffissorluni ingerlatsiviit, tamakkerlutik politikikkut eqqumaffigineqarnissaq aamma naalagaaffiup isumalluutai killillit pillugit unammissut, naalakkersuinermi immikkortiterinernut aamma qullersaqarnernut allersaqarnernullu nassuiaaginnaratik naleqqussartarput - taakkuninngalu ilusilersueqataasarput taakkulu pilersaarusiornermi sammisat namminneq soqutigisatik imaluunniit piginneqataaffigisatik pitsaanerulersillugit politikikkut tulleriiaarneqarnerini atortarpaat.

Kisermaassilluni naalakkersuinermi periaaseq tunngavigalugu, ilisimatuutut allaatigisap, Kinami aatsitassarsiornermi suliffeqarfiit, aatsitassanik nioqqutissianik ilisimasaqarluartut, aamma nunat tamalaat nunanut allanut politikiannik ilisimatuut naalagaaffimmi allaffissorluni ingerlatsivinnut ilanngullugit imaluunniit taakkununnga qanimut atassuteqartutut, taamatullu Andrew Merthap taasagaattut "policy entrepreneurs" pissusilersorsinnaasut misissorsimavai. Kisermaassilluni naalakkersuinermi periaatsimi nalinginnaasumik nassaarineqartartut akerlianik, ilisimatuutut allaatigisap oqaatigaa, taakku "policy entrepreneurs" ingerlatatik killissaliinnarnagit politikikkut killissarititat imaluunniit immikkoortiterinermut aaqqiissutit namminut iluaqutaanerpaanngorlugit naleqqussartaraat, kisianni aamma politikikkut oqaatsinik ilusilersueqataasartut imaluunniit minnerpaamik ilaasa ilusilersornerinik allanguisartut taamaatullu politikikkut killissaritaasunik.

Taamaaliorput, kisermaassilluni naalakkersuinermi periaatsimi paasisatsitut, sammisanik suliassaqarfinnillu nammineq soqutigisatik imaluunniit soqutigilerniakkatit politikikkut tulleriiaarinermi ilanngunniarlugit immikkoortiterineq pilersaarusiornerlu aqqutigalugit, aamma imaassinnaavoq politikikkut suliap ingerlanerani siusinnerusumi, politikikkut immikkoortut qulequttaannik imarisaannillu ilusilersuinikkut. Taamatut kisermaassilluni naalakkersuinermi periaatsimi paasisatsimi ersersinneqartutut politikikkut qitiusumit politikikkit kisiisa naleqqussanngilaat kisianni aamma ilaatigut naalagaaffiup politikikkut pilersaarutaanik ilusilersuinermut tuniseqataapput. Ilisimatuutut allaatigisap matuma aamma Kina pillugu ilisimatuut akornanni amerlasuutigut isummiunneqartartoq tassa Kinami politikikkut oqaatsit politikikkut pissaanilinnit amerlanngitsunit pilersinneqartartoq aamma partiimi ilaasortat appasinnerusut, silassorissut aamma inuppassuit tunngaviusumik oqaaseqaatannik nakkutilliinermi sakkutut atorneqartartoq unammillerpai.

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ACRONYMS AND ABBREVIATIONS

AAU	Aalborg University
BRI	Belt and Road Initiative
CAGS	Chinese Academy of Geological Sciences
CAJ	Chinese Academic Journals
CASS	Chinese Academy of Social Sciences
CCP	Chinese Communist Party
CGS	China Geological Survey
CIIS	China Institute of International Studies
CIMUR	Chengdu Institute for the Multipurpose Utilization of Mineral Resources
CIP	Critical Infrastructure Protection
CRM	Critical Raw Material
EC	European Commission
EU	European Union
FA	Fragmented Authoritarianism
FYP	Five-Year Plan
GEUS	Geological Survey of Denmark and Greenland
GME	Greenland Minerals and Energy
IR	International Relations
LSG	Leading Small Group
MIIT	Ministry of Industry and Information Technology
MNR	Ministry of Natural Resources
NDRC	National Development and Reform Commission
NGO	Non-Governmental Organization
NMRP	National Mineral Resources Plan
OBOR	One Belt One Road
OFDI	Overseas Foreign Direct Investment
PRC	People's Republic of China
REE	Rare Earth Element
RQ	Research question
SEI	Strategic Emerging Industry
SIIS	Shanghai Institutes for International Studies
SOE	State-Owned Enterprise
ST	Securitization theory
USDOI	United States Department of the Interior
USGS	United States Geological Survey
USNRC	United States National Research Council

PREFACE

As cliché as it may sound, writing this PhD thesis has been a series of journeys – in both the physical and figurative sense. Physically, the project has taken me to exciting new places in the Arctic and China, including the Greenlandic towns of Nuuk and Narsaq, the Norwegian Arctic city of Tromsø, the Russian Arctic town of Salekhard, and the Chinese megacities of Tianjin, Shanghai, Beijing, and Chengdu, among others. On the figurative journey, the project has repeatedly pushed me to step out of the comfort zones I had grown attached to during my previous training and venture into new academic fields. While I speak here of "journeys" in the plural form, the writing process itself has also been one big journey filled with ups and downs, moments of excitement and occasional frustrations.

As is often the case when we embark on new journeys – be they of the physical or symbolic kind – we rely on others for guidance and assistance along the way. So, to state the obvious: the completion of this PhD thesis would not have been possible without the assistance and support of a very large number of people. I am deeply grateful to each of them for their willingness and effort to help me pursue this research. Firstly, I would like to thank Innovation Fund Denmark for providing the financial support needed for realizing this research project in the first place. Thank you to GEUS and MiMa for welcoming me into their organization as an employee and colleague during the course of my PhD, and for providing me with all the practical assistance and support I needed while working on the project. Thank you to the Department of Politics and Society at Aalborg University (AAU) and to the PhD School for welcoming me into the PhD program and for making me part of the research environment. Thank you also to Fonden Erik Hoffmeyers Rejselegat and UArctic for providing financial support for my research trips abroad.

Thank you to my supervisors at AAU and GEUS for providing invaluable intellectual and practical guidance throughout the course of my PhD. My AAU supervisor, Jesper Willaing Zeuthen, whose deep knowledge and experience about China and Chinese politics I benefited from enormously. Apart from co-authoring two of the papers of this thesis, Jesper helped me discover, develop, and apply new theoretical perspectives from Chinese area studies, including fragmented authoritarianism and the world of categories and labels in Chinese politics. From Per Kalvig, my supervisor at GEUS and co-author of Paper I of this thesis, I learned crucial information about raw materials and the mining industry in Greenland and elsewhere. Besides teaching me the basic geology knowledge required for implementing the project, I also benefited enormously from his expertise on the politics around raw materials and their supply chains. In particular, the ideas for Paper II of this thesis which explored criticality in the Chinese context were developed together with Per. My co-supervisor Ulrik Pram Gad introduced me to and helped me navigate an entirely new field – Arctic studies. Under Ulrik's guidance, I not only improved my understanding about Greenland and Arctic geopolitics, but also expanded my knowledge about political science theory

and writing in general. I also benefited tremendously from Ulrik's ability to theorize and to illustrate theory. Last but not least, Erika Faigen (formerly Machacek), who was my supervisor at GEUS in the first year, provided essential academic and practical advice at the crucial starting phase of the project, and has continued to provide invaluable support and feedback since then. I also draw heavily on Erika's work around the "criticality construct," which I have borrowed from her and employed in the Chinese context. These are just some of the ways in which I benefited from my supervisors' guidance – there are simply too many ways to mention them all here!

My gratitude also goes to Jørgen Delman, who provided essential advice as the discussant at my pre-defense, and to colleges at AAU who provided feedback and assistance at my one-year evaluation: Ane Bislev, who served as the discussant of my work up to that point; Anita Nissen, who helped me take notes; and Li Xing, for his insightful comments at the evaluation seminar. Thanks also to my colleagues at CIRCLA for providing comments on my paper manuscripts, especially to Lill Rastad Bjørst for her valuable feedback, and to colleagues at the Arctic Politics Seminars. Thank you to the people who assisted my research in Nuuk and Narsaq: Kisser Thorsøe, who helped me find relevant contacts and to make practical arrangements for my Greenland trips; Josephine Nymand and the Greenland Institute of Natural Resources for hosting me during my stay; and to all the people who agreed to meet with me and answer my questions during the trips in Nuuk and Narsaq. Thank you to all those who facilitated my field research in China, to the School of Environment at Tsinghua University for hosting me during one of my research visits in China, to the Chinese researchers and academics who accepted my meeting requests, and to the Chinese PhD student who assisted me at the China Mining Conference in Tianjin. Thank you to the Center for East and South-East Asian Studies at Lund University, in particular Head of Department (and my former teacher) Marina Svensson for welcoming me as a visiting PhD student in the fall of 2019. And thanks to all the students who attended my lectures, and whose project work I got to supervise as part of my teaching obligations at AAU. I learned a lot from my interactions with them.

Last but definitely not least, thank you to my wife Minli for her love, patience, and support during the writing of this thesis, and to our two children Linn and Milo for bringing so much joy to our lives. My family has been my anchor of stability throughout this entire process. I dedicate this thesis to them.

Patrik Andersson

Lund, Sweden, 21 December 2021

CHAPTER 1. INTRODUCTION

Chinese interest in minerals overseas has raised concerns, not least in Western countries. Fears have ranged from Chinese demand driving up commodity prices globally to state-backed Chinese companies taking control over mining operations overseas in a bid to stay in control of global supply chains of minerals – in particular the processed, high-quality materials and products that are needed for producing emerging energy and communication technologies. Because of their perceived economic importance and associated supply risks – in many cases caused by China's quasi-monopolistic position in their supply chains – these materials are deemed "critical" in countries with advanced manufacturing sectors, such as the United States (US), Europe, and Japan (EC, 2017; USGS, 2018). There have also been concerns that Chinese firms – be they state-owned or nominally private – act not merely as profit-seeking entities but also to accomplish the long-term geopolitical ambitions of the Chinese Communist Party (CCP). This is especially evident in the Arctic, where Chinese companies' engagement in Arctic mining operations are often understood through the prism of Arctic power politics and China's growing Arctic ambitions.

Concerns over China's interest in Arctic resources, its geopolitical ambitions in the region, and the role of Chinese companies in realizing these were put on full display at the Arctic Council ministerial meeting in Rovaniemi in 2019. At the meeting, then US Secretary of State Mike Pompeo gave a blistering speech in which he warned that the Arctic, a region "at the forefront of opportunity and abundance," had become "an arena for power and for competition". At the center of this competition were the Arctic's rich mineral resources, which consisted of "13 percent of the world's undiscovered oil, 30 percent of its undiscovered gas, and an abundance of uranium, rare earth minerals, gold, diamonds, and millions of square miles of untapped resources"[1]. "China's words and actions raise doubts about its intentions," Pompeo warned, and "its aggressive behavior elsewhere should inform what we do and how it might treat the Arctic". There were only Arctic states and non-Arctic states. Beijing claiming to be a "near-Arctic state" "entitles [it] to exactly nothing". The intensity and bluntness of the criticism reportedly left the audience stunned. Less noticed, perhaps, was Pompeo's unwillingness to distinguish between Chinese state and non-state, civilian and non-civilian activities in the Arctic. Pompeo claimed that China's Arctic behavior "is part of a familiar pattern" of "develop[ing] critical infrastructure using Chinese money, Chinese companies, and Chinese workers – in some cases, to establish a permanent Chinese security presence". He further suggested that "China could use its civilian research presence in the Arctic to strengthen its military

[1] This claim about the Arctic's potential oil and gas resources stems from a 2008 assessment by the US Geological Survey (USGS, 2008) and has frequently been quoted since then by people who seek to highlight the region's resource potential.

presence, including deployment of submarines to the region as a deterrent against nuclear attack" (US DOS, 2019). The speech essentially blurred the lines between state and private, between civilian and military, portraying all Chinese activities as potentially part of a coordinated Chinese approach in the region. The Biden administration has since assuming office in 2021 seemingly adopted a less confrontational rhetoric towards China, but whether its perception of China and Chinese state and non-state activities in the Arctic and elsewhere is any different from that of its predecessor remains to be seen.

Pompeo's words resembled those used by one of the sides in a long-standing debate within academia about the drivers behind Chinese investments in resources overseas and the degree of state coordination behind them. In this debate, two strands of scholarship depart from opposite basic perspectives: one viewing China's pursuit of resources overseas as part of a coordinated and well-oiled "China Inc." (e.g., Brady, 2017; Cáceres and Ear, 2013; Li and Farrell, 2020), and one viewing it as fragmented, chaotic, and opportunistic – a situation more akin to "every soldier for himself" (e.g., Downs, 2014; Zeuthen, 2017). Looking past these labels, however, one finds that there is in fact relatively broad agreement among scholars that the Chinese government realizes strategic objectives overseas primarily through incentives, rather than by outright directing companies to invest in specific projects. This begs the question: if Chinese companies do respond to government incentives – where do these incentives come from, and which national priorities and policies are they designed to realize? According to one of the most popular frameworks for studying Chinese policymaking, the fragmented authoritarianism (FA) framework, fragmentation grants powerful bureaucracies in largely independent sectors flexibility to shape the specific policy agendas and objectives of their respective sectors. These policy agendas may be tied to disparate and occasionally conflicting state priorities set by the center (Lieberthal and Oksenberg, 1988; Mertha, 2009). For companies in search of political and economic support from the government for their investments, this provides opportunities to frame investment proposals in ways that appeal to a specific sector or segment of the bureaucracy. Yet few have taken this form of policy analysis and used it to study how the Chinese mineral sector works and what the implications of this are.

In the last decade, the Arctic has been given an increasingly visible role in Chinas foreign policy strategy. As noted above, China now calls itself a "near-Arctic state," a label it began using when campaigning for permanent observer status to the Arctic Council in 2013 (Jakobson and Peng, 2012; Lanteigne, 2014). Since, 2017, the Arctic has been officially integrated into China's overall foreign policy strategy, the "Belt and Road initiative" (BRI), in the form of a "Polar Silk Road". China also has an explicit goal of becoming a "Polar Great Power," which is part of the overarching goal of becoming a "Maritime Great Power" (Brady, 2017). Chinese mining companies, who have traditionally been concerned with understanding China's industrial development priorities and its demand for different minerals and raw materials thus have to be increasingly attentive to policies and priorities originating from the foreign

policy sector, and the opportunities that these may bring them. Yet there is a lack of understanding in Western research of the Chinese processes for constructing official priorities in foreign policy and the mineral sector, and how these priorities affect the decisions and strategies of Chinese mining companies that engage or seek to engage in Arctic mining and mineral exploration projects.

Ideally, to explore this problématique we should have access to government meetings and documents, company boards and internal strategies, and the minds of decisionmakers. That is difficult to achieve in a democratic setting – practically impossible in a Chinese. Fortunately, there are ways for us to have a peek, if not behind the curtain, then at things coming out from behind the curtain – things that reveal something about what is happening inside. This compilation thesis does this through a focus on categorization and hierarchies, and the role they play in policy formulations and company strategies in China, particularly in foreign policy and the mining sector. It takes a view of categorization as "performative" (Austin, 1975), meaning that people construct and use them to accomplish different objectives. In the fragmented authoritarian context, categories can be used strategically by competing bureaucratic bodies to elevate the political priority of issues in which they have a vested interest or stake.

Research on the use of official language in the Chinese context has found that it both enables and constrains political action, with some viewing it mainly as an elite instrument of top-down discourse control (Schoenhals, 1992; Ji, 2004, 2019), while others stress how it can be manipulated and exploited also by the most powerless of individuals (Link, 1993; Kluver, 1996; O'Brien, 1996). However, even when scholars have ascribed a more proactive role to non-elites in relation to political language the focus has not been on how non-elites contribute to its construction, but rather on how they manipulate existing political language – language that has been produced by elites. I argue that the relatively non-fixed nature of categories in certain early stages of policymaking makes them especially open and prone to outside participation, in particular from experts, whose technical expertise is used to fill in the content of categories. This is especially the case with some categories in the mineral sector and those foreign policy categories outside of China's "core interests" (such as social stability or territorial integrity), which are less sensitive and therefore less prone to direct top-down intervention and control. And even when the content and hierarchies of categories have solidified, the multiplicity of categories and hierarchies informing policy formulation still opens up room for agency for private and semi-state companies as well as lower-level bureaucracies.

In the four papers that make up this compilation thesis, I study the domestic processes for formulating and implementing priorities and policies for the raw material and foreign policy sectors, with a focus on the role of categorization in the construction of priorities, and how categories influence the approaches and decisions of companies. While labels and categories do not in themselves function as incentives, they are used

to establish priorities that incentives are designed to realize. Company executives, who not only participate in the construction of categories and hierarchies, but also interpret and adjust strategies based on them, do so in response to incentives, such as facilitated access to state funding or the possibility of career advancement. The research is based on analysis of Chinese-language policy documents for the two sectors and academic articles on topics relating to China's raw material and foreign policy priorities respectively, as well as conversations with Chinese mineral resource strategists and Arctic experts, some of whom are personally involved in the construction of official priorities in their respective fields. The analysis was guided by concepts and theories that have been applied by scholars to study categorization in different policy areas, including Securitization Theory, and theories on the construction of categories and hierarchies in foreign policy and the mineral sector.

1.1. RESEARCH DESIGN

The overarching aim of the research presented in this thesis has thus been to improve the understanding of the complex relations between the Chinese central state's foreign policy and industrial development priorities and the decisions and approaches pertaining to the engagement of state and semi-state-owned enterprises and other actors in Arctic mining and mineral exploration projects. To contribute to this overall aim, it was necessary to conduct research into *two distinct problématiques*, each guided by a specific research question (RQ):

Firstly, to explore and analyze the domestic processes by which Chinese official priorities for the raw material and foreign policy sectors are formulated. This included analysis of the Chinese processes for establishing which minerals and raw materials are of particular national importance – and therefore should be prioritized – in the Chinese state system. It also included analysis of how Chinese foreign policy priorities are constructed in official documents and academic discourse, and how the Arctic region is contextualized and ranked among these. These analyses contribute to answering the first RQ:

► RQ 1: How are official priorities and strategies for the raw material and foreign policy sectors constructed, bargained, and changed in China?

Secondly, to analyze how official priorities for the raw material and foreign policy sectors influence Chinese companies' decisions and approaches when engaging in the Arctic mineral sector. How do Chinese companies respond to or adjust their strategies based on official priorities in China? Core to this problématique is the different roles and ways in which raw material and foreign policy priorities influence Chinese decisions and approaches when engaging in projects. Analysis of these issues helped answering the second RQ:

► RQ 2: In what ways do Chinese official priorities for the raw material and foreign policy sectors influence Chinese companies' decisions and approaches when engaging in Arctic mining and mineral exploration projects?

The research design was guided by the observation that the two RQs logically present themselves in a specific order: before analyzing the influence of official priorities on Chinese mining and mineral exploration activities in the Arctic, we need to understand what those priorities are. While in reality the relationship between these variables is infinitely more complex and neither unidirectional nor possible to completely isolate, the analytical point of departure has been that national priorities and strategies influence Chinese decisions to invest or otherwise engage in projects. Changing industrial needs and China's evolving role in supply chains then feed back into decisions about national priorities and strategies.

Two overarching theoretical themes guided the research. The first is a view of language as "performative" (Austin, 1975). Labels and categories, whether used to construct hierarchies of interests or as framing devises at the level of the firm or the state, allow actors to accomplish different objectives. The second is a view of Chinese politics as neither monolithic, nor strictly hierarchical, but as a moderately pluralist and "fragmented" system in which all but the most critical of political and economic outcomes are the result of bargaining between actors and institutions across different levels of the system (Lieberthal and Oksenberg, 1988; Mertha, 2009). Empirically, the research has been underpinned by a belief that it is not possible to fully understand Chinese interests in the Arctic without looking into the domestic Chinese debates on these issues. This is evident from the difference in both scope and focus between Chinese domestic discussions and the government's external messaging about its Arctic interests (Brady, 2017).

At the same time, each problématique came with its own set of unique empirical puzzles, and the two questions thus needed to be approached with a particular combination of materials, methods, and theoretical concepts. RQ 1 focused on the processes for establishing official priorities at the Chinese domestic level, and therefore required me to collect and analyze Chinese-language materials produced for domestic consumption, including sector-specific policy documents and academic articles that feed into Chinese policy debates. Academic debates are part of the political discourse in China and hence subject to the same restrictions as other political speech, which include strict rules about politically correct language formulations as well as outright censorship (Schoenhals, 1992). Yet despite these limitations one still finds a surprising degree of diversity and nuance of views on certain political issues in Chinese academia[2], including those of concern for this thesis. In many cases, the

[2] See for example David Shambaugh's studies of Chinese academic debates around the causes behind the collapse of the Soviet Union (Shambaugh, 2008) and around China's foreign policy priorities (Shambaugh, 2013).

ideas behind concepts and categories used to establish official priorities in China can be traced to academic debates, sometimes from decades earlier. By studying such debates, we can improve understanding of the origin and evolution of important concepts over time, as well as of the actors and institutions that have contributed to the construction of their meaning. When used as empirical materials, however, academic articles have some practical limitations. Importantly, their raison d'être is independent of my own research objectives and, hence, information may be incomplete, technical, and difficult to interpret. It was crucial, therefore, to collect supplementary data from research trips in China, which included conversations with Chinese geologists, mineral resource strategists, Arctic scholars, and other experts who had themselves contributed to the formulation of official policies for the two sectors. The conversations contributed to the research by, for example, allowing for triangulation of the findings from documents, by providing additional information not available in documents, and by helping to clarify their content. As opposed to documents, however, conversations produce answers for which I am the intended receiver, and my identity as a foreign researcher enquiring about politically sensitive issues is likely to have an impact on the answers I receive. In some cases, I may become the target of external propaganda (对外宣传), or "exoprop" (Lulu, 2018), whereby respondents simply parrot the CCP's official narratives and slogans. While this problem can be alleviated to some degree through the design of the specific questions and by asking follow-up questions, it makes triangulation between documents and conversations all the more important.

An underlying assumption of the research design has been that experts have an important role to play in the formulation of official priorities. Of particular importance in the Chinese context are so-called "expert-officials," renowned scholars or experts who simultaneously serve as bureaucrats, and who have access to high-level decisionmakers (Wübbeke, 2013a). The influence of experts is likely to be particularly strong in the raw material sector, where the formulation of priorities and strategies require a high level of technical expertise and specialized training, which most top-level politicians tend to lack. It was therefore necessary to find theories and concepts that shed light on the role of experts and expert authority in the formulation of official priorities, as well as the role of academic debates in the Chinese policy process. In studying Chinese priorities for the raw material sector, it took the concept of the "criticality construct" as developed by Machacek (2017) and employed in the Chinese context. Inspired by this concept, it highlighted how the labelling of certain minerals as "strategic" or "critical" is not merely the result of an objective need, but also a human decision (taken by experts and policymakers).

In analyzing the formulation of Chinese foreign policy priorities, a focus on categories and labels was chosen. A priority refers to something that is considered more important than something else. Priorities, moreover, are not absolute but relative and may be categorized based on degree of importance (Spicker, 2009). In Chinese foreign policy, categorization means that different foreign policy interests are positioned in

relation to each other, which often results in hierarchies. A focus on categories thus makes it possible to study how the Arctic is contextualized and ranked among China's other foreign policy priorities. The construction of foreign policy hierarchies in the Chinese context is, however, a relatively unexplored area for academic research. A theoretical framework was therefore designed that combined insights from theories on categorization with my own theoretical contribution, while building on empirical insights from existing research on China's foreign policy priorities. Specifically, based on a view of categorization as a way of "doing things with words" (Austin, 1975; Schoenhals, 1992), I sought to theorize about the specific ways in which foreign policy hierarchies are constructed in Chinese political discourse, and how categorization of the Arctic had added political priority to the region.

RQ 2 sought to investigate the influence of official priorities on the decisions and approaches of Chinese companies. Addressing this question required me to collect and analyze company documents, including annual reports, press releases and investor presentations. For publicly listed companies, annual reports are mandatory and required to be released to the public. Company documents are useful for gathering factual information about the activities of companies, but also for studying how they present their motivations for investing in specific projects, and how they choose to frame their business activities. Annual reports are typically dry and not always insightful, however. To learn more about Chinese companies' interest in Arctic minerals and the factors influencing their business decisions, it was necessary to collect supplementary data from field research in Greenland and China, which included conversations with employees at Chinese mining companies and a visit at China's largest international mining conference. This was also beneficial for corroborating and validating findings from documents.

The concept of fragmented authoritarianism (FA) provides a useful framework for understanding the role of incentives and different sectoral interests in influencing Chinese companies' decisions to engage in Arctic projects. According to this view, Chinese political and economic actors that depend on state support for their operations are often required by the state to justify what they do politically, yet, in so doing, have the opportunity to choose between multiple policy agendas (Lieberthal and Oksenberg, 1988; Mertha, 2009; Brødsgaard, 2016). Bureaucratic fragmentation also makes it difficult for the central government to enforce its policies on lower levels of government and the economy, particularly when they run contrary to the interests of the local policy implementors. This problem of governance may be overcome by offering political and economic benefits for local state and non-state actors – including companies – that contribute to the attainment of political goals. The FA framework makes it possible to analyze how incentives from different sectors of the Chinese state influence Chinese decisions to engage in Arctic projects, but also how they affect the framing of projects and investment proposals. An important assumption of this research has been that when all other factors are the same, companies can improve their chances of securing economic and political support for projects by framing their

investment proposals as advancing state objectives set for the foreign policy and raw material sectors. This type of strategically tailored framing – and the attainment of state support – is particularly important for Arctic projects because of the unique environmental, logistical, and technical challenges surrounding them and the heightened economic risks that this brings for companies. To further explore the opportunities (and risks) that framing brings for Chinese companies engaging in the Arctic, securitization theory was applied. Securitization theory offers an explanation of firm behavior similar to that of FA: companies use strategic framing as a means to elevate their projects and gain access to state resources, while highlighting that this if often done by linking projects to issues of security. It also shed light on some of the unintended consequences of the framing, in particular how framing tailored for a specific audience may backfire if read by someone else than the intended recipient.

1.2. INTRODUCTION TO THE THESIS PAPERS AND THEIR INTERRELATION

The research has resulted in a compilation thesis comprising four papers published or under publication in the form of research articles or book chapters. Although the papers contribute to the same overarching research objective and build on the same meta-theoretical foundation, they each function as standalone papers that tell their own stories, apply their own theoretical perspectives, pose their own specific RQs, and use their own empirical materials. Three of the papers were submitted as contributions to anthologies or special issues (Paper I, Paper III, and Paper IV), which naturally comes with more clearly defined editorial expectations regarding focus, framing and theoretical perspectives. Moreover, in order to tell their own narratives, some papers were designed to contribute to more than one RQ, and some include information not strictly relevant to the overall thesis. Even when read in combination, the papers do not necessarily add up to an exhaustive answer to the overall aim of the thesis. Yet taken together they leave us better equipped to understand the complex relations between national priorities and the decisions and approaches pertaining to Chinese engagement in Arctic mining and mineral exploration projects. This section will demonstrate how the different papers and research components are interlinked through the research design.

The four thesis papers focused on different analytical levels and dealt with different but overlapping components of the research project. Although, as noted above, all papers were designed to work as standalone publishable units, the later papers were designed to benefit from and build upon the empirical and theoretical findings from previous papers. Paper I kicked off the research by exploring the different strategic considerations behind Chinese interest in two Arctic mineral exploration projects – the Kuannersuit rare earth project and the Citronen Fjord zinc project (RQ1, RQ2). Based on analysis of Chinese five-year plans (FYPs) for rare earths and non-ferrous metals, the paper explored how the two commodities are differently prioritized and their different roles in China's foreign policy strategy. The article, co-authored with

Jesper Willaing Zeuthen (Aalborg University) and Per Kalvig (MiMa, GEUS), was published in the 2018 volume of the Arctic Yearbook, an open-access journal, as part of a special section on China and the Arctic. While unable at such an early stage of the research to capture the full complexity of how national priorities shape decisions and approaches on the ground (official priorities were not analyzed in-depth until Paper II and Paper III), the paper served as an opening chapter of the thesis by introducing the overarching research topic. It also identified and introduced some central concepts of the Chinese priority-setting processes that were explored in-depth in subsequent papers, such as the Chinese concept and of "strategic minerals".

Paper II and Paper III – the core papers of the thesis – turned the focus to the Chinese domestic level by exploring the formulation of official priorities for the mineral and foreign policy sectors respectively (RQ1). Paper II, published in the interdisciplinary journal The Extractive Industries and Society, analyzed how various categories of "strategic" and "critical" minerals are constructed in China, and the impact of mineral categorization on Chinese policy and industry. In China, where state planning of the mineral sector (and the economy more broadly) remains a key characteristic, official criticality assessments can be expected to have a larger impact on policy and planning than in more market-based systems. But through what processes and mechanisms? Paper II explored these questions. The view of categories as human constructions and "performatives" was also the point of departure for Paper III, which shifted focus from raw materials to foreign policy. The paper, which has been published in a special issue of the Journal of Current Chinese Affairs, analyzed how foreign policy hierarchies are constructed in Chinese political discourse, focusing on how the Arctic is contextualized and ranked within such hierarchies. It identified and analyzed two classifications of the Arctic, both of which are the result of different types of categorizations. The article viewed categorization as a way of "doing things with words," suggesting that labels, while performative in themselves, may also be exploited by actors for achieving specific objectives (a topic that was further explored in Paper IV).

Finally, for Paper IV, I teamed up once more with co-author Jesper Willaing Zeuthen to study the framing of a potential mining project in southern Greenland – the Kuannersuit rare earth and uranium project – by the Chinese and Western investors to the project. The paper, which will be published as a chapter in a forthcoming anthology titled *Greenland in Arctic security: Entangled (de)securitization dynamics under climatic thaw and geopolitical freeze*, edited by Ulrik Pram Gad, Marc Jacobsen, and Ole Wæver, explores how official priorities for the raw material and foreign policy sectors influence framing strategies of Chinese companies (RQ2), and how framing may backfire if read by others than the intended recipients. Based on Securitization Theory, it explored how different Western and Chinese understandings of security and state interests, and the different needs for framing that this creates, have resulted in a gradual buildup of securitization measures towards Greenland in both China and the West.

While focusing on different aspects of the overall research topic, the four papers contributed in varying degrees to different academic sub-debates pertaining to China's pursuit of mineral raw materials overseas. In the next chapter, I will review literature on these debates, and explain how research gaps identified in each of them led me to formulate the overarching research aim that was presented at the beginning of this chapter.

Table 1. Overview of the four thesis papers.

	Paper I	**Paper II**	**Paper III**	**Paper IV**
Title	Chinese Mining in Greenland: Arctic Access or Access to Minerals?	Chinese assessments of "critical" and "strategic" raw materials: Concepts, categories, policies, and implications	The Arctic as a "Strategic" and "Important" Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies in China's Arctic Discourses	How China Left Greenland: Mutually Reinforcing Securitization Policies and Chinese Mining Plans in Greenland
Co-author(s)	Jesper Willaing Zeuthen Per Kalvig	N/A	N/A	Jesper Willaing Zeuthen
RQs	1, 2	1	1	2
Role in thesis / focus of analysis	The strategic considerations behind Chinese investments in two Arctic projects	Formulation of official priorities for the raw material sector	Formulation of official priorities for the foreign policy sector & how the Arctic is classified and ranked	How companies make strategic use of official labels and categories
Theories & concepts	Mainly empirical / mapping the actors with the bureaucracy	Construction of Raw material categories and hierarchies	Construction of foreign policy categories and hierarchies	Securitization Theory
Publ. status	Publ. in Arctic Yearbook, Section on China & the Arctic (2018)	Publ. in The Extractive Industries and Society (2020)	Publ. ahead of print in Journal of Current Chinese Affairs (2021)	Accepted for publ. in anthology on Arctic securitization

CHAPTER 2. CHINA SEEKING MINERALS IN THE ARCTIC AND BEYOND: STATE OF THE ART

The overarching topic of this thesis concerns the drivers behind Chinese engagement in Arctic mining and mineral exploration projects. In covering this topic, it engages with debates across a range of subjects and disciplines, from Chinese and Arctic area studies to political science, international relations, and resource politics. In this literature review, I will focus on four major debates to which the thesis contributes: the debate around the degree of state coordination behind Chinese investments in mineral resources overseas, Chinese policies and priorities for the raw material and foreign policy sectors respectively, and debates around the role of experts in the Chinese policy process.

In the discussion that follows, I will review some main perspectives and positions of each of these debates, identify research gaps, and explain what empirical and theoretical insights I carry with me and build upon from existing research.

2.1. A "CHINA INC." OR "EVERY SOLDIER FOR HIMSELF"?

A major debate that this research feeds into concerns the degree of state coordination behind Chinese overseas investments in mineral resources. Although there is great diversity of views among scholars, a general division can be made between those who see a coordinated and strategic approach, and those who see a relatively fragmentated and disorderedly one.

The term "China Inc" was popularized with the publication of journalist Ted Fishman's book in 2004, in which he portrayed China as an unstoppable economic powerhouse destined to overtake the US as the world's next superpower. In Fishman's words "No country has ever before made a better run at climbing every step of economic development all at once. No country plays the world economic game better than China" (Fishman, 2005: 1). Since then, the "China Inc" metaphor has been applied extensively in scholarly literature as well, where it has been defined and applied differently by different authors. I use it here in reference to a view of Chinese overseas investments as coordinated and effective, with a relatively high degree of state direction, in which long-term political objectives often take precedence over short-term economic gains. This is a relatively common view in the literature on China's global resource quest, although not all scholars who hold this view use the term "China Inc". Cáceres and Ear (2013: 44), for example, argued that "Beijing is sending its private and public companies to faraway lands and distant points of the

globe in a scramble to conquer global resources before others do". When engaging overseas, Chinese companies "enjoy unconditional support from their government and from a coordinated foreign policy that promotes, mainly through national oil and mining companies and sovereign wealth funds, the securing of resources in the international energy market" (Cáceres and Ear, 2013: 44). According to a report in Foreign Policy magazine, Chinese companies have seized control of strategic raw materials around the globe by relying on "a combination of state-directed investment and state-backed capital, making long-term strategic plays, sometimes at a loss" (FP, 2019). The report highlights how China adapts its approach when engaging in democratic, market-based systems by using nominally private but state-linked firms supported by state capital (FP, 2019). Li and Farrell (2020) take the "China Inc" perspective one step further. The CCP, they argue, essentially run China as a "giant corporation," in which the party leader is the CEO of China Inc, SOEs serve as business units or subsidiaries, and private firms function as franchisees of the Party. From this perspective, "[industrial] policies are not merely state guidance, but rather corporate strategies, in which the party-state identifies some industries, provides national resources for them, raises entry barriers, and assists them in gaining necessary technologies" (Li and Farrell, 2020: 758). Others have highlighted the need to distinguish between large SOEs and other firms in China's overseas strategy. Xu (2014), for example, argues that while activities of large SOEs are generally well-supported and their activities relatively well-coordinated and regulated, the activities of the smaller contractors that come along are much less so. These contractors tend to hire inexperienced and poorly educated workers whose activities often create problems for the leaders in Beijing (Xu, 2014).

Many scholars have challenged the idea of a "China Inc" altogether. According to Downs (2014: 22), the "China Inc" stereotype "was never as accurate as some outside observers feared and some Chinese desired". In fact, she argues, Chinese firms, government officials and state banks seldom operate as a coherent and effective unit, and their agendas are often not well-aligned. Instead of a "China Inc," it is a situation of "each soldier fighting his own war" (Downs, 2014: 22-23). The result has been that even large SOEs sometimes have difficulties obtaining sufficient government support for their overseas investments (Downs, 2014). Economy and Levi (2014) argue that while the central government may provide financial assistance or other forms of encouragement for companies to invest overseas it does not usually direct them to invest in particular projects. While overseas investments may be encouraged by supportive policy, they are "not necessarily centrally coordinated" (Economy and Levi, 2014: 52). Importantly, rather than being told what to do, SOE leaders may choose to incorporate their perception of the national interest into their investment decisions because success in doing so could result in political promotion (Economy and Levi, 2014: 52). According to Shambaugh (2013: 149), while government incentives play a role in "pushing" Chinese companies to go abroad, most companies that invest overseas do so not as part of a strategic plan but because China's overcrowded domestic market has left them with "pent-up cash in search of a place to

invest". Far from being agents of a well-oiled "China Inc," they are driven mainly by search for quick profit rather than a desire to establish long-term revenue streams, and tend to be naïve and impatient about the challenges and complexities that await them in foreign countries (Shambaugh, 2013: 149). Finally, a more recent study by Ericsson et al. (2020: 154) argue that "the concept of a 'China Inc', a coordinated Chinese government-led attempt to control flows of minerals to China is a simplification". Despite the restructuring and consolidation of the sector that has taken place in the last decade, the Chinese mining sector is still "fragmented compared with the rest of the world" (Ericsson et al., 2020: 167)

Research about what is driving Chinese investments in Arctic resources has been more limited, although the literature is growing. It is important to distinguish here between a "strategic approach" and "having an Arctic strategy". That China has a regional strategy for the Arctic (or at least is developing one) is not really disputed in the literature. Even before the Chinese government released China's official Arctic white paper in 2018 (SCIO, 2018), China's Arctic polices and emerging Arctic strategy had been the subject of several studies (e.g., Lanteigne, 2014; Jakobson and Peng, 2012; Brady, 2017; Su and Lanteigne, 2015; Wright, 2013). There is also relatively broad agreement about what state interests underpin China's Artic strategy: security (traditional and non-traditional), resources (oil, gas, minerals, fish, etc.), scientific research (particularity concerning climate change), and the development of Arctic shipping routes. Disagreement manly concerns the degree to which Chinese Arctic activities are centrally coordinated. The perspectives in this debate largely mirror the ones from the broader debate about China's global resource quest in that some see a relatively effective, strategic, and coordinated long-term approach (Brady, 2017; Wright, 2018; Martin, 2018; Lulu, 2018; Scrafton, 2018), whereas others see fragmentation, opportunism, and companies competing for state support (Zeuthen, 2017; Têtu and Lasserre, 2017). Regardless of perspective, however, Chinese Arctic activities are nearly always viewed through the prism of Arctic geopolitics and China's growing Arctic ambitions.

Anne-Marie Brady's (2017) book *China as a Polar Great Power* is the most comprehensive and detailed study about China's polar interests to date. Brady depicts a Chinese state that is meticulously and patiently carrying out a comprehensive and coordinated long-term strategy in the polar regions, with the ultimate goal of becoming a "Polar Great Power" on par with the US and Russia. Arctic resource extraction is an important component of this goal. In Brady's words:

> In the polar regions, more so than any other region of the world where Chinese interests operate, the PRC government is employing a "China Inc." strategy to achieve its goals. In the Arctic, China is following a comprehensive, multipronged attempt to access Arctic resources, which is linked to China's global foreign investment strategy (Brady, 2017: 160).

Brady (2017) highlights – perhaps more so than most other scholars – that Chinese companies act not only as profit-seeking businesses but also to accomplish the long-term geopolitical goals of the CCP. Brady views the interests of Chinese commercial actors and the Chinese government as well-aligned, at least when it concerns the Arctic:

> The government is adopting a China Inc. approach to the polar regions by encouraging and assisting Chinese commercial interests to expand into the Arctic and Antarctic. Companies follow their own strategic agendas as they advance government policies. At present, economic interests are not at the forefront of China's polar priorities, and are being used more as a political tool to achieve other goals, but they are sure to grow in importance and have an increasing impact on policymaking as new opportunities arise (Brady, 2017: 259).

Adherents of this perspective tend to view Chinese Arctic activities as part of a long-term Chinese masterplan for the region. Brady (2017: 235), for example, states that "China's current polar activities are sowing the seeds for long-term interests, some of which will not come into fruition for another thirty to fifty years". According to Wright (2018: 26), China takes an "extraordinarily long-term and multivalent planning horizon in the Arctic and elsewhere". Scrafton (2018), offers a similar assessment: "The combination of long-term strategic objectives, a settled view of the objective facts, one-party rule, and substantial government direction of its economic activity account for China's effectiveness in positioning itself to be a geopolitical force in the Arctic in the long term".

A number of studies have challenged the view of a coordinated Chinese approach in the Arctic, several of them focusing on Greenland. Zeuthen (2017) regards Chinese state interest in potential mining projects in Greenland as linked to specific sectors of the Chinese state rather than a centrally coordinated strategy. While incentives play a role in encouraging companies to invest in specific projects, "the amount of coordination and strategic focus is very limited" (Zeuthen, 2017: 1). Têtu and Lasserre (2017) studied the drivers behind Chinese investments in Greenland's mining sector. They found that decisions to invest in Greenland are based on a combination of economic and political considerations, with economic motives being a key driver. Chinese companies and other commercial actors engaging in Greenland are portrayed as acting out of their own self-interest and relatively independently of their government. While companies hope to receive both political and financial support for their projects, they are increasingly required to demonstrate commercial viability (Têtu and Lasserre, 2017). Zeuthen and Raftopoulos (2018: 123) argue that while potential Chinese investors in the Greenlandic mining sector all seem to expect Chinese state support for their projects, "there does not appear to be a coordinated effort". Rather, the approach by Chinese state actors in Greenland has been "very fragmented" (Zeuthen and Raftopoulos, 2018: 129).

To summarize, on the one side, China's approach in the overseas mining sector is viewed as coordinated, effective, long-term, and politically driven, rather than market-oriented and profit-pursuing. Chinese state capacity is viewed as relatively strong. On the other end of the spectrum, Chinese resource companies are viewed as driven mainly by their own agendas, which sometimes run counter to that of the government in Beijing. When they do, the government may struggle to reign them in. The Chinese mining sector is viewed as highly fragmented. Rather than a "China Inc," it is "every soldier for himself," although the government may provide incentives and encouragements for companies to invest overseas, and to act responsibly when they do.

Yet if we look past these stereotype-inducing labels and metaphors and instead focus on what the scholars who use them are actually saying, we find that there are in fact points of agreement and overlap between these two perspectives. *One* is that China has both a mineral resource strategy and a regional strategy for the Arctic, as well as a range of policies that are intended to support the realization of these. This is hardly disputed in the literature. Disagreement mainly concerns the degree to which Chinese activities in the Arctic are tied to government strategies and whether the Chinese approach is characterized by fragmentation or coordination. *Two* is that the strategic priorities of the Chinese government have at least some degree of influence on the decisions and approaches of companies, although scholars may disagree over the extent of this influence. There is also disagreement over the precise relationship between official priorities and company behavior. Specifically, does the Chinese government direct companies to invest in strategically important projects, or does it rely on softer measures, such as offering incentives and assistance? It seems that few China scholars would believe that the central government has the ambition (or even the capacity) to directly intervene in all but perhaps the most exceptional of cases. Even Brady (2017), who has argued that the Chinese government employs a "China Inc" approach in the Arctic, acknowledges that Chinese firms have their own strategic agendas, and describes the role of the government as "encouraging and assisting" Chinese firms (rather than outright ordering them what to do). Therefore, the following assumptions have served as the point of departure on which I have developed the research design for this thesis:

- The Chinese government has a relatively comprehensive and coherent strategy for securing a stable supply of raw materials, and it also has a well-developed regional strategy for the Arctic.
- However, even under the increasingly authoritarian rule of Xi Jinping, the central leadership has neither the capacity nor the ambition to directly control or supervise all activities by Chinese companies engaging abroad.
- In most cases, national objectives and priorities are achieved not by means of the central government ordering companies what to do but by offering benefits and encouragements to companies that can demonstrate how their investment plans help advance political objectives.

- The attainment of state support is presumably particularly important for Arctic projects because of the unique logistical challenges and economic uncertainty surrounding them.
- To understand the drivers behind Chinese engagement in the Arctic mineral sector, it is essential to study the government incentives that Chinese companies respond to, and where these incentives are coming from.
- Incentives from two largely separate sectors with relatively independent policy agendas would appear to warrant special attention: the mineral sector and the foreign policy sector.

In the two sections that follow, I shall therefore review literature on Chinese policies and priorities for these sectors, and the incentives that are designed to support their realization. Focus will be given to the role of labels and categories in this process. As was discussed in Section 1.1., an underlying methodological assumption has been that labels and categories are *performative*, meaning that humans construct and use them to achieve things. Labels allow for both *categorical* and *gradual* differentiation. The former is when labels are used to construct categories that describe a particular *form* of importance. The latter is when gradient labels are used to establish a ranking of issues within the same category. Based on this theoretical premise, labels and categories are performative in at least three ways. *First*, they convey *information* about the character and relative importance of different priorities and are thus performative in themselves. *Second*, they can be used strategically by actors, e.g., by the central government to establish and signal official priorities, or by bureaucrats, academics, companies, etc., to elevate the importance of policy issues in which they have an interest. *Third*, they can be used as framing devices at the level of the state or the firm, e.g., by companies that seek to attract state support for their investment proposals[3].

While labels and categories are not incentives *per se*, company executives that respond to incentives, such as facilitated access to state funding or the possibility of political promotion, not only interpret and adjust to labels and categories, but also participate in their construction and make strategic use of them.

2.2. POLICIES, PRIORITIES, AND CATEGORIES OF CHINA'S MINERAL SECTOR

Since the early 2000s, China has emerged as the world's dominant producer, exporter, and consumer of a wide range of minerals and raw materials. As many of the world's developed countries have grown increasingly reliant on China for supply of mineral raw materials, in particular the processed, high-quality materials and products that can be readily used by the high-tech industry to produce emerging energy and

[3] A more detailed discussion of the different functions of categorization is provided in Chapter 3.

communication technologies, China's resource policies have attracted increasing attention from researchers, policymakers, and industry. Of particular interest have been rare earth elements (REEs), a set of seventeen metallic elements (the fifteen lanthanides, plus scandium and yttrium), of which sixteen provide unique chemical properties deemed essential for producing materials used in emerging energy and communication technologies. Research has covered topics as diverse as the impact of China's REE policies on global supply chains (Massari and Ruberti, 2013; Golev et al., 2014; Mancheri et al., 2019; Yi et al., 2021; Klinger, 2018); the historical development of China's REE sector (Zepf, 2013; Shen et al., 2020); supply security of the REE industry within China (Wübbeke, 2015); the environmental impact of REE mining in China (Zhou and Ge, 2021); domestic narratives around China's REE industry (Wübbeke, 2013b), and Chinese investment in rare earth projects overseas (Kalvig and Lucht, 2021). When China restricted exports of REEs to Japan in 2010 following a territorial dispute between the two countries over the Senkaku/Diaoyu Islands (McCurry, 2010), concerns over excessive reliance on China for supply of REEs were further reinforced. Because of their perceived economic importance and because China's quasi-monopolistic status in the value chain raises concerns about future supply, REEs are officially classified as "critical" (see below) by the European Union (EU), the US, Japan, and other countries with advanced manufacturing industries. Much Western research on China's resource policies is thus contextualized within debates about "raw material criticality," defined by Schrijvers et al. (2020: 2) as "the field of study that evaluates the economic and technical dependency on a certain material, as well as the probability of supply disruptions, for a defined stakeholder group within a certain time frame". From this definition, we see that "criticality" is a fluid and subjective concept, with both spatial and temporal dimensions. In "criticality assessments," which are carried out by experts in government, academia, and industry, distinct labels such as "critical" and "strategic," each of which comes with a specific set of connotations and meanings ("strategic" typically referring to those deemed critical for national defense), are used to categorize, prioritize, and in some cases rank raw materials based on a specific set of parameters. The configuration of parameters will depend on the specific stakeholder group for which criticality is assessed, but they always include economic importance (in particular for the renewable energy sector) and supply risk (which considers factors such as substitutability and recyclability).

"Criticality" as currently conceptualized is a relatively recent phenomenon. While a discourse around fears over supply disruption of raw materials can be traced back much further in history, "criticality" as a specific concept and construct emerged in the 1930s. The term "critical material" was first introduced in 1939, just months before the outbreak of World War II in Europe, with the enactment of the US Strategic and Critical Materials Stock Piling Act. A 1979 amendment defined "strategic and critical materials" as "materials that would be needed to supply the military, industrial, and essential civilian needs of the United States during a national emergency, and are not found or produced in the United States in sufficient quantities to meet such need"

(US Public Laws, 2019). Concerns over supply chain vulnerabilities were high at the onset of the Cold War in the 1950s, and in particular in the 1970s and 1980s because of rising commodity prices, the two "oil shocks" of 1973 and 1979, and the "cobalt crisis" in 1978 (Glöser et al., 2015). Concerns around this time mainly focused on how insufficient availability of geological resources could hamper growth. The collapse of the Soviet Union in combination with historically low commodity prices caused interest in "criticality" to decline somewhat in the 1990s (Humprheys, 1995). In the last two decades, however, demand for raw materials have risen sharply as a result of population growth, economic development in emerging economies, technological progress, and government policies, causing renewed concerns over import dependencies and vulnerabilities (Barteková and Kemp, 2016). At the same time, the focus of the criticality discourse has shifted to elements used in advanced communications and consumer technologies, emerging "green" technologies, and defense applications (Hayes and McCullough, 2018), most of which are predominantly supplied by China. In 2008, the US National Research Council (USNRC) published a report on critical minerals and the US economy which defined "critical minerals" as minerals that perform "an essential function for which few or no satisfactory substitutes exist" and for which "an assessment also indicates a high probability that its supply may become restricted, leading either to physical unavailability or to significantly higher prices for that mineral in key applications" (USNRC, 2008: 30–31). The European Raw Material Initiative, launched by the European Commission (EC) that same year, aimed to establish an integrated European strategy for raw materials. The first step of this strategy was to define "critical raw materials" (CRMs) (EC, 2008). Since 2010, the EC maintains and updates every four years a catalogue of CRMs, defined as raw materials deemed "critical" in view of their importance for the European economy and high supply risk. The most recent list, published in September 2020, contains 30 raw materials. It listed China as the world's dominant producer of nineteen of these and the EU's top supplier of eight (EC, 2020). According to the EC, the catalogue "should help incentivize the European production of critical raw materials through enhancing recycling activities and when necessary to facilitate the launching of new mining activities" (EC, 2017: 2). In 2018, the US Department of the Interior (USDOI) published a catalogue of 35 "critical minerals," defined as those "deemed critical to the economic and national security of the United States" (USGS, 2018). It listed China as the primary supplier of thirteen and the primary producer of nineteen of these minerals (USGS, 2018).

Hence, it is clear that the concept of criticality is the product of a historical process of social construction, and furthermore that the phenomenon is not objective in the sense that what is considered a "critical" mineral varies depending on spatial dimension (e.g., "critical" for a company, a country, a region, or the whole world) and the specific methodology applied (which in itself implies a process of valorization, with some criteria being highlighted while others are downgraded), as well as on whether one looks at importance for a specific economic sector or the economy as a whole (Glöser et al., 2015). The EC and the US government assess "criticality" of minerals and raw

materials for their overall economies. The methodology developed by the USNRC assesses criticality based on two parameters: supply risk (referring to availability and reliability of supply) and impact of supply disruption (referring to importance in use and degree of substitutability) (USNRC, 2008). In the EC's criticality assessments, the two main parameters are supply risk and economic importance, both of which are given an aggregate score based on a range of indicators. These scores are then plotted against each other on a criticality matrix to arrive at a delimited list of CRMs (Frenzel et al., 2017). A wide range of experts across government, academia and industry are involved in the creation of these lists. Although lists of "critical minerals" or "critical raw materials" consist mainly of elements (which can occur naturally but occur more commonly in combination with other elements to form minerals), what is "critical" is not the minerals or the mineral concentrates, but the processed, high-quality materials that are in demand by the advanced manufacturing industry.

In Western countries, criticality assessments continue to be applied in decision-making by industry and government. While there is a burgeoning literature on China's resource policies, particularly with regards to REEs, research on how Chinese policymakers and researchers understand "criticality" has been scant. There are many questions surrounding Chinese conceptions of criticality: who is developing them, and based on what criteria? What labels and categories are used in Chinese criticality assessments, and what is the impact of such labeling on policymaking? In China, where state planning of the mineral sector remains a key feature, official criticality assessments can be expected to have a larger impact on policy and planning than in more market-oriented systems. But through what processes and mechanisms? How do Chinese criticality assessments influence decisions of Chinese firms in the Arctic mineral sector? Are companies incentivized to target minerals labeled or categorized in certain ways, and, if so, how do companies respond to these incentives? These are some of the questions that animate this study.

2.3. POLICIES, PRIORITIES, AND CATEGORIES OF CHINA'S FOREIGN POLICY SECTOR

There exists a plethora of research on Chinese foreign policy. Apart from several comprehensive works (e.g., Lanteigne, 2019; Harris, 2014; Robinson and Shambaugh, 1995; Ning, 1997; Rozman, 2013), a large number of articles and papers have dealt with specific aspects of Chinese foreign policy, including how it is made (Jakobson, 2016; Zhao, 2016; Jakobson and Manuel, 2016; Bachman, 1998); its objectives, priorities, and strategies (e.g., Leverett and Wu, 2017; Kastner and Saunders, 2012); diplomatic tools (Strüver, 2017; Feng and Huang, 2014); domestic drivers (e.g., Nathan, 2016; Zhao, 1992; Brittingham, 2007; Zhao, 2013); and Chinese academic debates (e.g., Feng et al., 2019; Zhu, 2010; Swaine, 2013). This section will focus on three distinct but interrelated academic debates to which this thesis contributes: 1) how are China's foreign policy priorities formulated and what actors are involved in this process; 2) what are China's foreign policy priorities, and in particular, what do

official labels and categories reveal about them, including how the Arctic is ranked and contextualized as a foreign policy issue; and 3) how do Chinese companies respond to incentives from the foreign policy sector.

In studying how Chinese foreign policy is formulated, some take a "top-down" or elite-centered approach, highlighting the key role of Chinese leaders – in particular the CCP General Secretary (since 2012 Xi Jinping) – in shaping the country's foreign policy (e.g., Blackwill and Campbell, 2016; Lam, 2015; Li, 2016). These studies often highlight the fact that Xi Jinping has amassed more power and influence over Chinese politics and foreign policy than any of his predecessors since Deng Xiaoping. Others, such as Jakobson (2016) and Jakobson and Manuel (2016), stress that Chinese foreign policymaking – even under the authoritarian leadership of Xi – remains fragmented, pluralized, and lacking of efficient coordination. Apart from the formal party and government institutions of foreign policy, which remain crucial for making and implementing foreign policy, a whole range of new actors have in the last two decades gained opportunities to influence policymaking. These include what Jakobson (2016) calls "actors on the margin" – the media (newspapers, magazines, television); social media actors ("netizens," bloggers, commentators); business leaders, e.g., SOE directors; local governments, especially those in border and coastal regions; and prominent academics who enjoy close ties to individual politburo members. While there is overlap between these two perspectives (proponents of a top-down approach acknowledge that Xi cannot decide everything, and vice versa), the focus and empirical entry-point is different.

As China has grown more powerful economically and militarily in the last decades, its foreign policy priorities have attracted increasing scholarly attention. Perhaps due to the difficulty of collecting empirical data, much of this analysis is theory-driven, particularly analysis by international relations (IR) scholars who are not China specialists. Such analysis, whether realist (e.g., Mearsheimer, 2010; Friedberg, 2011) or liberal institutionalist (e.g., Ikenberry, 2008; Nye, 2020), tend to analyze Chinese foreign policy priorities based on a set of universal assumptions about the international system and the interests and intentions of states within it. By contrast, empirically driven analysis is usually carried out by sinologists whose Chinese language skills and knowledge of the country allow them to take a more China-centric approach and properly account for the domestic factors that influence Chinese foreign policy. Some of the empirical research on China's foreign policy priorities revolve around analysis of specific indicators. Kastner and Saunders (2012), for example, analyzed Chinese leadership travels, comparing the frequency of official visits by Chinese leaders to different countries and global regions (see also CSIS, 2021; Alsabah, 2016). Others have viewed Chinese behavior within international organizations as an indicator of its foreign policy priorities (e.g., Olson and Prestowitz, 2011; Kent, 2001).

A more popular approach has been to study what Chinese leaders and academics are saying about the country's foreign policy priorities. This includes studying how different countries or regions are categorized and ranked in China's foreign policy discourse. Discourse analysis has found that China's official foreign policy priorities have evolved over time, from a focus on "neighborhood diplomacy" (周边外交) in the early 1990s to "major power diplomacy" (大国外交) in the late 1990s, and the launching of "all-round diplomacy" (全方位外交) in the early 2000s. The latter is summarized in the phrase "major powers are key, the periphery is the priority, developing countries are the foundation, and multilateralism is an important platform" (大国是关键，周边是首要，发展中国家是基础，多边是重要舞台) (Shambaugh, 2013: 11; Medeiros, 2009).

In the last decade, research on categorization in Chinese foreign policy has focused on two topics – China's "partnership diplomacy" and the concept of "core interest" (核心利益). The term "partnership diplomacy" has been used by scholars to describe the different categories of bilateral partnerships (伙伴关系) that China has entered with other countries (e.g., Shambaugh, 2013; Medeiros, 2009; Strüver, 2017; Feng and Huang, 2014). In this system, which emerged in the mid-1990s, labels are used to distinguish between different types of "partnerships" but also to establish a hierarchy of China's foreign relations. For example, the bilateral relationship between China and Russia is labelled "comprehensive strategic partnership of coordination for a new era". Whereas China has signed a "comprehensive strategic partnership of cooperation" with more than a dozen countries, the label "coordination" (协作) has thus far been exclusive for Sino-Russian relations, as has the addition of the term "new era" (新时代). In the Chinese hierarchy of foreign partnerships, it appears to have taken the top spot, surpassing even the "all-weather strategic partnership of cooperation" that China has with its formal military ally Pakistan. It reflects the high priority given to Sino-Russian relations under Xi Jinping. The category of "core interest" has been used in Chinese domestic and external discourse since the early 2000s in relation to China's most important "national interests". An official definition of the concept was provided in 2009, when then State Councilor Dai Bingguo described the following "core interests": China's fundamental system and state security; state sovereignty and territorial integrity; and the stable development of the economy and society. In 2011, a government white paper titled "China's Peaceful Development" broadened the scope of China's official "core interests" to include also "peaceful development" and "national reunification" (referring to the unification of mainland China and Taiwan). Studies of China's "core interests" have dealt with topics such as origin and conceptual development (Swaine, 2010), Chinese academic debates (Gupta, 2012; Zeng et al., 2015), and influence on diplomacy and trade (Crookes, 2013). Existing research has rarely ventured beyond the "core interest" level, however. Little is known about what other labels are used to categorize and rank those foreign policy interests that, while important, do not qualify as "core". While research has noted the existence of labels beyond the "core" level (e.g., Zeng et al., 2015; Kaufman and Hartnett, 2016), it has mainly focused on how such labels help differentiate "core interests"

more clearly, not on how such labels may matter in themselves, and how they may be used to categorize and perhaps even rank other, less vital interests, such as the Arctic. Finally, since the launching in 2013 of China's overarching foreign policy strategy, the Belt and Road Initiative[4] (BRI), there appears to have emerged a binary categorization scheme which separates BRI countries from non-BRI countries. Under this scheme, a country or region may be prioritized by virtue of its perceived importance for accomplishing specific objectives under the BRI (Garlick, 2018), or by having formally "joined" the BRI by endorsing and signing onto it (Zhang and Fang, 2020).

The labels, categories, and frames in China's Arctic discourses have attracted some attention by scholars within China studies and Arctic studies. These can be divided into different categories based on what they describe and what they are used for: 1) labels used to construct an Arctic identity; 2) labels and frames that describe the Arctic in relation to the world; 3) labels that describe China's aspirations as an Arctic player; and 4) labels that categorize the Arctic as a Chinese foreign policy priority[5]. Most research on China's Arctic discourses has focused on how China portrays itself in the Arctic in external English-language discourse, in particular the labels used by Chinese officials and academics to construct an Arctic identity. These include "near-Arctic state" (近北极国家) and "Artic stakeholder" (北极利益攸关者) (Jakobson, 2013; Lanteigne, 2014; Bennett, 2015). Labels or frames that describe the Arctic in relation to the world include "global common" (全球公域) "shared heritage of mankind" (人类共同遗产) "window for observing global warming" (全球变暖的窗口) and "treasure trove of resources" (资源的宝库) (Brady, 2017; Lanteigne, 2014; Nykänen, 2017). Concepts that describe China's ambitions as an Arctic player include "Polar Power" (极地大国) and "Polar Great Power" (极地强国), the latter of which is part of China's broader goal of becoming a "Maritime Great Power" (海洋强国) Brady (2017). A similar term is "great power of polar research" (极地考察强国), which puts greater emphasis on China's goal of becoming a world leader in polar science. Finally, labels used to categorize the Arctic as a Chinese foreign policy priority include "strategic new frontier" (战略新疆域) (Brady, 2017; Sørensen, 2018) and the official classification of

[4] Launched in 2013 as "One Belt One Road" (OBOR), before being rebranded internationally in 2016 as the "Belt and Road Initiative" or "BRI" for short (while maintaining its original name in Chinese). The "Belt" refers to the "Silk Road Economic Belt," an extensive network of roads, railways and other land-based infrastructure projects aimed at facilitating economic integration across the Eurasian continent. The "Road" refers to the "Twenty-First Century Maritime Silk Road," a proposed system of ports, hubs and other coastal infrastructure in Southeast Asia, Oceania, and Africa. BRI has since expanded to include a wide range of infrastructure projects across the entire globe, all of which seek to connect China with the rest of the world.

[5] A more detailed and comprehensive review of research on labels and categories in China's Arctic discourses is presented in Paper III of this thesis.

the Arctic as a "maritime interest" (Brady, 2017). One could also include in this category the labelling of the Arctic as a "Belt and Road-region" in the form of a "Polar Silk Road" (冰上丝绸之路) (Woon, 2020), although "Polar Silk Road" could perhaps also constitute its own fifth category of "policy-labels". The labels "strategic new frontier" and "maritime interest" from category four, "Polar Great Power" from category three, and "Polar Silk Road" from category four/five are of particular interest for this thesis because they are used to contextualize the Arctic within China's broader foreign policy objectives and, in some cases, to rank it alongside China's other foreign policy priorities. A second reason these labels warrant attention is that Chinese companies competing for government support for their Arctic investments can presumably use them to elevate and distinguish their projects from those of their competitors. Put differently, if Chinese companies are encouraged or even required to demonstrate that their Arctic investments help advance Chinese foreign policy priorities in the region, they are likely to use these labels in the framing of their investment proposals. While previous research has improved our knowledge of these and other labels in China's Arctic discourses, it has rarely treated labeling and categorization as a means for understanding and comparing competing priorities. With the exception of the label "near-Arctic state," little has been written about the performative quality of labels in China's Arctic discourses, i.e., what labels actually *do*, and how they are used by actors for achieving specific objectives. In particular, little is known about how labels are used to construct hierarchies of foreign policy interests, and how the Arctic is contextualized and ranked within these. Such efforts have been few and often limited to noting that the Arctic is not a Chinese "core interest" (Lackenbauer et al., 2018: 173; Su and Lanteigne, 2015: 12), or that recent policies, such as the "Polar Silk Road," indicate that the region has "moved up the agenda" of Chinese foreign policy (Grieger, 2018; Sørensen, 2019).

Studies on Chinese policies for incentivizing outward foreign direct investment (OFDI) have focused on the "Going Out" (走出去) policy and the BRI. Following the launch of the "Going Out" policy in the late 1990s, the State Council began encouraging Chinese firms to invest overseas by offering them benefits such as export tax rebates, financial support, and foreign exchange assistance (Salidjanova, 2011). Scholars have described the "Going Out" policy as a "prelude to the BRI," and the BRI as a "repackaging and an expansion" of the "Going Out" policy (Cabestan, 2019: 593). While they share similarities, there are notable differences. The "Going Out" policy is not a foreign policy strategy in the same sense as the BRI. As opposed to BRI, it does not seek the endorsement and involvement of foreign governments. Moreover, BRI is focused on infrastructure and other forms of connectivity and has a significant geopolitical component. Scholars have studied how the BRI has affected Chinese OFDI in different countries and global regions. While most such studies conclude that the BRI has had a positive impact on Chinese OFDI (e.g., Yu et al., 2019; Ma et al., 2019; Wang and Liu, 2020; Du and Zhang, 2018), Nugent and Lu (2021: 11) argue that the "BRI has not increased China's total FDI outflows to BRI countries". They attribute the different findings of other scholars to "their less suitable

data sources and time ranges of samples, less complete identification of BRI countries, and the potential for 'bad control' problems in some of their econometric models" (Nugent and Lu, 2021: 11). Based on their estimates, they conclude that, "in general, the BRI initiative [*sic*] seems not to have created any substantial political incentives for Chinese firms to invest in BRI countries" (Nugent and Lu, 2021: 11). While most studies have found that Chinese companies in general do respond to government incentives, little is known about the extent to which companies that engage or seek to engage in the Arctic respond to incentives from the foreign policy sector and the role of foreign policy labels in this process. According to Zeuthen (2017), a Chinese mining company investing in Greenland was at least partly motivated by hopes of receiving economic and political support from the Chinese government for engaging in BRI countries. Many questions remain, however, about the role of foreign policy priorities in influencing Chinese investment decisions and the ways in which foreign policy labels are used strategically by firms.

In conclusion, this thesis feeds into academic debates about what China's foreign policy priorities are, how they are formulated, and how companies respond to them. Theoretically, it builds upon efforts to study Chinese foreign policy priorities through a discursive approach, focusing on labels and categories. Empirically, it draws on findings about labels and categories in Chinese foreign policy discourse in general and China's Arctic discourse in particular. There are still many questions surrounding the role of categories and hierarchies in China's Arctic discourses. How are Chinese foreign policy hierarchies constructed, and who participates in this process? What are the different ways in which foreign policy issues are elevated in Chinese foreign policy discourse? Even less is known about how Chinese companies respond to these labels. Do these classifications have any impact on decisions of where to invest, or how companies choose to package and present their investment proposals? Are companies incentivized to invest or otherwise engage in specific Arctic countries, e.g., those prioritized under the BRI? The thesis contributes to answering these questions.

2.4. THE ROLE OF EXPERTS IN THE CHINESE POLICY PROCESS

A fourth debate to which this thesis contributes concerns the role of expertise in Chinese policymaking and how experts are able to gain access to and influence the policy process. In short, how do experts get a voice in China? This question has been approached from different perspectives that, while not necessarily contradictory, carry different empirical and theoretical foci. This section reviews three perspectives (or strands) of the literature: one that focuses on the role of Chinese "think tanks," one on the structure of the bureaucracy and the political system, and one on the role of academics and academic literature in the policy process.

A significant proportion of the literature on expertise in Chinese policymaking has focused on "think tanks". Because of their closer administrative linkages to the

government and their focus on policy research, think tank researchers are arguably better positioned to influence policymaking than the typical university academic. Scholars have studied think tanks devoted to specific policy issues, including foreign policy (Shambaugh, 2002; Abb, 2015; Abb and Koellner, 2015; Zhao, 2006; Jakobson and Knox, 2010), economic policy (Naughton, 2002; Xu, 2009), military policy (Gill and Mulvenon, 2002), industrial policy (Ahrens, 2013), and climate policy (Wübbeke, 2013a). Recently, the concept of "new-type think tanks" (新型智库)[6], has caught scholarly attention (Hayward, 2018; Wang and Hu, 2017; Li and Qi, 2018; Wuthnow and Chen, 2021).

The literature on Chinese think tanks is concerned with questions about policy influence, including how influential they are in general, which think tanks are most influential, through what channels do they exert influence, and so forth. But because it is usually contextualized within debates about think tanks as a particular type of organization – one that originated in a Western, democratic setting – it must also deal with questions about how to define and understand think tanks in the Chinese political context. That is, even when the focus is on assessing influence, it concerns influence of a type of research organization that meets a certain definition. Scholars have proposed different ways of defining and categorizing Chinese think tanks. Some believe that a high degree of autonomy is required for a research organization to be called a "think tank;" others apply a more generous and inclusive definition. The former tend to be interested specifically in the role and influence of autonomous, external expertise (in line with the Western idea of think tanks as "external brains"), the latter in the influence of policy research organizations more broadly. Zhu (2009), for example, regards autonomy as an important characteristic of think tanks and therefore excludes research organizations that are embedded within the structure of government agencies or officially registered as such. This disqualifies some research organizations that label themselves "think tanks," some of whom are arguably among the most influential in the Chinese system, such as those affiliated with the Central Party School. Zhu distinguishes between public (semi-official) think tanks and civilian think tanks. The former, while not completely independent from the government, function as relatively autonomous research institutes. In terms of "importance" (which I interpret as "influence"), they are second only to official government policy institutes, and include e.g., the Chinese Academy of Social Sciences (CASS), the Development Research Center of the State Council (DRC), and the Shanghai Institutes for International Studies (SIIS). Civilian think tanks enjoy the highest degree of autonomy in the Chinese system. They are smaller research institutes that focus on economic policy, such as the Unirule Institute of Economics

[6] Xi Jinping's vision for "modern" and internationally competitive Chinese think tanks befitting the "new era" (新时代) in China's development.

and the China Center for Economic Research (Zhu, 2009)[7]. In contrast to Zhu's relatively narrow definition of think tanks, Abb (2015) defined them more broadly as "public policy research organization[s…] whose research is intended to influence policies," and divided them into university-affiliated institutes (e.g., Peking University's Institute of International Relations and Fudan University's Center for America Studies); institutes affiliated with comprehensive academies (e.g., CASS, Shanghai Academy of Social Sciences; and agency-affiliated think tanks. The latter includes institutes affiliated with ministries (e.g., China Institute of International Studies and China Institutes of Contemporary International Relations), local governments (e.g., SIIS), or the CCP itself (e.g., the Central Party School's Institute for International Strategic Studies) (Abb, 2015). The different types of think tanks differ in their roles and ability to influence policy. While university-affiliated think tanks take on a mostly academic role, academy and agency-affiliated think tanks are more focused on providing policy advice. Moreover, they regularly provide reports on policy issues to policymakers through institutionalized channels, making them more likely to have a direct influence on policy (Abb, 2015). The submission of reports, either at the direct request of the government or through the internal reporting system (which all official and some semi-official research institutes have access to) is widely regarded as a key channel for experts to influence policymaking (Zhu, 2009; Abb, 2015; Wübbeke, 2013a). Other tools of influence include, inter alia, academic writings (particularly in prestigious journals), media appearances, and personal connections to policymakers, (*guanxi*, 关系) (Abb, 2015; Zhu, 2009). Prominent scholars may also be summoned by policymakers for counselling (Abb, 2015).

Research on the role of think tanks in influencing China's mineral policies has been more limited. Some research has been carried out on expert advice in the related fields of climate policy and industrial policy. Wübbeke (2013), for example, has studied the influence of Chinese climate experts on the country's climate policy. Wübbeke draws on and situates his study in the think tank literature, but the focus of his analysis is not on think tanks as a specific type of research organization but on the influence of expert advice and climate "expert communities" more broadly. Expert advice, he argues, "has an enormous impact on Chinese climate policy today" (Wübbeke, 2013a: 713). The experts with the greatest influence are based at "semi-official" research institutes under CASS, the National Development and Reform Commission (NDRC), and the State Council, where they enjoy close ties to the climate leadership. These individuals, whom Wübbeke (2013a) refers to as "expert-officials" or "expert-bureaucrats," straddle the fence between research and policymaking. By contrast, university researchers have relatively little influence, although Tsinghua University and Renmin University are exceptions (Wübbeke, 2013a). Ahrens (2013) studied the Chinese

[7] It should be noted that the research environment in China has grown more restrictive since the publication of Zhu's article, in particular for non-governmental think tanks. The Unirule Institute of Economics closed down in 2019, citing government pressure as its reason for doing so.

process for designating "strategic emerging industries" (SEIs)[8], finding that, while the process of designating SEIs is led by party and government officials, academics, and other experts are consulted in various ways throughout the process. Experts from industry and academia are invited to form expert groups and expert panels that provide advice both during the initial drafting of policies and during the policy refinement stage (Ahrens, 2013).

A limitation with some of the think tank literature is that it easily gets caught up in questions about how to define and categorize think tanks and whether think tanks must have an independent role or not. Also, by limiting the discussion to whatever one defines as "think tanks," experts with policy influence who are based elsewhere are excluded from analysis. According to a different strand of the literature, the fragmented authoritarianism (FA) school, such a dichotomy misses the point. Rather than focusing on the role of specific institutions in influencing policy, the FA framework takes a step back and analyzes the structural conditions that provide experts with access to the policymaking process in the first place. Proposed and developed in the 1980s and 90s by sinologists such as David Lampton, Kenneth Lieberthal, and Michel Oksenberg, the FA framework challenged the view of Chinese policymaking as essentially a top-down affair[9]. In the words of Lieberthal and Oksenberg (1988: 137), "What on paper appears to be a unified, hierarchical chain of command turns out in reality to be divided, segmented, and stratified. Indeed, the *fragmentation* of authority is a core dimension of the Chinese system". Bureaucratic fragmentation means that bargaining and consensus-building are required at all levels of the political system for policies to be implemented. It creates a situation whereby policies set out by the center are changed as they are passed down the hierarchy, with significant local variations as a result. Later, Mertha (2008, 2009) introduced into the FA framework concepts that have been used to analyze the policy process in democratic systems, such as policy entrepreneur (Kingdon, 1984) and issue framing (Baumgartner and Jones, 1993). He argued that rapid socio-economic changes in China had created room for new types of actors to influence policymaking. These policy entrepreneurs, which include non-governmental organizations (NGOs), activists, journalists, and local officials, are politically driven individuals or organizations that pursue policies in which they have an interest. Policy entrepreneurs frequently make use of experts in their attempts to build coalitions and popular support, and it is not unusual for two opposing sides of a policy debate to mobilize experts to join their respective campaigns. A policy entrepreneur may call on different types of experts depending on the choice of framing of the policy proposal. According to Mertha, the choice of framing, i.e., how a policy proposal is packaged and

[8] SEIs are industrial sectors officially identified as crucial for driving Chinese economic growth and investment in the future. The most recent catalogue lists eight SEIs, including new-energy vehicles, biotechnology, and next generation information technology (Xinhua, 2020).

[9] A more thorough discussion of the FA framework is provided in Section 3.1.

presented, is crucial for determining its success or failure. The FA framework thus not only explains the structural features by which experts gain entry to the policy process, it also assigns a more diverse role to experts. Experts are not simply serving the center; they are also capable of pursuing their own agendas, which may be tied to local interests or specific objectives of the sectors in which they operate.

A third strand of the literature has examined the role and influence of academics and academic writing in different policy areas[10]. Prominent individual scholars, what we may call "celebrity academics," have been a point of interest to researchers. Within the field of rural development, for example, scholars have studied the influence of rural sociologists such as Wen Tiejun[11] and He Xuefeng and economic liberals such as Zhou Qiren (e.g., Thøgersen, 2009; Wilczak, 2020). Research about China's ethnic minority politics has covered academic debates between "reformers," represented by the two "Hus" – Hu Angang and Hu Lianhe of Tsinghua University – and those arguing for preserving the status quo, most notably Hao Shiyuan of CASS' Institute of Ethnology and Anthropology and Jin Binggao of Minzu University of China (Leibold, 2015, 2013; Zhao and Tok, 2021). The views and influence of China's leading IR experts have also caught scholarly attention (e.g., Shambaugh, 2013; Zhu, 2010; Feng et al., 2019; Jakobson and Knox, 2010). Shambaugh (2013: 13-44), for example, examined debates between different cohorts of IR scholars and commentators, most of them based in Beijing or Shanghai. A study by Xu (2016) focused on how policymakers influence China's IR discourse rather than the other way around. When faced with competing policy recommendations, policymakers tend to pick writings that correspond most closely to their own values and beliefs, which they then exploit when propagating for their policies. Scholarly views that get picked up by policymakers become mainstream in academia, while others become marginalized. Xu's (2016) account of how policymakers exploit academics and their writings is actually not far from Mertha's (2009) view of how policy entrepreneurs make use of experts in their efforts to influence policy. From the accounts of Xu (2016) and Mertha (2009) it does not seem like academics have much influence on policymakers if we regard influence narrowly as affecting or changing minds. However, if by influence we mean impact on policy outcomes, academic writings

[10] Scholars have argued that the CCP as an institution has a proven ability to make policy adjustments and adapt long-term strategies based on findings from government-commissioned academic studies (Shambaugh, 2008; Marsh, 2003). Shambaugh (2008) described in great detail how the CCP made far-reaching policy adjustments based on assessments of the causes behind the collapse of the Soviet Union. Apart from commissioning academic studies, the CCP formed working groups of leading experts and established new research centers exclusively for the purpose of studying regime change and collapse. Shambaugh (2008) argued that CCP leaders drew important lessons from these studies, which fed directly into policy.

[11] Wen's description of "Three Rural Issues" (三农问题) is an example of academic language being elevated to political discourse in China.

clearly have an influence when policymakers are successful in using them to legitimize their policies. And the fact that policymakers make strategic use of expertise does not rule out that their thinking is influenced by differing expert opinions from time to time, or that their current values and beliefs were at some point shaped by academic writing. We may think of the influence of academic texts as occurring in two separate phases, one in which they contribute to shaping minds, including deciding what is important and what is not, and one in which technical expertise is used to specify the content of already decided policies. This seems to be in line with scholarly observations about the relationship between academic debates and policymaking in China. A pattern of policy formulation has been noted which begins with a period of relatively open and unrestrictive public debate (this would be part of the process of shaping minds). In the second phase, a process of internal policy formulation is initiated, after which a policy is publicized. From then on, academics are expected to support the official position, and academic debates grow increasingly restrictive (Mohr, 2020; Campbell, 2013). In this second phase, expert advice becomes more specific and technical.

While the literature on the influence of academics on policymaking in China has produced valuable findings, what is missing is a systematic study of how political concepts originate. Assuming that they are not always the creation of senior leaders, to what extent can political concepts or the ideas behind them be traced to academic debates? Although this almost certainly varies from case to case and across policy areas, knowledge of any potential patterns would improve our understanding of the Chinese policy process. Another research gap concerns how scholars use academic writings to influence the establishment of official priorities, in particular how they use categorization to construct hierarchies and elevate policies in which they have an interest.

In conclusion, existing research has enriched our understanding of Chinese expert communities and the involvement of experts in Chinese public policy. Important questions remain, however, regarding the role and influence of academics in setting the Chinese policy agenda. What is the role of foreign policy experts in constructing the categories that are used to rank different policy issues? How do academics use existing categories to elevate policy issues that they care about? Even less is known about the role of mineral resource experts in shaping China's mineral priorities. Presumably, the formulation of priorities for the mineral resource sector requires a high level of technical knowledge and specialized training, which most senior officials tend to lack. The influence of experts could therefore be expected to be particularly strong in this sector. Yet very little is known about how these processes play out in China. How do Chinese researchers contribute to the construction of raw material criticality in China? Who are these experts and where are they based? What is the role of academic debates in this process? These are questions to which I seek to contribute.

2.5. CONCLUSION

This literature review has revealed a series of knowledge gaps relating to how Chinese official priorities for the mineral sector and foreign policy sector are constructed, and how Chinese mining companies that engage or wish to engage in the Arctic react to and adjust their strategies based on these priorities. In particular, there is a lack of understanding about the role of categorization in the construction of priorities, and how categories influence the approaches and decisions of companies. All these questions are encompassed in the following overarching research aim:

> To improve the understanding of the complex relations between the Chinese central state's foreign policy and industrial development priorities and the decisions and approaches pertaining to the engagement of state and semi-state-owned enterprises and other actors in Arctic mining and mineral exploration projects.

Meeting this aim requires the use of theoretical tools capable of explaining the Chinese policymaking process, as well as more general theories about the role of language and categorization in the construction of priorities. I now turn to these in the next chapter.

CHAPTER 3. THEORETICAL FRAMEWORK

Two broad theoretical themes guided this research. The first is a view of Chinese policymaking as fragmented and moderately pluralist as opposed to monolithic and strictly hierarchical (Lieberthal and Oksenberg, 1988; Mertha, 2009). In particular, I regard the Chinese polity as split into sectors with overlapping yet relatively distinct policy agendas and objectives. The second is a view of language and categorization as "performative" (Austin, 1975). In the fragmented authoritarian context, the elevation or downgrading of issues through categorization becomes a tool in the bureaucratic competition for political attention and access to state resources. Furthermore, the coexistence of numerous political categories, some of which may be tied to different and occasionally competing or even conflicting sectoral objectives, provides political actors with opportunities for framing that appeals to a certain sector or segment of the bureaucracy.

This chapter begins with an overview of fragmented authoritarianism (FA), a framework that explains the basic structural conditions of Chinese policy formulation and implementation. It proceeds by presenting theories on the performative quality of language, with a focus on how such theories have been applied within China's fragmented authoritarian context.

3.1. FRAGMENTED AUTHORITARIANISM

Fragmented authoritarianism (FA) is a framework for analyzing the Chinese policy process that "places bureaucratic bargaining at the center of policymaking" (Brødsgaard, 2016: i). FA challenged the view held by many China watchers[12] at the time of Chinese policymaking as essentially a top-down affair, in which policies were formulated by elites at the top and subsequently enforced on lower levels of the bureaucracy. Instead, it highlighted how central level policies change as they are passed down the bureaucratic hierarchy, particularly by incorporating the interests of local implementation agencies, who can effectively block or reshape policies they do

[12] The authors challenged two models for studying the Chinese policy process at the time, which they labelled the "power model" (represented by, e.g., Pye, 1981; MacFarquhar, 1974) and the "rationality model" (represented by, e.g., Barnett, 1974; Harding, 1981). Although these two perspectives differed in significant ways – the former viewing policy outcomes as a result of elite power struggles and the latter as a result of rational evaluation of how different policy options advance perceived national interests – they shared the fundamental assumption that "policy is shaped primarily at the top and that the leaders seek a purposeful outcome (Lieberthal and Oksenberg, 1988: 17).

not like (Lieberthal and Oksenberg, 1988; Mertha, 2009), or implement policies selectively (O'Brien and Li, 1999; Smith, 2010, 2009).

The FA framework was developed in the late 1980s and early 90s by scholars such as David Lampton, Kenneth Lieberthal, and Michel Oksenberg. Lampton (1987) laid the groundwork for FA by emphasizing the central role of bargaining in the Chinese policy process, which he described as the "political bargaining mill". In his analysis, bargaining took place across and between all levels of the political system, during both the policy formulation and implementation stages. Lampton attributed the need for bargaining to several structural features of China's political system, including the (at the time still dominant) command system for allocating resources, the limited coercive capacity of the state, relatively weak institutionalization, and the converging or diverging interests of functional (vertical) organizations and territorial (horizontal) administrations. These vertical and horizontal systems are referred to in Chinese as "lines" (*tiao*, 条) and "pieces" (*kuai*, 块). The fact that powerful functional and territorial actors sometimes share bureaucratic rank and therefore cannot issue binding orders on each other (as in the case with e.g., government ministers and provincial governors) creates a situation whereby bargaining and compromise is required. The following year, Lieberthal and Oksenberg (1988) wrote what many consider to be the seminal work on FA. Based on case studies from China's energy bureaucracy, each concerning the development of large-scale energy projects, their book laid out in great detail the structural conditions by which bargaining takes place. In their words:

> [...] tables of organization are only partial guides to the real authority relations in the Chinese polity. What on paper appears to be a unified, hierarchical chain of command turns out in reality to be divided, segmented, and stratified. Indeed, the *fragmentation* of authority is a core dimension of the Chinese system (Lieberthal and Oksenberg, 1988: 137).

Their study revealed a policy process in which consensus building is essential. Because a ministry or province lacks the power to singlehandedly drive through a major project or policy, they must seek the active participation and cooperation of key actors of both the functional and territorial bureaucracies, whose interests and agendas may diverge from their own. This results in policymaking that is disjointed, drawn out and incremental. It is worth noting that whereas some later interpretations of the FA framework came to view formulation of national policy as increasingly pluralized and, to some extent, even bottom-up (Mertha, 2008), Lieberthal and Oksenberg (1988: 22) conceived of Chinese policymaking as top-down in the sense that national policies are mainly formulated by a "core group" of some 25 to 35 leaders at the very top of the system, who are buffered from and linked to the wider bureaucracy. National policies then change as they go through a process of consensus-building and bargaining on

their way down the hierarchy[13]. Some policies may not be implemented at all. A performance evaluation scheme for cadres that emphasizes certain indicators over others, such as successful enforcement of the one-child policy and the achievement of social stability and high GDP growth, has allowed local cadres to choose which policies to implement and which to ignore, what scholars have called "selective policy implementation" (O'Brien and Li, 1999; Smith, 2010, 2009).

Two decades after its inception, Andrew Mertha (2008, 2009) proposed a revised version of the FA framework, which he labelled "Fragmented Authoritarianism 2.0". Mertha's main contribution was to enrich the FA framework with concepts from Western political science literature, such as policy entrepreneur (Kingdon, 1984) and issue framing (Baumgartner and Jones, 1993). Based on a study of the politics around three cases of dam projects, Mertha argued that, while the central thesis of the FA framework still holds, the Chinese policy process had grown increasingly pluralized. In his view, rapid socio-economic change had created spaces for new actors to influence the policy process, so-called "policy entrepreneurs," politically engaged organizations or individuals who advocate for policies that serve their interests. Mertha identified four types of policy entrepreneurs – NGOs, activists, journalists, and disgruntled local officials. Policy entrepreneurs make strategic use of issue frames to package and present their policy proposals. When a policy entrepreneur is able to identify and apply an issue frame that is compelling to policymakers and the broader public alike, the chance of reaching a successful outcome increases significantly.

As with other theories or explanatory frameworks, FA has been subjected to criticism. Already in 1995, a volume edited by Hamrin et al. (1995) criticized FA for overstating the weakness of the center vis-à-vis local actors and for underestimating the state's control over the reform process. In recent years, particularly since the return of strongman rule under Xi Jinping, the FA framework has come under increasing challenge. Xi's tenure has been characterized by a strengthening of Party control at the expense of state institutions, and, within the Party, by a centralization of power in higher-level party committees and in Xi himself. Shortly after assuming power, Xi established several Leading Small Groups (LSGs) directly below the Central Committee, many of which are chaired by him personally (Miller, 2015). LSGs oversee and coordinate policy among the various bureaucracies in key policy areas and are designed to help the center overcome bureaucratic inertia and bypass parts of the state bureaucracy that, according to FA, would seek to alter or compromise the

[13] A later volume edited by Lieberthal and Lampton (1992) extended the FA framework beyond its original focus on energy projects and the economic bureaucracy to other bureaucratic clusters, including education and personnel, as well as to different subnational levels, including province, municipality, county, and countryside.

effect of Beijing's policies[14]. In 2019, some of the LSGs were upgraded to commissions, which raised their standing and cemented their role. Political centralization has coincided with efforts by the CCP to reassert its influence in all major societal spheres, from business and education to civil society, academia, and the mass media. Consequently, many scholars have started using a terminology they consider more befitting of Chinese politics under Xi Jinping: Shambaugh (2016) has described it as a shift from "soft authoritarianism" to "hard authoritarianism; Pei (2021, 2016) has called it "fear-based governance" and "neo-Stalinism;" and numerous Chinese and Western scholars have described it as moving towards a form of "neo-totalitarianism" (see e.g., Béja, 2019; Cai, 2021; Kang, 2018).

This raises the question as to whether the FA framework is still useful for explaining Chinese policymaking today. Many of the structural conditions that allowed for bargaining in the 1980s and 90s, such as administrative decentralization and the distribution and division of power between functional and territorial bureaucracies, seem to have been compromised by recent developments. The Party's tightening control over NGOs, activists, and the media would seem to have further squeezed the room for policy entrepreneurs to operate[15]. Against this background, a recent volume edited by Brødsgaard (2016) set out to test the continued relevance of the FA framework by applying it to a range of policy areas, including energy issues, environmental management, financial reform, and civil-military relations. The contributors maintained that:

> […] the polity continues to be fragmented, although fragmentation is held in check by a centralised power structure with the Party at the core. This tension between fragmentation and authoritarianism/integration provides the dynamics for political change and development. It is yet another example of the paradoxical nature of Chinese politics (Brødsgaard, 2016: 5).

According to the contributors, the establishment and heavy use of LSGs under Xi Jinping should be understood as a response to the excessive fragmentation that characterized the Hu-Wen administration (2002-2012). They are examples of

[14] Although the extent to which Xi has relied on LSGs for policymaking has to some degree been unprecedented, the application of LSGs in this way is not a new phenomenon. Top-level LSGs were established also under Hu Jintao, who personally chaired several of them. See Miller (2014).

[15] Political change in the post-Mao era has often been explained using Baum's (1993) model of *fang* (放) and *shou* (收), or loosening and tightening – a continuous cycle in which periods of relative political liberalization are followed by phases of conservative backlash (Baum 1993). However, in Baum's model each phase lasted for around two or three years. It does not seem capable of explaining the prolonged period of political tightening that has occurred in China since around 2008-9 (Shambaugh, 2016).

powerful integrative mechanisms in an otherwise fragmented system. The contributors thus assert that, in the Xi era, the polity is still largely fragmented but fragmentation is increasingly counterbalanced by integrative forces. Just as "fragmentation," "integration" has become an important factor in explaining policy outcomes.

In spite of the challenges and criticisms, the FA framework remains one of the most durable and widely used frameworks for studying Chinese policymaking. One could even argue that the increasing involvement of the state in the Chinese economy under Xi Jinping has *increased* rather than *decreased* the need for bargaining, as political solutions are applied to issues that were previously left to market forces. The mining sector, which is the main concern of this thesis, is perhaps one of the sectors where the FA framework continues to be most relevant. The restructuring and consolidation of the mining sector that has taken place in recent years has sought to reduce industry fragmentation. Ironically, this has been a politically driven process where one can expect bargaining and contestation to play a central role. The REE sector, for instance, has seen the elimination of smaller firms and the establishment of a national quota system for REE mining and processing to which only six large SOEs – the "six big" (六大集团) – have access. The processes of selecting which enterprises will have access to quotas and how quotas are to be allocated among them is likely to be highly competitive and contentious, involving companies and bureaucracies at the local, provincial, and central levels.

The overarching theoretical framework of this thesis draws on core assumptions of FA. In particular, it takes as its departure a view of the Chinese polity as fragmented and divided into sectors with overlapping yet relatively distinct policy agendas and objectives. In a situation where different state sectors are subject to complex incentive structures, and where sectoral interests both overlap and occasionally conflict, the capacity of the Chinese leaders in Beijing to effectively coordinate and direct company behavior is limited. While in principle the central government has the authority to intervene and order SOEs to invest in specific projects that it deems strategically important, it relies predominantly on incentives to realize geopolitical objectives. This may be by design, of course, as the government recognizes the high cost of attempting to regulate and control all overseas activities by Chinese firms.

While these are important theoretical themes underpinning the research overall, the four thesis papers differ in their application of FA, both in how extensively they apply the framework and in what specific ideas or concepts from FA they draw upon. Paper I and Paper IV make explicit use of FA. In Paper II and Paper III, it is kept in the background and used only implicitly. Paper I draws on FA to explain how companies in the mining sector respond to incentives from the foreign policy sector, finding that the role and relative weight of geostrategic incentive and mineral demand in influencing investment decisions may vary from project to project. Paper IV draws on Mertha's (2009) version of FA to show how Chinese mining companies frame their

investments as serving policy agendas of two different sectors – the mineral sector and the foreign policy sector. Paper II and Paper III draw implicitly on insights from FA to study the processes by which priorities for the mineral and foreign policy sectors are formulated. Although the theoretical focus of these two papers is on how labels and categories are used strategically in the bargaining of political priorities in different sectors (see next section), FA provides an understanding of the political landscape and structures that govern how the bargaining takes place.

Table 2. Application of FA framework in thesis papers.

No.	Stage	Used to explain…	Paper(s)	Level of application
1	Policy formulation	How national priorities and policies are formulated (via bargaining across and between institutions)	II, III	Implicit
2	Policy implementation	How companies within the mining sector respond to incentives from the foreign policy sector	I	Explicit
		How fragmentation provides opportunities to choose between issue frames and policy agendas of different sectors	IV	Explicit

3.2. "DOING THINGS WITH WORDS" IN THE FRAGMENTED AUTHORITARIAN CONTEXT

While FA explains the basic structural conditions that shape policy formulation and implementation in China – bureaucratic fragmentation produces a situation whereby bargaining is required across and between all political levels – theories on categorization shed light on some of the strategies that can be employed by the bargaining parties. More specifically, in a fragmented political environment where different sectors of the bureaucracy compete over political attention and access to state resources, categorization both restrict and enable political actors: they *restrict* in the sense that some official categories, once formalized and "closed," become part of the discourse that political actors are expected to actively support or at least pay lip service to (Schoenhals, 1992); they *enable* in the sense that people can in some cases use exiting categories or construct new ones to elevate or distinguish issues in which they

have interests, thus gaining an edge over their opponents in said competition. While the establishment of official categories is ultimately a political decision, experts – some of whom take on a hybrid character of expert-officials (Wübbeke, 2013a) – play a central role both in constructing the meaning of concepts associated with categories and in advising *what* or *who* should be included in a particular category.

The thesis carries three theoretical assumptions about categorization. First, human beings use labels to categorize people or things. Although categorization does not require labels[16], they facilitate categorization by "drawing attention to shared features, relations, or actions" (Gervits et al., 2016). Categorization helps us to simplify, organize, and make sense of what we see. This does not necessarily mean that all things included in a social or political category share a set of similarities perfectly, or even that the person performing the categorization believes that they do. This brings us to the second and third assumptions about categorization: categories are constructs, and they are performative. Categorization is not simply a matter of objective assessment, but also of human decision, i.e., categories are to some degree socially and politically constructed (Machacek, 2017). When people create categories that are recognized and applied in society they contribute to the construction of the social world (Dahinden et al., 2020). What I mean by "performative" is that they are constructed and used with an intention (Jacobs, 2018).

The idea of categories as performative is rooted in a view of language itself as performative. This way of viewing language was pioneered by language philosopher J. L. Austin in the 1950s. In *How to Do Things with Words*, which is based on lecture notes from a series of lectures he delivered at Harvard University in 1955, Austin (1975) sought to challenge the long-standing assumption that to say something is simply to state something. In Austin's words:

> It was for too long the assumption of philosophers that the business of a "statement" can only be to "describe" some state of affairs, or to "state some fact", which it must do either truly or falsely (Austin, 1975: 1).

Austin argued that utterances are more than just descriptive statements that are either true or false. In fact, utterances with truth-values, i.e., with properties of being either true or false, make up only a small fraction of all speech. In Austin's view, saying something also means performing an action, what he called a "speech act," of which he distinguished between locutionary acts (a meaningful utterance), illocutionary acts (a meaningful utterance with an intention) and perlocutionary acts (a meaningful,

[16] Humans and other living organisms are capable of identifying shared features in a range of stimuli and respond to them in a similar way (Shettleworth, 2009); to categorize objects based on perceived variations in color or shape (Herrnstein and Loveland, 1964); to group stimuli that share a common application or result in common consequences (Vaughan, 1988), etc. This does not require language or labels.

intentional utterance that produces the consequence desired by the speaker)[17]. Categorization, when carried out verbally (in speech or writing) through the assignation of labels, is a way of "doing things with words". By conveying semantic information about the categorized objects, both through the literal meaning of the words being used and through the (positive or negative) connotations associated with them, categories are performative in themselves, but they may also be used for achieving specific objectives.

Research on the performative quality of language in Chinese political discourse has found that it both *restricts* and *enables* political actors, although scholars have arrived at somewhat different conclusions as to how it affects – and is used by – different groups of actors. Schoenhals (1992), whose landmark study *Doing Things with Words in Chinese Politics* pioneered the research field of language games in Chinese politics, regarded political language primarily as a tool for elites to exercise discourse control over lower-level cadres, intellectuals, and the masses. In his analysis, the CCP leadership controls political discourse by regulating forms of expression. Discourse control is exercised by means of selecting and enforcing the use of "appropriate" and "inappropriate" formulations, i.e., by regulating the very words political actors can use to describe things:

> By proscribing some formulations while prescribing others, they set out to regulate what is being said and what is being written – and by extension what is being done. As a praxis concerned with the banning of a thousand and one way of expression, this management and manipulation of formulations is central to PRC censorship. As an attempt to make the language of the state the sole legitimate medium of political expression, it also represents one of the most aggressive aspects of CCP propaganda (Schoenhals, 1992: 3).

Schoenhals demonstrated furthermore how language formalization extends to academia. The requirement that discussions on different academic topics must contain certain stock phrases stifles academic debate and "makes the introduction of new concepts – reformulated ideas of what a thing could be – cumbersome" (Schoenhals, 1992: 21). While Schoenhals study was published nearly 30 years ago, many of his observations still hold true today. An experienced reader of Chinese academic texts will recognize the frequent use of formalized language, which range from the simple parroting of stock phrases and official propaganda slogans to lengthy verbatim

[17] In Austin's theory of speech acts, a single, identical utterance when used in different contexts can perform either a single act or multiple acts at the same time. For example, while in some cases the utterance "It is cold in here" can be taken as stating a simple fact (a locutionary act), in others it may be intended to persuade a person to close the window (an illocutionary act), and if it results in that person granting the request and closing the window, the perlocutionary effect has also been achieved.

quotations from policy documents or from speeches by senior leaders. These authoritative formulations tend to be presented as facts that remain unchallenged throughout the discussion[18].

The idea of political language as serving the most powerful has been put forward also by other scholars (e.g., Ji, 2004, 2019)[19]. Others have highlighted how it can be used strategically by actors outside of power structures. Link (1993) argued that, while the specific tactics may vary between different groups of actors, political language can be manipulated by everyone – from the most powerful to the most powerless – for the purpose of advancing one's interests or to protect oneself. Kluver (1996: 130-34) identified three audiences of political language: government officials (including the top leaders), intellectuals, and the masses. While for government leaders and intellectuals, political language is used – although in different ways – for political advantage, for the larger masses it provides a map for understanding the political environment, including what is politically acceptable behavior at any given time. O'Brien (1996, 2013), by contrast, ascribed a more proactive role to the masses in relation to political language. His studies of "rightful resistance" in Chinese rural areas show how villagers adopt the language of power and use it against local officials to combat local injustices. O'Brien showed how skillful use of official language reduces the risk of political activism.

We thus see that some have regarded political language primarily as an instrument of control for the powerful whereas others have stressed how it can be manipulated and used also by actors excluded from power structures. However, even among those who highlight the use of political language among non-elites the focus has been on how they manipulate existing political language – language that has been formulated by

[18] For example, since around 2017, nearly all Chinese academic writings on global governance (全球治理) issues engage in the discussion and promotion of Xi Jinping's vision for international relations, the "community of common destiny for mankind" (人类命运共同体). Apart from the inclusion of lengthy quotes by Xi Jinping on the concept, these articles seem unable to escape the stock phrases around which the official narrative revolves, such as "big changes unseen in a century" (百年未有之大变局), "a powerful country must seek hegemony" (国强必霸) (an axiom that the authors argue is false because when China is powerful it will not seek hegemony), "Chinese wisdom" (中国智慧), "Chinese solutions" (中国方案), etc.

[19] See e.g., Ji's (2004) study of political language in the Mao era (1949-1976). Ji used the term "linguistic engineering" to describe efforts by Mao and other top leaders to "remake people's minds by compelling them to participate in a totalizing discourse – a discourse that touched all aspects of reality and expressed a single worldview to the exclusion of all others. It required people to use the 'correct' revolutionary terms to say the 'correct' revolutionary things, emphasizing linguistic form as well as political content" (Ji, 2004: 5). In a more recent study, Ji (2019) analyzed the use of political labels during different periods of the Mao era, finding that, in all cases, political labels functioned as a tool and weapon of Mao and other elites.

elites – not on how non-elites contribute to constructing political language in the first place. Few seem to have regarded language formalization as a means for actors outside of the immediate political elite to influence political discourse – and by extension how resources are allocated. Furthermore, most studies have focused on formalized language in the broader sense, not on official categories as a specific type of political language. I argue that there are elements of categorization that are relatively dynamic and open to outside participation. First, unlike formulations, which are all about the choice of words, categorization is not *only* about the labelling of the categories themselves – categories must also be filled in. And while formulations are defined by their fixed form[20], the content of categories can change. Some political categories, once created and enshrined in political documents, may be closed and unchanged for decades or longer[21]. Some may become irrelevant and abandoned[22]. Others, however, may be renegotiated and updated on a regular basis[23]. Experts, most of whom are not members of the political elite, but who may have close links to political elites, play a key role both in constructing the meaning of concepts associated with categories, and in advising policymakers on what to include and exclude in categories. Second, while official categories established by the state restrict political actors by deciding what words they can use to describe specific issues, the coexistence of multiple categories which may be tied to different and occasionally conflicting state objectives suggests that political actors can to some degree choose between contesting categories and their associated sets of terminologies. For example, political actors that seek to attract state support for their policy proposals may incorporate different categories into different issue frames, i.e., strategic attempts to package and present proposals to appeal to a particular audience, such as a specific sector or segment of the bureaucracy (Mertha, 2009).

The involvement of experts and expertise in categorization, however, does not mean that it is objective. It is still a subjective and political practice in the sense that it relies on human decisions (Machacek, 2017). Supposedly "objective assessment criteria"

[20] As Schoenhals (1992: 7) points out, "The manipulation of any one formal element of formulation *A* is sufficient to transform it into formulation *B*".

[21] E.g., numbered political categories that are enshrined in the most authoritative of political documents, such as the CCP's Party Charter (党章). By including a fixed number in the title of such categories their content effectively becomes sealed or at least difficult to amend or expand, e.g., "three represents" (三个代表), "four comprehensives" (四个全面), "four cardinal principles" (四项基本原则), and "four modernizations" (四个现代化). Rather than changed, such categories are perhaps more likely to eventually be abandoned or replaced. One way of changing the content of such categories could be by redefining the meaning of the included items.

[22] E.g., categories that are part of temporary political campaigns.

[23] Categories of relevance for this thesis include e.g., lists of politically prioritized minerals and raw materials, industrial sectors, and foreign policy categories such as "core interests" or rankings of national interests.

still reflect the values and beliefs of the individuals behind their creation (Bowker and Star, 2000). Even if there was such a thing as objective assessment criteria, they may be selectively enforced, or imperfectly enforced due to incomplete information. In practice, what to include in official categories often becomes a political decision. Because inclusion in official categories may come with substantial economic or political rewards, there is likely to be intense bureaucratic competition over what or who gets to be included in a politically prioritized category. To reuse the example from the preceding section, being designated as one of the "six big" REE enterprises in China with access to the national quota system directly affects the ability of companies in the REE sector to do business. Similarly, companies working in industries classified as SEIs may benefit from a range of supportive government policies, including tax rebates, state subsidies, and preferential access to state capital. In both cases, there are powerful incentives for pursuing one's own inclusion in official categories.

In sum, while official categories have the potential to restrict political action, especially when they have reached a somewhat stable form and become difficult to change, I argue that categorization also provides opportunities for actors outside of the immediate political elite to influence the policy agenda. In politics and foreign policy, for example, categories enable actors to differentiate between and rank policy issues. When used for this purpose, categorization may constitute a perlocutionary act. When it achieves its intended purpose, which could be to distinguish issues from one another or to elevate or downgrade the importance of a particular issue relative to other issues on the policy agenda, the perlocutionary aim has been achieved.

Based on this theoretical foundation, I argue that labels and categories are performative in at least three ways:

1) Categories as conveyors of information

Labels carry semantic information and are thus performative in themselves. Words used to label things carry different meanings and connotations and signal varying degrees and forms of importance. This information is intercepted and processed by humans and becomes a basis for decision making.

2) Categorization as a means to establish official priorities and elevate (or downgrade) policy issues

Categories can be used strategically to accomplish different objectives. A government can use categorization to establish and signal official priorities. Bureaucrats, academics, and companies can use them to add political priority to policy issues in which they have an interest. This could be, e.g., by advocating for the very inclusion of an issue in a prioritized category, or by elevating an issue from other issues in the same category by giving it a high grading.

3) Categories as framing devices

Finally, categories can be used as framing devices at the level of the state or the firm. The state can use labels to construct a favorable narrative for its international activities. Companies can make use of official labels and categories and their associated sets of terminologies to attract state support for their investment proposals.

In the following two subsections, I will discuss some specific concepts and theories that the papers of this thesis draw upon. These concepts and theories have been applied by scholars to study categorization in different policy areas. They all share a fundamental assumption with the overarching framework presented above, i.e., that categories are performative and socially constructed.

3.2.1. The social construction of security

Securitization Theory (ST) is a theory in IR that explains how political issues are elevated into security issues. Developed in the early 1990s by scholars such as Ole Wæver, Barry Buzan, and Jaap de Wilde, ST sought to explain how some issues come to be regarded as security issues while others do not. The answer, they found, lies in the success or failure in *framing* a particular issue as an existential threat. ST widened the concept of security by breaking with the traditional realist understanding of security threats as objective and "real," to highlighting their socially constructed nature, and by moving away from a singular focus on military threats and the state as the only actor of importance, to introducing threats within different "sectors," namely the political sector (e.g., threats to national sovereignty), the economic sector (e.g., threats to the national economy), the societal sector (e.g., threats to collective identities), and the environmental sector (e.g., threats to animal species and ecological systems) (Buzan et al., 1998).

The founders of ST – which later became known as the Copenhagen School – drew directly from Austin's (1975) theory of speech acts. Securitization is performed through speech acts delivered by political leaders or other actors in position of authority in which an object or issue is framed as threatening the survival of a referent object. The threat may be described using labels such as "deadly," "hostile," "dangerous," "harmful" "menacing," "threatening," "alarming," etc. The securitizing act itself (also called securitizing *move*) constitutes an illocutionary act (Wæver, 1989; see also Austin, 1975) which has immediate consequences in that the speaker puts his/her authority at stake – if the audience does not accept the move. The audience – in democracies typically the electorate – thus plays a crucial role in securitization. In Wæver's interpretation, the immediate audience reaction is considered part of the illocutionary act, after which all kinds of perlocutionary consequences may follow. If successfully performed through a speech act, securitization allows political leaders to bypass "normal" democratic processes of policymaking. It legitimizes the use of extraordinary measures reserved for issues classified as existential threats, including,

in some cases, the use of military force to mitigate said threat. Because securitization means that democratic processes are circumvented, the ST analyst tend to view it as a negative phenomenon and a threat to "normalcy". Once an issue has become "securitized," i.e., successfully framed as a security threat, public debate around the issue may become discouraged and even considered illegitimate – until the issue is effectively de-securitized through a speech act. As noted above, key to the idea of securitization is that the issue itself may or may not constitute a "real" threat. What ST sheds light on is the socially constructed nature of security: an issue becomes a security issue when the audience accepts it as such, which may then lead to all kinds of very real and forceful policy measurers.

Perhaps because of its focus on speech acts – which set the process of securitization in motion, and which tend to be delivered by high-level politicians – the role of experts and expert advice in the securitization process has been somewhat overlooked in much of the literature. The foundational work on ST, Buzan et al. (1998: 36), did not treat security experts as its own category of actors but lumped them into a group of actors called "functional actors" – actors that are neither securitizing agents nor referent objects, but "who affect the dynamics of a sector" and who "significantly influences decisions in the field of security". In some cases, experts may also serve as securitizing agents. Apart from political leaders, Buzan et al. (1998: 40) counted bureaucracies, governments, lobbyists, and pressure groups as securitizing actors. Among such a diverse group of actors there is bound to be people with recognized expertise on the issue to be securitized – expertise that grant them a special kind of authority in the eyes of the audience. It should be noted that the classification as securitizing agent or functional actor is purely empirical. In principle, anyone can initiate a securitizing move – including experts – and the ST analyst should classify them as securitizing agents when they do. But usually, experts "only" provide some evidence and legitimacy functional to the securitizing politicians (Buzan et al., 1998).

Some later studies have explored the specific role of experts and scientific knowledge in securitization. Villumsen Berling (2011: 390) pointed to how "scientific facts" can be "mobilized" and used "as a form of capital" by securitizing agents to build a case for securitization. A strand of security studies known as the Paris School (Bigo, 2002) highlighted the importance of bureaucratic practices and the day-to-day work of security professionals in constructing (in)security. Balzacq (2011), who came out of the Paris School, formulated a distinct variant of ST (often called sociological ST) which sought to move beyond what he considered an excessive focus on speech acts to shed more light on bureaucratic processes and dynamics in securitization. A recent study by Rubin and Bækkeskov (2020) compared different health crisis responses in Sweden and Denmark to the 2009 H1N1 pandemic. They found that experts played a dominating role in the process of transforming a securitizing speech act into different public policy responses in the two cases. They introduced the concept of "expert-led securitization" to describe a process whereby the securitization act itself is performed by high-level politicians, but "the ensuing securitization process is primarily driven by field experts working in key bureaucratic bodies rather than by politicians" (Rubin

and Bækkeskov, 2020: 320). While these and other studies shed light on the role of expertise in the securitization process, the core idea of ST – at least in its traditional formulation – is that securitization results not in itself from rigorous scientific evaluation of different threats[24] but from a speech act in which an issue is successfully packaged and presented as a threat.

While ST was developed by Western scholars to explain the emergence of exceptional forms of governance in democratic systems, scholars have later expanded the theory to non-democratic settings (e.g., Vuori, 2011, 2008; Christou and Adamides, 2013; Fisher and Anderson, 2015). Juha Vuori (2011, 2008) has shown that the theory is useful for understanding justifications of political interventions in matters classified as security issues in Chinese politics. In the Chinese context, this essentially means bypassing the usual bargaining between competing bureaucracies in favor of a more direct form of governance. Vuori's study covered four cases: the launching of the "Great Proletarian Cultural Revolution" in 1966, the 1976 political incident at Tiananmen Square, the crackdown on the pro-democracy protests at Tiananmen Square in 1989, and the crackdown and persecution of the Falun Gong movement in the late 1990s. Vuori (2011: 368) found that there was "a multitude of securitizing actors and audiences" across the different cases. While the securitizing agents were all powerful members of the political elite, the audience varied between the different cases and even between different securitization moves within the same case. Sometimes the audience was Mao Zedong, Deng Xiaoping, or other senior leaders. In other instances, it was the Party bureaucracy or even the entire nation. The idea of an audience that may consist of only one or a few senior Party leaders contrasts with securitization in democratic systems, where, as noted above, the audience is typically the electorate, although there are elite audiences also in democracies.

In Vuori's analysis, securitization in China is reserved for issues that are framed as existential threats to stability, Chinese communism, and the very survival of the regime. There is arguably no reason to expect the emergence of any threat – real or perceived – that reaches this level of urgency in relation to Chinese activities in the Arctic in any near future. This is not to say, however, that Chinese engagement in the Arctic is not facilitated by the framing of projects as essential for achieving important state objectives, some of which may be regarded as vital for the country's economy and industrial development but not necessarily for its security. Scholars of the bureaucratic bargaining approach have in fact shown how different ways of framing an identical or similar political problem can trigger different types of governance, where one possible outcome is a process that resembles securitization. Mertha's (2008, 2009) study of the politics around three contested hydropower projects in China showed how policy entrepreneurs and the state used competing issue frames in their efforts to garner popular support for their respective positions, each of which

[24] Arguments presented to support the securitization of an issue may or may not be backed by scientific evidence.

gave access to a specific set of actors and provided different room for maneuver. In each of the three cases, the focus shifted from the initial aim of meeting an important state objective – securing energy – to the protection of a distinct referent object: "cultural heritage" in the first case (the dam could destroy an icon of China's cultural heritage); "the environment" in the second case (the dam would produce clean, renewable energy but at the same time destroy the ecological environment); and "social stability" in the third case (protests from evicted villagers posed a threat to stability). While in the first two cases, policy entrepreneurs were successful in raising public debate (particularly in the cultural preservation case) and in eventually putting a halt to the projects, in the third case, the state's framing of the protests as threatening social stability allowed it to crack down on the protests and silence any criticism. We thus see that in the Chinese context a process resembling securitization is one of many possible results of somewhat similar bargaining processes. We also see that bureaucratic fragmentation provides opportunities for actors to tailor the framing of their projects strategically to appeal to a specific sector or segment of the bureaucracy. According to the bureaucratic bargaining approach, framing of projects as serving policy agendas of different sectors is a way for bureaucrats, policymakers, and companies to elevate the political importance of their projects, thus gaining access to specific channels of policymaking.

In Paper IV of this thesis, my co-author and I argue that Chinese companies' framing of mineral exploration projects in Greenland as serving official objectives of the foreign policy and mineral resource sectors has triggered a series of mutually reinforcing securitization policies. Labels that Chinese companies use domestically to attract financial and political support from the government for their projects, when intercepted in the states controlling the Arctic, are often misinterpreted as signs of a coordinated Chinese master plan for the region. This has the potential to trigger securitization discourses in Denmark and the US, which in turn makes Chinese companies more cautious about engaging in Greenland. In the end, it may lead to Chinese companies withdrawing their investment plans in Greenland not because of competition but because of the sensitivity that Danish and US actors attach to Chinese investments.

In the next section, I shall turn to the concept of raw material "criticality" – a concept that shares many similarities with securitization. But whereas ST holds that any issue could potentially become securitized, criticality assessments of raw materials are focused on addressing a specific "threat" within a specific sector, relies more on bureaucratic measures and expertise, and triggers policy responses that are less exceptional. "Criticality" as a concept for identifying and classifying something that is deemed both vital for societal functions and vulnerable to different threats has not been limited to the field of raw materials, however, as the burgeoning literature on "critical infrastructure" shows. This is where the boundary between securitization and "criticalization" becomes increasingly blurred.

3.2.2. The social construction of criticality

There are many different ways of labelling and categorizing minerals and raw materials[25]. The labelling of certain minerals as "critical" is a specific form of categorization that elevates the political importance of some minerals over others[26]. The "criticality construct" as developed by Machacek (2017) highlights how this form of categorization is not merely the result of objective assessment but also of human decision-making. Criticality is a social construct in the sense that *people* decide and accept what a "critical" mineral is and what it is not. Official definitions of "criticality" tend to be accepted by society because they are provided by experts whose knowledge and expertise are well-recognized, granting them "authority-like powers over questions of true belief" (Turner, 2001: 128). In Machacek's analysis, experts and expert authority play a key role in constructing the conceptual meaning of criticality. They not only develop the methodologies for assessing criticality; they also lend legitimacy to existing methodologies and to the criteria used to assess criticality in these methodologies.

The process of assessing raw material criticality resembles securitization in that it entails the identification and presentation of a threat – the potential supply disruption of minerals deemed "critical" – and the proposal of measures for responding to that threat. Machacek draws in particular on the Paris School of security studies (Bigo, 2002; Balzacq, 2011) in viewing the potential supply disruption of "critical" minerals as a *risk* that is managed primarily through "normal" bureaucratic measures such as surveilance and risk profiling rather than a *threat* that is outright eliminated via exceptional measures. Moreover, whereas in traditional ST (the Copenhagen School) securitization results from speech acts (which contain claims about an abstract "threat" that may or may not be supported by the expert community), criticality is a result of a more complex assemblage of expertise from government, academia, and industry. This emphasis on mundane bureaucratic practises and the work and recommendations of experts – who design and carry out the criticality assessements – arguably places it closer to the Paris School. Criticality assessments thus have a performative quality – they perform "political work" on experts' (their designers) behalf (Machacek, 2017: 369). In Europe, they influence policymakers by directing their attention towards particular industries and particular minerals, thereby having an impact on how public funding is allocated. In Machacek's (2017: 371) words:

> […] the construct of criticality is tied to *valorization* and *political operationalization* by expert practice of classification with benefits for

[25] Categorization based on chemical composition or physical properties of minerals; categorization based on different economic and industrial applications of minerals, etc.

[26] For an overview of research on raw material criticality, including the historical origin of the concept, see Section 2.2.

particular interest groups: research and development, and firms which make use of these minerals.

While "criticality assessment" is the term commonly used to refer to the type of raw material assessments described here, "critical" is not the only label used in such assessments. A multitude of labels may be used, each of which comes with a specific set of connotations and highlight a specific form of importance. Besides "critical," "strategic" is the most frequently applied label in Western raw material assessments, where it usually refers to raw materials deemed crucial for national security. In the US, for example, "strategic minerals" are commonly considered a subset of "critical" minerals that consists of those that are deemed crucial for national security applications (see, e.g., NSTC, 2016: ix). As I explain in Paper II of this thesis, "strategic" (战略性), rather than "critical" (关键), is the preferred label in Chinese raw material assessments, a label that carries a distinct meaning in the Chinese context which is not to be confused with how it is typically used in Western raw material assessments.

In Machacek's (2017) analysis, experts lend legitimacy to pre-existing assessment frameworks in the EU and the US by simply using them – and in so doing contribute to the construction of criticality. By contrast, Chinese experts, most of whom are based at research institutions under the Ministry of Natural Resources, such as China Geological Survey (CGS) or the Chinese Academy of Geological Sciences (CAGS), but also at Chinese universities and industry associations, do not seem to have an official, standardized Chinese methodology to start from. At least until recently, Chinese experts have claimed that China does not yet have a uniform approach for defining and selecting "strategic minerals," which they tend to present as a problem that needs to be addressed (e.g., Li et al., 2014; Hu, 2016)[27]. Instead, Chinese experts develop and propose their own definitions and methodologies in their research papers, which they use to assign different degrees of "strategic-ness" (战略性) to mineral raw materials. In so doing, they contribute (in varying degrees) to a discourse that prioritizes certain minerals over others.

As previously mentioned, the concept of "criticality" has since the mid-1990s, and especially since the terrorist attacks in New York and Washington DC on September 11, 2001, also been used in relation to infrastructure. In 1996, US President Bill Clinton formed the Commission on Critical Infrastructure Protection, which was tasked with "assessing physical and cyber threats to [US] vital infrastructures and

[27] This could be changing, however, as the National Mineral Resources Plan (2016-2020) established China's first official catalogue of 24 "strategic minerals," although no details were given about the methodology applied (State Council, 2016). In the years prior, Chinese researchers had repeatedly emphasized the need to establish such a list. The publication of a revised catalogue of "strategic minerals" is expected in late 2021. It could potentially provide an answer as to whether a standard methodology has formed or is beginning to form.

developing policies and strategies to protect them" (PCCIP, 1997: 1). This led to the issuance of Presidential Decision Directive-63 in 1998, which established a national program for "critical infrastructure protection" (CIP). A similar program was established in the EU in 2006 (EC, 2006). While the term CIP was established in the 1990s, Collier and Lackoff (2008: 18-19) argue that the ideas behind the concept can be traced to the 1970s and 80s, when a group of experts began to think and theorize about new types of threats that were not necessarily preventable and whose probability were difficult to estimate, such as terrorist attacks, major energy crises, and technological failures. While scholars have proposed different definitions of "critical infrastructure", the one offered by Dunn Cavelty and Kristensen (2008: 1) is typical: critical infrastructures are those systems and services whose "prolonged unavailability would, in all likelihood, result in social instability and major crisis". They "mostly take the form of interconnected, complex and increasingly virtual systems," and typically include "banking and finance, government services, telecommunication and information and communication technologies, emergency and rescue services, energy and electricity, health services, transportation, logistics and distribution and water supply". These systems are perceived as vulnerable to a multitude of threats and risks, ranging from technical or human error, budgetary constraints, and natural disasters to terrorism, cyberattacks, or other forms of internal or external attack (Dunn Cavelty and Kristensen, 2008: 2).

The concern for energy security suggests a degree of conceptual overlap between CIP and raw material criticality. However, whereas the latter is concerned with assessing the supply risk of different raw materials (some of which are needed for energy production) and the impact of their supply disruption, the focus of CIP is – as its name implies – on assessing threats to the infrastructure, i.e., the oil refineries, the gas processing plants, the power grids, etc., and the various systems and services associated with these. At a more fundamental level, the concept of CIP shares with raw material criticality the basic idea that a referent object – something that is deemed vital for preserving our "way of life" – is being threatened and therefore in need of protection. Yet while the aim of the latter is to ensure a stable and sustainable supply (at predictable prices) of raw materials deemed vital for the economy and (in some cases) national defense, the former is concerned with ensuring the continuous functioning of systems and services deemed vital for a country's economic and social well-being. The methods are also different. Policy recommendations resulting from raw material criticality assessments may include policies for facilitating domestic mining activities, diversification of foreign supply channels, improving recycling and reuse, identification of substitutes, etc. (USDOE, 2021; EC, 2017). Measures for protecting critical infrastructure are focused on creating more secure and resilient systems, improving cyber security and emergency preparedness, etc. (Dunn Cavelty and Kristensen, 2008).

The Copenhagen and Paris schools of security studies have been used to illuminate different aspects of CIP (Dunn Cavelty and Kristensen, 2008). Speech acts in which

certain infrastructures are labeled "critical" may indeed follow the "grammar of security" (Buzan et al., 1998) and result in exceptional measures that circumvent the democratic process. One of the explicit objectives of the War on Terror, launched by the US government following the September 11 attacks, was to "Enhance measures to ensure the integrity, reliability, and availability of critical, physical, and information-based infrastructures at home and abroad" (The White House, 2003). In achieving this objective, the War on Terror is widely regarded as having made use of exceptional measures "to circumvent legislation, processes and practices designed to protect individuals" (Munk, 2015: 43). Yet, much like raw material criticality, CIP is perhaps more concerned with managing risk than with eliminating threats. And official classifications of "critical infrastructures" tend to be based on systematic expert assessments of the importance and vulnerabilities of different infrastructures. The Paris School, with its focus on the role of "everyday routines and technologies of security professionals" (Dunn Cavelty and Kristensen, 2008: 6), sheds light on these processes.

In conclusion, both the criticality construct and CIP are concepts that explain how certain issues are elevated into security issues via their labelling as "critical" in expert criticality assessments. Where they differ is in the type of risks they seek to mitigate and in the specific policy measures they produce. CIP has a wider scope in that it covers a multitude of virtual and physical infrastructures and thus involves a more diverse set of risks and policy responses. In terms of its immediate aim – the mitigation of supply risk of "critical" minerals – raw material criticality could be considered a more specific case of criticality, which nevertheless has implications that extend far beyond the mineral and mining sector.

3.3. THEORETICAL MODEL

The theories and concepts discussed above are used in the thesis to explain processes that take place at different stages of the policy formulation and implementation stages. This is illustrated in the theoretical model (Figure 1). Below I will explain the main components of the model.

Bureaucratic fragmentation is the basic structural condition that shape the Chinese policy process. Fragmentation means that bargaining is not only possible but also required across and between bureaucracies at the policy formulation and implementation stages. The mechanisms and amount of room available for negotiation varies across sectors and over time, but given the size and complexity of the Chinese state and society, total central control will not be possible.

- **Policy formulation**

Fragmentation provides opportunities for powerful bureaucracies in different sectors to shape the specific policy agendas and objectives of their respective sectors. These

policy agendas may be tied to overlapping and occasionally competing state objectives. For Chinese companies engaging in Arctic mining and mineral exploration projects, the most relevant policy agendas are found in two sectors: the mineral sector and the foreign policy sector. While the former is concerned with developing policies for providing Chinese industry with a stable and sustainable supply of minerals and raw materials, the latter is tasked with engaging foreign states and promoting Chinese interests overseas. Academics and experts play an important role in selecting and developing policies for different sectors. The line between expert, official, and business actor is often blurred in China. As previously mentioned, some experts concurrently serve as bureaucrats, lending them a dual character of expert-officials. It is also common for managers of mining companies to have backgrounds as engineers, and to either serve as officials or enjoy close ties to senior policymakers, thus taking on a triple role as expert-official-manager. Despite their diverse roles and identities, these actor groups are unlikely to be part of the narrow political elite of some 25 to 35 people who according to the FA framework set national policies. Yet, in their functions as well-connected advisors they nevertheless have an influence on what becomes policy. Experts and academics direct the attention of policymakers towards issues they deem important, and they use their technical expertise to shape the specific content of policies. They are also involved in the construction and selection of labels and categories, which they use to elevate issues in which they have an interest.

- **Policy implementation**

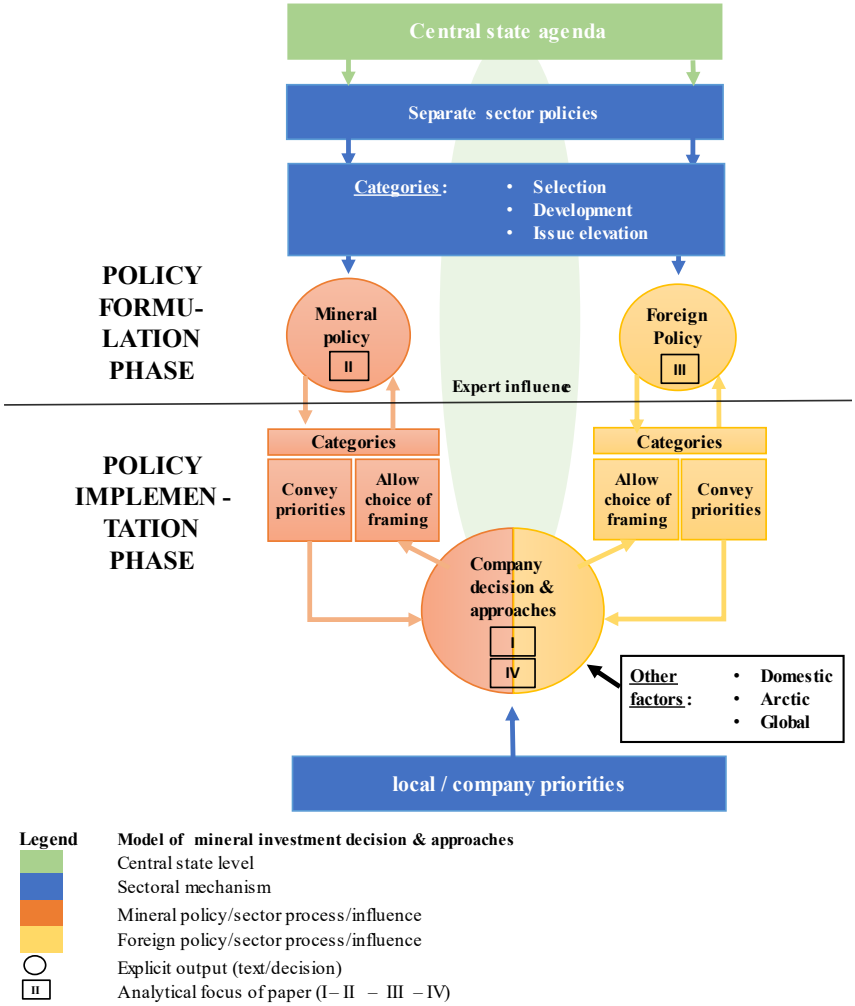
Fragmentation allows companies to pursue their own "local" business priorities and to choose between different framing strategies. Companies in search of economic and political support from the government for their investments may be required to demonstrate how their investments contribute to advancing political objectives. For them, fragmentation makes it possible to select from policy agendas of different sectors. Categories convey information to companies about the government's priorities. Categories associated with specific policy objectives of different sectors are used as framing devices by companies that seek to elevate the political importance of their investments.

To be sure, Chinese companies' decisions to invest in mining or mineral exploration projects overseas are not based purely on their perceptions of national priorities. Commodity prices, the specific geological conditions on the ground, quality of local infrastructure, availability of shipping routes, local laws and regulations, geopolitical factors, and a company's own business priorities, etc., are all additional factors that influence business decisions. In principle, the central government may intervene directly to secure investment in projects it deems strategically important. Yet the focus of this research has been on investigating how companies respond to official foreign policy and raw material priorities in this process. A central assumption of this research has been that all other factors being equal, the ability of Chinese companies to frame investment proposals as aligning with official policy agendas for the raw material and

foreign policy sectors is of importance for securing economic and political support for projects. The unique logistical challenges and economic uncertainty surrounding many Arctic projects make this type of strategic framing – and the attainment of state support – particularly important.

Figure 1. Overarching theoretical model

Note: Model illustrates the relations between Chinese national foreign policy and industrial development priorities and the decisions and approaches pertaining to Chinese engagement in Arctic mining and mineral exploration projects. Source: author's research.



In this section, I have discussed securitization and criticalization as particular ways of "doing things with words" in different sectors or policy areas in a particular political context – the fragmented authoritarian context. Putting such an approach into practice requires the use of methods and materials that make it possible to study how people use language, whether orally or in writing, to perform actions. I will now turn to these in the following section.

CHAPTER 4. METHODS AND MATERIALS

The selection of research methods and materials for the thesis was guided by the RQs and the theoretical focus. While the four thesis papers shared overarching methodological themes, they each raised their own RQs and carried their own empirical and theoretical focus and thus had to be approached with a carefully selected combination of methods and materials. Rather than discussing in detail the specific methodology applied in each paper (this has been done in the individual papers), the goal of this section is two-fold: 1) to summarize and discuss the main procedures for collecting and analyzing data for the project as a whole, and 2) to reflect on the choices of methods and materials, how they each help achieve the overall research aim, and their combinability.

The overall selection of methods and materials was guided by the question: what is the most fruitful way of studying how Chinese officials, experts, and companies construct, use, and respond to categories and hierarchies in the mineral and foreign policy sectors? In answering this question, I had to consider both the practical limitations and restrictions as well as the ethical aspects of conducting research in the Chinese political context. An important empirical starting point was that it is not possible to fully understand processes of categorization and hierarchy construction in the Chinese bureaucratic context by relying on secondary English-language sources, nor is it possible to gain first-hand access to processes behind closed doors. Official English-language materials, such as external policy papers produced by the Chinese government and English-language content in Chinese state media, are products of the external propaganda system (对外宣传系统) and should not be treated as accurate accounts or reflections of Chinese interests and priorities, although such materials are helpful for understanding the official Chinese stance, and the narratives it promotes to foreign audiences. Some – but not all – of the relevant labels and categories from domestic Chinese discourse will find their way into such documents. As regards Chinese academic publications, scholars have observed sharp differences in content, focus, and tone between English-language materials published for international audiences and Chinese-language articles intended for domestic policy discussions (Brady, 2017). While these observations point to the general importance of using Chinese-language sources for gaining a more nuanced and precise understanding of Chinese interests, there is a specific reason why such an approach is warranted for this thesis: the use of categories as strategic tools in inter-bureaucratic competition over state resources takes place predominantly at the Chinese domestic level, in written and oral communication that is intended for a specific domestic audience. However, because I did not have access to closed-door decision-making processes, nor was able to collect unpublished or classified documents, I had to rely on publicly available Chinese-language materials and other accessible sources of information, including

policy and planning documents, academic articles, and conversations with academics, policymakers, and companies. My approach of focusing on "public Chinese spaces" is thus situated somewhere between research based purely on public English-language communication[28], and the few scholarly works that draw on intriguing but difficult to verify first-hand information from within the black box of Chinese politics.[29] Such an approach is fruitful because it draws on Chinese-produced materials that are readily accessible and verifiable, much of which is rarely tapped into by Western researchers because of the language barrier. The specific rationale for collecting the different types of materials and how they each contributed to achieving the overarching research objective will be further discussed in the next section.

4.1. DATA COLLECTION

Most of the data for this thesis was collected from analysis of Chinese-language documentary sources, including publicly available Chinese policy and planning documents, laws and regulations, academic journal articles, and company documents. Supplementary data was collected during research trips in China and Greenland, which included conversations with academics, policymakers, and companies, as well as a visit to an international mining conference in China.

4.1.1. Chinese official documents

Policy and planning documents provide information about official priorities. They are also useful for distinguishing official categories and concepts from non-official (purely academic) ones. When a category that has previously been confined to academic discourse appears in a policy document, it per definition means that it has become official. While the very establishment of an official category suggests that someone has already been successful in raising an issue on the policy agenda, the established category may thereafter be used by, e.g., officials, academics, and companies to draw attention to and elevate the political importance of issues in which they have interests. Moreover, the particular context in which the concept appears and the frequency with which it is used in the document may also reveal something about its importance relative to other priorities.

Planning documents can be divided into overarching plans for the development of the Chinese economy and industry as a whole, and sector-specific plans that set the policy agendas and objectives for specific sectors. The former includes, e.g., the overarching FYPs for national economic and social development (commonly known as simply the

[28] Research on Chinese Arctic narratives based on analysis of English-language materials include, e.g., Allan (2019); Bennett (2015); Nykänen (2017); Auerswald (2020); Conley (2018).

[29] Examples of works on Chinese politics and policymaking that draw on insider information include, e.g., Hamrin et al. (1995); Cai (2021).

"five-year plans"), and the political reports and communiques delivered at the national Party congresses (which convenes every five years), as well as the various "resolutions" (决议), "decisions" (决定), "suggestions" (建议), "principles" (准则), etc., adopted at the plenary sessions of the CCP Central Committee in between the congresses. Sector-specific policy and planning documents can in turn be divided into overarching documents covering the sectors as a whole and those focused on a specific commodity or industry (in the case of minerals/mining), or a specific region or country (in the case of foreign policy). While the overarching Chinese FYPs are generally well-studied in the West, sector-specific FYPs (which are issued after and run in parallel with the overall FYPs, and which may include both national plans and provincial plans) tend to be understudied, perhaps because they deal with narrower policy issues, and because they often lack authoritative and reliable English translations.

To study priorities and policies for the mineral sector, I collected, e.g., overarching FYPs for land and resources, plans for the development of domestic mineral resources, and plans for specific sectors or commodities, including for SEIs and for the REE sector and the non-ferrous metals sector. All these documents are publicly available and easy to find and download from the internet by searching for them in Chinese with Google or the Chinese equivalent Baidu. Studying foreign policy priorities required me to collect, e.g., official BRI documents, government white papers on foreign policy and national defense, and authoritative speeches on foreign policy delivered by senior leaders such as Xi Jinping, and Yang Jiechi, China's top foreign policy official. Region or sector-specific policy papers included, e.g., China's regional policy for the Arctic, China's official maritime policy, etc.

4.1.2. Chinese academic articles

Chinese policy and planning documents typically only list policy measures to be taken, which they usually do in a bullet point like fashion. While they may provide some brief background information, they rarely contain sufficient details about the meaning or origin of concepts. For this type of information, I turned to academic publications. Chinese academic articles represent a vast source of Chinese-produced knowledge that, due to the language barrier, is rarely tapped into by Western researchers. Using them for research, however, requires careful consideration of the restrictions on free expression and inquiry that may be in place in relation to different topics. China ranks poorly in international comparisons of academic freedom[30], and the situation is widely believed to have worsened under Xi Jinping (see, e.g., Svensson and Pils, 2019; McLaughlin, 2021). Direct censorship has traditionally been most

[30] For example, the 2021 Academic Freedom Index, published by the Global Public Policy Institute, assessed academic freedom in 175 countries and territories on a scale from 1.0 (highest) to 0.0 (lowest). China was awarded a score of 0.082, which placed it with the bottom 23 countries on the list (GPPI, 2021).

strict on research relating to "The three Ts" – Tibet, Taiwan, and Tiananmen[31] – but it affects a whole range of topics to varying degrees. While direct content censorship hampers or even prohibits academic debate on certain topics, it is not the only tool for the Party to regulate academic discourse. As was discussed in Section 3.2., Schoenhals (1992) argued already in the early 1990s that the CCP controls political discourse not mainly by censoring content but by regulating forms of expression, a practice that can still be widely observed today. Chinese academics who wish to express their own opinions on political topics may struggle to move past the propaganda catchphrases and slogans that make up the official narrative on these topics. While the degree of discourse control varies over time and between topics, it has been a constant factor affecting Chinese academia.

Regardless of these limitations, however, Chinese academic writings display a surprising amount of diversity and nuance on many political topics,[32] especially on topics that are not perceived by the CCP as having the potential to mobilize the public. And the kind of self-censorship that I may encounter while studying how issues are framed by academics and companies may not a serious problem because self-censorship is to some extent a valid framing strategy in itself. For this research, academic articles were particularly useful for studying the origin and meanings of political concepts and categories. As the research for this thesis has shown, some political concepts, or at least the ideas and viewpoints behind them, can be traced to academic discussions that go back several decades. Studying academic debates can help us understand not only the intellectual roots of political concepts, but also how their meanings have evolved over time, and what voices in academia have had the most influence on the construction of their meaning. In line with the theoretical perspective of this research, I regard academic articles as not merely a reflection of underlying power structures, without any independent function in the production of official priorities, but as channels through which Chinese experts can influence policymaking by, for example, transferring recommendations to decisionmakers. Through their academic writings, experts can propose new categories, and they can also use their technical expertise to advice political elites on what should be included in already established categories – elites who themselves in many cases tend to lack such specialized knowledge or who have neither the time nor the desire to be involved in building policy from the ground up.

Most of the academic articles were collected from the China Academic Journals (CAJ) database. CAJ is China's – and indeed the world's – largest and most comprehensive

[31] In recent years, research on China's ethnic policies in Xinjiang has joined the list of the most sensitive topics for academic discussion.

[32] See, e.g., the chapter in Shambaugh (2013: 13-44) on debates around China's foreign policy priorities; Leibold's (2013, 2015) studies of debates around China's ethnic policies; debates around China's "core interests" (Zeng et al., 2015; Swaine, 2013), to name a few.

full-text database in terms of the sheer volume of materials. Provided by the China National Knowledge Infrastructure (CNKI) platform, CAJ gives access to over 80 million articles from thousands of Chinese academic journals, newspapers, and dissertations across all major academic disciplines. I gained access to this database via AsiaPortal, an information resource portal operated by the Nordic Institute for Asian Studies (NIAS, 2021), to which AAU is a member. I used CAJ's keyword search function to identify articles for analysis for the thesis papers. The applied search terms depended on the specific topic of each paper. I sometimes made use of different search filters, including limiting the displayed results to only include Chinese-language articles, or to exclude articles from irrelevant fields or disciplines. For some of the papers, I also limited the search to so-called "core journals" (核心期刊) – journals that are nationally recognized in China for applying a more rigorous peer-review process and for having a lower acceptance rate than non-core journals[33].

Whereas official documents include policy and planning documents for specific sectors, academic articles are published in journals associated with specific research field and disciplines. Articles in journals covering topics such as geology and resource economics allowed me to study Chinese expert assessments and recommendations concerning China's mineral priorities and policies, including Chinese concepts and categories of raw material criticality. Articles in political science and IR journals were valuable sources for understanding the domestic academic discourse on China's foreign policy priorities, including how the Arctic is contextualized and ranked among these.

The specific criteria for selecting articles varied between the different thesis papers. The most important criterion was *relevance*, meaning that the article had to engage in the academic debate I was studying. In general, if the initial keyword search yielded a very large number of relevant articles the criteria for inclusion in the qualitative analysis were stricter. For example, the search for Chinese articles on the concept of "strategic minerals" yielded dozens of relevant articles (that engaged in discussions around the concept itself). When selecting which articles to focus the analysis on, I therefore considered two additional criteria, namely 1) influence on the conceptual development, measured in number of citations in subsequent research (taking into account that more recent publications will have a lower citation score), and 2) the seniority and institutional affiliation of the author (see more detailed description in Paper II). When searching for articles on the concept of "strategic new frontier," on the other hand, the keyword search yielded fewer results, and I was therefore able to consider nearly all relevant articles in the analysis. In both cases, however, the aim was to identify and focus on influential voices in the debates.

[33] Around seven percent of the articles published between 2010 and 2020 were from Peking University "core journals".

4.1.3. Company documents

To study the influence of official categories and hierarchies on the decisions and approaches of Chinese companies, I collected company documents. Large multinational companies produce a wide range of documents as part of their day-to-day business activities and long-term planning, many of which contain trade secrets or other confidential information and are therefore not released to the public. Ideally, to understand how companies make decisions, we should have access to such materials, as well as to company board meetings and other internal deliberations. Because it was not possible to gain such access, I had to rely on information that companies publish externally, including annual and quarterly reports, press releases, and company websites, presentations, and slideshows – materials which are produced for different purposes and audiences[34]. Fortunately, such materials – especially annual reports – can be particularly useful for studying framing strategies of companies. Annual reports are mandatory for publicly listed companies, and must be made available to the public, which makes them easy to find and download from the internet. Apart from the required financial statement, they typically include basic information about the company, an overview of recent developments in the industry in which it engages, information about shareholders, a summary of the important activities of the company over the past year, and information about its future plans and goals. They also provide opportunities for companies to present their activities in a positive light (Stittle, 2003). The need for corporations to tell compelling stories around which employees can feel a sense of pride and belonging, and which can help them reach and connect with the public, has been highlighted by scholars in organizational studies (see, e.g., Vaara and Tienari, 2011; Gabriel, 2000; Boje, 1991). Boje (2019), for example, has highlighted how some companies, in an effort to portray themselves as champions of the public good, employ self-serving narratives, some of which are deceitful, even "fake". While this is a reminder not to take everything that companies write or say at face value, the core concern of my research was not the truthfulness of narratives, but rather the framing strategies themselves. Whether or not they contain deceitful information is beside the point, as in principle a deceitful framing strategy is merely one of many possible framing strategies.

Chinese annual reports follow a standard Chinese reporting template. Compared to the typical Western format, they appear even more dry and dull, containing no colors or pictures, only text and tables. However, while they appear boring and uninspiring on the surface, they may reveal a significant amount of information about a company's intentions, challenges, and opportunities. The Chinese annual report also provides opportunities for companies to demonstrate how their activities promote policy goals set for different sectors. References to different state objectives are usually given in

[34] The typical target audiences of annual and quarterly reports include governments, shareholders, and potential future investors. Press releases target mass media, while company presentations may target investors, the media, or the public at large.

the industry overview section or while discussing the company's development strategy. In Paper IV of this thesis, I used annual reports from the Chinese company Shenghe Resources to study how the company framed itself and its activities, in particular how it selected from and made use of official labels, categories, and other linguistic tools in its framing strategy.

4.1.4. Conversations

The documentary sources described above had some limitations, many of which stemmed from the basic fact that their production was independent from and unrelated to my research objectives. To give four examples: 1) certain information may be missing in the documents, or they may contain incomplete or irrelevant information; 2) some academic articles may be technical in style and difficult to comprehend for someone from a different research discipline; 3) it may be difficult to interpret or decipher what message the author of the text is trying to convey, in particular because in Chinese academia some policies can only be challenged in a roundabout way; and 4) articles may not in themselves provide sufficient insight into the processes that lead to the creation of categories, articles, and policies. To make up for these shortcomings, I conducted a total of fourteen conversations with Chinese experts, including geologists, mineral resource strategists, and Arctic scholars, some of whom are among the most influential voices in their respective fields, and who have themselves contributed to the development of policies and priorities for the mineral and foreign policy sectors (see Appendix B). The conversations helped address some of the limitations with the documents, by, for example, providing supplementary information not included in them, and by helping to clarify their content. Some informants also pointed me to new relevant materials.

Unlike documents, however, conversations produce information for which I am the intended recipient. The fact that I am a foreign researcher asking Chinese scholars – many of whom are active CCP members and concurrently serve as public officials – about topics that are politically sensitive, and for which the Chinese government seeks to promote a narrative that is favorable to China internationally, is likely to influence what respondents choose to tell me. As Hansen (2006: 88) notes, the lines between scholars and officials are often blurred in China, as are the lines between academic institutions and administrative units. The dual identity of my informants as "expert-officials" (Wübbeke, 2013a) – as both recognized experts within their fields and as bureaucrats who are expected to be loyal to the CCP – may prompt them to give me the narrative that propaganda officials have instructed them to convey to foreigners. Respondents may in some cases be inclined to simply parrot the CCP's official narrative or refer me to China's official white paper on the topic. While there are ways for the researcher to alleviate this problem, e.g., by reassuring respondents that they will be guaranteed anonymity, by not recording the conversations, or through the selection and design of the specific questions, it underscores the need for triangulation between documentary sources and conversations.

Overview of the field research: dates, locations, and numbers

The conversations were carried out during two rounds of field research in China. The first trip was conducted from 10 December 2018 to 25 January 2019, during which I was hosted by the School of Environment at Tsinghua University in Beijing. The original plan was that I would be formally hosted by a government research institute in Beijing. However, because of growing restrictions against granting invitations to foreign researchers at Chinese government-affiliated institutes, I was not able to receive an official invitation from them (there are usually fewer bureaucratic hurdles for Chinese universities to invite short-term visiting researchers, in particular if they are self-funded). On this first trip, I had in-depth conversations with groups of geologists and mineral resource strategists at CAGS or CAGS-affiliated institutes on three occasions (for a detailed breakdown of the meetings, including a description of each meeting, number of each type, etc., see Appendix B). I also had conversations with Chinese Arctic experts at three different universities or research institutes (one conversation at each university or research institute)[35].

The second research trip to China lasted from 4 to 18 October 2019. From 9 to 11 October 2019, I attended the China Mining Conference & Exhibition in Tianjin[36] (hereafter China Mining), where I took part in seminars and had discussions with four Chinese mining companies on the exhibition floor. During this second trip to China, I also revisited a group of Arctic experts I had met during my first research trip, and I made an additional appointment with an Arctic expert at a Chinese university to further discuss questions relating to China's Arctic interests.

In addition, I conducted two rounds of field research in Greenland. From 14 to 28 August 2018, I visited the capital Nuuk, where I discussed my project with a range of stakeholders, including Greenlandic and Danish civil servants and politicians,

[35] I have withheld the names and gender of all informants to protect their anonymity. I also decided not to disclose information about the cities and institutions where the Arctic experts were based because that could make them more easily identifiable. For the geologists and mineral resource experts, I listed the institution where they were based (CAGS) because the number of experts engaging in this type of research at CAGS is larger. I therefore estimated that the chance of them being identified based on that information alone was small. As a principle, I have opted to err to the side of caution since the political environment is fast changing under the current Chinese leadership. There is no guarantee that what might have been deemed unproblematic for both parties during the conversation is still acceptable for the informant at the time of publication – or five years later.

[36] China Mining is an international mining conference held annually in Tianjin that attracts Chinese and foreign policymakers and industry voices to present essential topics and provide insightful information. Among others, the topics cover mining industry trends, the global mineral commodity market, domestic and international investment opportunities, and sustainable mining development.

academics, mining companies, consultancies, and NGOs. From 25 August to 8 September 2019, I made a second trip to Greenland, where I revisited Nuuk and made a trip to Narsaq – the southern Greenlandic town where the Kuannersuit REE exploration project is located. In Nuuk, I discussed my project with stakeholders from the Greenlandic mining industry, including both old and new contacts. In Narsaq, I visited the Kuannersuit exploration site and Greenland Minerals' (the Australian company that holds the license for the project) workshop. I also met with a group of researchers from the Chengdu Institute for the Multipurpose Utilization of Mineral Resources (CIMUR) who was visiting Narsaq while I was there.

The conversations in Greenland focused mostly on the challenges and opportunities of developing mining in Greenland and China's potential role in this development. The collected data fed into discussions in Paper IV of how Chinese activities in Greenland are perceived and portrayed in Denmark and Greenland. The visits to Greenland along with my integration into GEUS furthermore helped me to better understand the general context of mining in the Arctic which all my articles feed into. Because the field research in China was more strictly relevant for answering the two overarching RQs – which both focus on China and the Chinese side rather than the Arctic side of the problématique surrounding Chinese engagement in Arctic projects – the focus for the remainder of this section will be on discussing the field research in China. In the following four subsections, I will discuss in detail and reflect upon the preparation and implementation of the research visits, which included six general steps: 1) identification and contacting of respondents; 2) design of themes and questions for discussion; 3) preparation of my own presentation and PowerPoint slides (applicable for some of the conversations); 4) practical preparations; 5) implementation of the actual conversations; and 6) reviewing jottings (or recordings) from meetings and writing up of field notes.

Identifying and accessing informants

The selected informants were chosen because they are recognized experts on the topics I was enquiring about, and because their published works are among the most widely circulated and cited in their respective fields. Just as with the selection of academic articles, the aim was to identify and focus on influential voices in Chinese debates. I made contact with most of the respondents by sending an email to their institutional email address, which was obtained either through their published research articles or via the website of their institution. Exceptions where those few respondents whom I had already met and established contact with at an earlier stage in the project. I used a Chinese messaging app to contact them instead. An advantage with this approach was that it allowed me to reach out and communicate directly with my informants, thus bypassing the role of "gatekeepers" – people who stand between the researcher and the collection of data by controlling access to informants or

information[37] (Bryman, 2012; Crowhurst and Kennedy-Macfoy, 2013). This is not to say that gatekeepers did not play a role in my research. In fact, my informants can themselves be regarded as gatekeepers in the sense that they a) possess information that is important for my research, and b) they have the power to deny me that information, by, e.g., leaving out certain information or by rejecting my meeting request altogether. There may also have been gatekeepers behind the scenes that I was not aware of, such as when an expert at a government research institute needs formal (or informal) approval from a superior to meet with me. However, the fact that I could identify and select my informants by myself and establish contact with them directly without having to rely on a local coordinator is likely to have given me more control over data collection than, e.g., a researcher conducting survey research on a sensitive topic or a researcher seeking access to a specific sample of the Chinese population could ever hope for, especially in today's increasingly restrictive academic environment. Furthermore, my knowledge of Chinese and background of having lived and studied in China for several years might have caused me to be viewed as less of an "outsider" in the eyes of my informants than someone who lacks such experience. Apart from reducing the language barrier, knowledge of Chinese language and culture can make it easier to connect with informants, not least because you then have a broader set of shared cultural reference points. I also believe that the curiosity my academic background instilled in my informants helped "break the ice" at some of the meetings, thus improving access to information. There may be a backside to this, however, which is that informants might view you as more of a "threat" than someone who is less familiar with political discourse in China. This may cause some informants to be more cautious, as they know (or at least suspect) that you will be able to see through their rhetorical strategies. It also became clear that access to informants and information varied depending on the political sensitivity of different issues. While most of the topics of conversation contained elements that could be deemed politically sensitive, the degree of sensitivity varied depending on whom I was asking, and the type of information I was enquiring about. For example, gaining access to the chairman of a Chinese mining company that has invested in a politically controversial Arctic project proved to be impossible, as I have illustrated in an example below (Tale from the field). Fortunately, gaining access to Chinese Arctic scholars and mineral resource experts proved to be easier, although not without challenge.

Tale from the field, December 2018

In late December 2018, I met with two Chinese researchers (hereafter Researcher A and Researcher B) whose research institute is closely connected with a Chinese mining company because of overlapping leadership structure. I first reached out to Researcher A on a Chinese messaging app in mid-December to ask if I could visit

[37] For discussions of gatekeepers in the Chinese fieldwork context, see, e.g., Thunø (2006); Sæther (2006).

them when I travelled to City X, "in order to gain a deeper understanding of [the company]". I had established contact with Researcher A at an earlier stage of the research project when our paths had crossed. I received a positive and welcoming response and we set a date for our meeting in late December. Researcher A told me that their "leader" – Researcher B – wanted to communicate with me as well. At first, I thought Researcher A was referring to the company chairman, but I later learned that Researcher B was in fact a vice director of one of the research centers at the institute. However, two days later, Researcher A abruptly called off the meeting. The reason given for cancelling the meeting was that they were going to conduct "end-of-the-year field assessments" (外地考核) on the week we were supposed to meet. I was told that the institute and the company were "two different entities" (不同的单位) and that s/he was "not familiar with [the company]". S/he added that "all public information about [the company] is available on the website". It seemed completely obvious that Researcher A was simply forwarding to me the exact words of whomever did not want them to meet with me.

At this point, it seemed like a meeting at the institute would not be possible. However, when I visited a geologist in Beijing around Christmas (whom I had met at the same occasion as Researcher A), the geologist called up Researcher B at the institute and handed the phone to me. I agreed with Researcher B on the phone to call when I had arrived in City X to arrange a meeting. I had a feeling that the geologist had already been in contact with the two researchers at the institute about my meeting request (perhaps it was the geologist that convinced them to meet with me), but I am not sure. When I had arrived in City X, my wife called Researcher B and we set a date for a meeting after Christmas.

I met with the two researchers at a restaurant only a few minutes' walk from the institute. My wife joined the meeting and helped me take notes. I did not ask why we did not meet at the institute, but I suspected it was because they did not want to draw attention to our meeting. The meeting started with some small talk, after which I introduced myself and gave a brief presentation of GEUS and MiMa. During our talk, I asked if it would be possible to meet with the company chairman. They told me it would be very difficult to arrange such a meeting, since the chairman would need formal approval from above in order to meet with me. Later, Researcher A explained the situation in more detail. It turned out they had tried to arrange a meeting with the chairman. Researcher A had asked Researcher B, who spoke with the chairman's secretary about my request. They had shown the chairman my message, in which I wrote that I would like to discuss with them "questions concerning China's mineral needs and how they view investment opportunities abroad". The chairman had simply replied "too sensitive" (太敏感了) and "not convenient" (不方便) and asked them to tell me that I can find all public information related to the company on the company website.

I asked Researcher A if I could possibly meet with anyone else in the company's management, to which s/he replied that it would be very difficult (again, "too sensitive"). Moreover, Researcher A repeatedly stressed that the institute and the company are two different units and that s/he does not know anything about the company. Researcher A made clear that the difficulty in arranging meetings had to do with the political situation in China today. My research was considered "very sensitive," and the political situation had tightened considerably in recent years (收紧了). It was "very bad timing" (时间不对，太晚了); a few years earlier, arranging meetings would have been a lot easier. S/he added that it is easier to arrange meetings if I send an official request through GEUS – "the more formal the better".

In sum, although I was not able to get any answers to my questions about the company, the meeting was useful for understanding the extent to which the current political situation in China might affect the ability to conduct field research on certain topics there, especially when I wanted to visit companies. My experience is that most of the people I have reached out to in China genuinely wanted to help me with my research, but some are unable to so because of the current political situation.

Preparing for the conversations

The list of discussion points included a set of general topic-specific questions and questions that were custom-tailored for each respondent (see Appendix A). Although I had shared the overarching topic of discussion with my informants beforehand, the list of specific questions was used for my own preparation and kept to myself. Before meeting with an expert or group of experts, I usually reread some of their research papers to refamiliarize myself with their research (this was helpful for adding to the list of general questions a few questions specifically related to each respondents' research). Questions were open-ended and intended to initiate discussion. This allowed me to "[stay] open to unforeseen ideas (and even new topics of inquiry) that emerge in the course of interviewing" (O'Brien, 2006: 27). Whether I was talking to Arctic scholars or mineral resource experts, the questions were designed to investigate the role and significance of categories and hierarchies without explicitly referring to them or enquiring about them, at least not initially (I did in most cases bring them up explicitly later in the conversation if the respondent had not already done so). This allowed me to study what labels respondents applied of their own accord and by their own choosing, rather than because I had specifically asked about them.

Prior to attending China Mining in Tianjin, I had prepared a "study guide" (see Appendix A3) outlining specific information to look for, regarding, e.g., the venue (how large is the venue, how many people are attending, what is the overall atmosphere like, etc.), the participants (which companies, banks, government delegations, etc., are present), mining projects (which Arctic mining projects are promoted at the conference, do they attract Chinese attention, etc.), participant

interactions (how interested are Chinese companies in Arctic projects, which Arctic mining projects attract most attention, etc.). I had also prepared a list of questions for Chinese companies. Again, rather than asking them directly about categories and hierarchies, I began by raising more general questions, such as "what makes a country an attractive destination for investments in mining or mineral exploration;" "what opportunities are there for funding overseas mining projects;" and "what is required from a project in order to receive funding". Only later did I ask them how mineral and country classification schemes matter to them or if they are even aware of them.

Practical preparations, apart from making travel plans and other logistical arrangements, included getting hold of a high-quality recording device. Recording the conversations meant that I could focus all my attention on the respondent without having to worry too much about taking notes. However, as previously mentioned, recording might make some respondents nervous and thus more cautions. It may even prompt some respondents to give me the official narrative instead of their genuine opinions. There were cases where respondents asked not to be recorded; in others, I decided not to record based on a quick assessment of the atmosphere in the room. In the end, some of the conversations were recorded while others were not.

Conducting the conversations

Most of the conversations were carried out in an informal manner and took the shape of a dialogue or exchange between fellow researchers, rather than a unidirectional flow of information from them (the experts) to me (the investigator), although there were a couple of exceptions where respondents seemed to just want to answer my questions and get on with their day (a respondent's uttering of the phrase "next question" [下一个问题] was an unmistakable sign of that). Several of the respondents wanted to learn more about me and my background. I had therefore prepared presentations about myself and my research as well as brief introductions to GEUS and MiMa, which I usually delivered at the start of the meetings, sometimes in the form of a PowerPoint presentation, sometimes from notes I had prepared. At one of the meetings, my presentations triggered so many questions from the group of experts that there was almost no time left for me to ask my own questions. Although from a pure information-gathering perspective that particular meeting was not very effective, it was useful for building a positive relationship between myself and the group of experts. When I met the same group later that year, I had plenty of time to ask my questions.

Some of the meetings took place over dinner, while others were followed by a dinner where we continued the conversations and also discussed other more leisurely topics. In my experience, a post-meeting dinner paid for by the host is pretty much an unavoidable part of doing field research in China, which nevertheless raises some ethical questions. While socializing with informants can be helpful for building a closer relationship with them – which can facilitate information gathering – it is crucial to maintain some professional distance to ensure that our independence is not

compromised. Immediately after the meeting (or the dinner that followed), I went through my notes and expanded on them if needed.

Working with research assistants

I made use of research assistants on two separate occasions during the research project. As opposed to scholars conducting ethnographic fieldwork at the local level in China, who may find it essential and even compulsory to have an officially assigned local research assistant, a *peitong* (陪同) (Hansen, 2006) accompanying them in the field, my approach of focusing on informants I could identify and approach by myself allowed me to choose whether or not I wanted to employ an assistant. My first experience working with a research assistant was for the China Mining conference in Tianjin in October 2019, for which I hired a Chinese PhD student from CAGS to accompany me. I second Hansen's (2006: 91) view that a research assistant can, among other things, "help clarify questions and solve language problems," "[join] in interesting discussions with interviewees," and "contribute to the research in many other ways". Indeed, a local research assistant can bring many benefits, even for experienced China researchers who are familiar with Chinese culture and speak the language and thus do not necessarily need one for interpretation. To give four examples from my experience at the China Mining conference: 1) having an assistant by your side can add a level of importance and professionalism to your work, which can be important for earning people's respect and trust; 2) it can make it easier to connect with people who might otherwise be hesitant to speak with foreigners (for respondents who fear that a conversation might get stuck because of communication difficulties, the presence of a local assistant and fellow native speaker can provide some comfort); 3) the research assistant can give you access to people from his/her professional network, many of whom are likely to be relevant for your research (in this specific case, the research assistant introduced me to a senior official from CAGS who was present at the conference); and finally, 4) the research assistant can help remember details in respondents' answers that have slipped through your notes, and it can be highly useful to discuss and reflect over findings together with him/her.

The second time I made use of a research assistant was when my wife joined a meeting with two researchers from a Chinese research institute (see Tale from the field). At the meeting, my wife assisted me by, e.g., taking notes, asking for clarifications, and helping me remember details in the informants' answers. Having my wife serve as my research assistant offered a different set of benefits compared to the ones described above. While the above-discussed second and fourth benefits still applied – and these are arguably the most important – the third benefit did not apply, and it is questionable whether the first benefit applied (having your spouse serve as a research assistant – if your relationship is revealed to the informant – will presumably look less professional than having hired a local assistant). However, an important potential benefit of having my wife, a Chinese national, accompany me was that it may have caused me to not be viewed as a complete outsider, which may have facilitated communication.

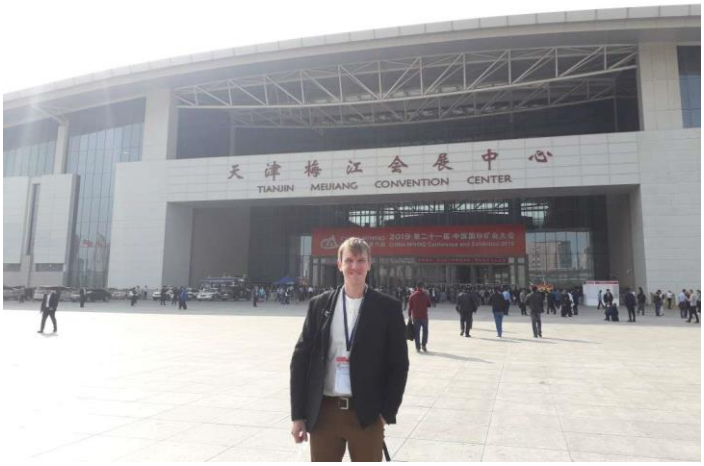


Image 1. Outside the Tianjin Meijiang Convention Center at the China Mining Congress and Expo in October 2019. Photo credit: Wang Jiawei.

Image 2. Author presenting at the Chinese Academy of Geological Sciences, January 2019. Photo credit: CAGS.

4.2. DATA PREPARATION AND READING STRATEGY

The collected documents, fieldnotes, meeting recordings, etc., were stored on my computer. I used the qualitative data analysis software NVivo 12 Pro (hereafter

NVivo) to manage and organize collected documents, in particular for Paper II and Paper III, as well as for the comprehensive literature review that I carried out at the starting phase of the project.

From a data organizational perspective, one of the benefits of using NVivo was that it allowed me to store all my sources, codes, notes, and other insights in one single place. As a result, data sources and findings were always easily accessible. A technical challenge I encountered while uploading PDF (Portable Document Format) versions of Chinese academic articles into NVivo was that several of the Chinese texts were not created in the international encoding standard Unicode and thus not compatible with NVivo. Importing them to NVivo made all the Chinese characters appear as squares. To be able to read, highlight, and code text from these articles in NVivo, I had to convert them to Microsoft Word format using Adobe Acrobat DC and then convert them back into PDFs using Microsoft Word.

The reading strategy, i.e., the perspectives and assumptions that shaped my decisions of a) what information (content) to focus on in the documents and b) how to interpret and process that information, varied between the four thesis papers depending on the empirical focus of each paper and the specific theories and concepts I was working with. Because the specific approaches have been described in detail in each individual paper, my discussion here will focus on some of the overarching principles and themes that guided my reading of the materials throughout the thesis as a whole, while I will refer to the individual papers to give examples.

An important point is that I did not start the reading with a completely blank slate – a tabula rasa – as to what I was looking for. Rather, I began with some pre-defined themes or ideas, which I then developed as I proceeded with the analysis. These initial choices of themes were shaped by two important assumptions from the theoretical framework: 1) that categorization is used to establish priorities and construct hierarchies, and 2) that the fragmentation of Chinese politics allows for the coexistence of numerous and occasionally competing categories across different sectors. In Paper II, for example, I studied how raw material criticality is constructed through categorization in Chinese academic debates and policy documents. Having already identified "strategic minerals" as the key concept in Chinese criticality debates while working on Paper I, I therefore paid special attention to content concerning, e.g., definitions of "strategic minerals," methodologies for selecting "strategic minerals," subcategories of "strategic minerals," dimensions of "strategic minerals," and other categories of prioritized minerals. These also served as some of the initial coding categories, which I further refined as I was reading. As part of the theoretical analysis, the reading strategy for Paper II also entailed developing a set of criteria for recognizing a criticality construct in the Chinese context. The reading strategy for Paper III was similar in that I began with a set of pre-selected coding categories, each of which targeted a specific type of content relating to the two classifications I was studying ("strategic new frontier" and the Arctic as "maritime interest" within a

"hierarchy of maritime interests"). Categories were often revised and new were added as I proceeded with the analysis. However, the approach for Paper III was more bottom-up in the sense that as the analysis proceeded, I developed my own theoretical argument about categorization and hierarchy construction in Chinese foreign policy. This argument, which combined theories and empirical insights from existing research with my own theoretical contribution, then shaped the reading strategy of that paper going forward.

The reading strategies for Paper I and Paper IV were somewhat different from those of the core papers (Paper II and Paper III). For Paper I, my reading of Chinese geology and foreign policy journals focused on two types of content 1) Chinese interests in Greenland's mineral resources, and 2) China's foreign policy interests in the Arctic and Greenland. The analysis, while less theoretically sophisticated than in later papers, established the foundation that the core papers built upon. It did so by, for example, helping to map the actors within the bureaucracy and by identifying and introducing key concepts that became the focus of my reading strategy in subsequent papers, such as the concept of "strategic minerals". The reading strategy for Paper IV built upon the findings from the core papers (Paper II and Paper III). Here, the focus was on studying the framing strategy of the Chinese investor in the Kuannersuit REE project in Greenland. This entailed identifying the labels the Chinese investor used in its domestic framing of the project. Theoretical insights from Chinese area studies, in particular the FA framework, helped me make sense of the findings, including understanding *why* and *how* Chinese companies are using these labels. Securitization Theory was then used to analyze the sequence of events that was triggered when this framing was read by someone else than its intended audience of Chinese domestic actors – what my co-author and I are calling "a series of mutually reinforcing securitization policies".

CHAPTER 5. CONCLUSION: SHAPING AND USING POLITICAL LANGUAGE IN CHINA

This has been an interdisciplinary research project illuminating subjects in China studies and Arctic area studies with theoretical inspiration and concepts from political science, IR, and economic geography. As a public industrial PhD project, it has also been expected to create utility for GEUS – the public sector organization where I have been employed – and produce value for broader society. As a result, the empirical and theoretical contributions of this research are potentially wide-ranging, cross-disciplinary and, importantly, intended to extend beyond academia. The aim of this concluding section is to discuss some of the key academic findings and contributions, while utility and value for the public sector organization have been discussed in venues outside of this thesis.

The focus will be on the findings of the project as a whole, i.e., the findings that have emerged from putting together the different puzzle pieces provided by each of the four papers. I start by discussing my findings and theoretical contributions relating to the two problématiques presented in Section 1.1, each of which is discussed through the particular theoretical lens with which I approached them. I proceed by presenting my answers to the two overarching RQs. I then speak back to the literature by discussing how my research has contributed to each of the four academic debates reviewed in Chapter 2, before concluding with a discussion of further research.

5.1. SHAPING POLITICAL LANGUAGE IN CHINA

One of the most interesting findings to come out of this research is that the development of certain forms of political language in China happens through processes that are somewhat more dynamic and open than has previously been found (although not at the level of anything that resembles a liberal society). This finding was made possible through my theoretical approach of combining the FA framework with a focus on categorization. It has allowed me to draw a number of conclusions which supplement and potentially challenge the findings of three different strands of the literature on the Chinese policy process.

First, the thesis papers viewed Chinese mining companies, mineral resource experts, and foreign policy scholars as part of a state bureaucracy and thus capable of acting as "policy entrepreneurs" (Mertha, 2009), or at least as sufficiently close to a bureaucracy to take on such a role, even if the audience which they address is much less public and much more specialized than in Mertha's cases. While research based

on a FA approach has found that policy entrepreneurs tailor their framing of issues to address the policy agendas most beneficial for them – and in so doing, shape policy outcomes – my findings suggest that they also contribute to creating or at least shaping some of the political language that becomes part of their framing. They do this, not only as FA has told us, by using categorization strategically to add political priority to issues and areas in which they are engaged or seek to engage, but they might also, earlier in the policy process, shape the labelling and content of political categories. While FA has shown us that policy entrepreneurs can incorporate their own language and narratives into issue frames defined by the central state, Mertha's focus has been on how such "unofficial" framing is used to compete for popular support against the state's official framing, not on how policy entrepreneurs employ official language that they have themselves contributed to shaping. Furthermore, by creating or changing categories that are used to elevate issues onto the state agenda, policy entrepreneurs not only shape policies made at the center, as FA has found, but also to some degree contribute to shaping the state agenda.

Second, my findings also challenge the received image of the origin and use of political language in China because they suggest a wider agency than has previously been found. Existing research has produced two different perspectives, both of which agree that official language is produced by elites but disagree as to *how* it is used and *by whom*: one viewing it as an elite instrument for what is essentially a form of mind control over lower-level cadres, the intelligentsia, and the masses (Schoenhals, 1992; Ji, 2004, 2019), and one which stresses that elite-produced language can be manipulated and exploited for personal gain by virtually anyone regardless of their position within social or political hierarchies (provided that they have learned how to play the language game of not blaming the political top) (Link, 1993; O'Brien, 1996).

Third, while the literature on the role of experts in the Chinese policy process has explored the role of "celebrity academics" in shaping policy, and even how this may be achieved by means of categorization, as the case of Wen Tiejun's "three rural issues" (三农问题) illustrates, my findings highlight that this occurs also in fields with much less public attention and involves scholars who are less well-known to the public. It also, as in the case of mineral classifications, happens through processes that are more systematic, bureaucratic, and mundane, and produces categories that are more fluid and open.

The relevance of these findings would seem to depend in part on 1) whether or not these actor groups (experts, bureaucrats, mining company executives) are members of the political elite in China, and 2) to what extent they actually influence policy agendas. As to the first, while they may be part of some extended political elite, most of these actors – even those who take on multiple identities or roles – are part of neither the narrow political elite of leading policymakers and propaganda officials who Schoenhals (1992) and others regarded as the creators of political language, nor do they belong to the core group of leaders who, according to FA, set the state agenda

(Lieberthal and Oksenberg, 1988). They can influence those elites, however, through their construction of labels and categories which elites adopt, or by shaping categories that have been produced by elites. Arguably, whether we apply the narrow definition of political elites or a more generous one that includes these actor groups is beside the point. What matters is that the processes and mechanisms for constructing political language in China are more open and dynamic than has previously been assumed – at least when it comes to certain categories central to certain types of policies. And transparent in the sense that we can study these processes if we know where to look; that is, if we can find the Chinese academic texts and identify the key figures in the debates.

As I have argued throughout this research, categories – at least in certain phases of certain policy processes in certain sectors – have qualities to them that make them especially open and prone to outside participation, in particular from experts, who possess the theoretical or technical knowledge needed to fill in their content, knowledge that senior policymakers with their broader policy portfolios and more generalist skill set tend to lack. Categories are particularly malleable before they have solidified and become official. Even after that, some categories need to be reviewed and updated on a regular basis. While expert influence is particularly evident on those sector-specific categories that are less politically sensitive and therefore less prone to direct top-down intervention and control, expert advice likely plays a role also in constructing and shaping more sensitive categories, albeit through processes that are less open and transparent. "Strategic mineral" is an example of a Chinese concept and category constructed through a relatively dynamic and open process and for which experts have played a key role both in deciding what its content should be and in constructing the meaning of the label itself. It has furthermore resulted in an official catalogue of "strategic minerals" which is expected to be updated on a five-year basis. It is thus a category that has a significant (and possibly growing) impact on resource allocation in China, with a multitude of policies specifically targeting "strategic minerals" and its various subcategories.

My observations concerning the extent to which these actor groups actually influence policy agendas gets to the core of – and potentially challenges – key tenets of the FA framework. The question of influence can be further divided into two smaller parts: a) do these actors shape the central policy agenda or is their influence limited to policies in their respective sectors, and b) do they set policy or merely shape something that is already in place? The answers to these questions are highly complex and would seem to depend on how we define and distinguish between sectoral and state agendas, and what we actually mean by "setting" and "shaping" policy. I define "setting" policy here as not only designing the content of policy but also as the act of formally signing something into official policy. I define "shaping" policy as having a significant influence on the content and direction of policy, but as less complete (and formal) than "setting". With state agenda I refer to the range of policies, priorities, and long-term objectives to which the central government devotes attention and

resources at any given time. By sectoral agenda I mean the polices, priorities, and objectives set for a specific state sector.

As previously mentioned, the traditional view of FA as proposed by Lieberthal and Oksenberg is that policy is made by an elite core of some 25 to 35 leaders – basically the Politburo. It is when national policies are implemented at lower levels that there is room for local implementation agencies to shape those policies, which may lead to, e.g., watered down policies, or selective policy implementation. FA, while certainly not rejecting the role of consultation in the policy process, has thus emphasized a top-down approach to establishing the central state agenda. My findings suggest that expert influence on national policy may in fact be more prominent than that.

They also confirm much of what Mertha's FA 2.0 has already told us about the role of framing in elevating policy issues. To begin with the latter, framing the Arctic as a "strategic new frontier" means elevating the region as a policy priority by contextualizing and making it part of something bigger, similar to how China's goal of becoming a "Polar Great Power" is part of the larger goal of becoming a "Maritime Great Power". It may also generate a "piggyback effect" in that if other "strategic new frontiers" are elevated on the policy agenda the Arctic follows suit because it belongs to the same category (as "strategic new frontiers" they are elevated together). If we were to regard the concept as a purely top-down construct – which I have argued is *not* the case – experts, companies, and bureaucratic actors could still contribute to shaping the meaning and contents of the category once it has been established, by, e.g., lobbying for the inclusion of a particular "space" in this category.

Where my findings go beyond the FA framework is in suggesting that the academics who developed this concept have in the process to some extent also contributed to shaping the state agenda. As I argued in Paper III, the ideas behind the concept of "strategic new frontier" can be traced to academic debates. Between 2011 to 2015, it was picked up by policymakers, formalized, and turned into policy. As a "strategic new frontier," the Arctic has become closely linked to different policies and priorities on the state agenda. The way this elevation has been achieved is essentially by reframing the Arctic from an issue of primarily economic and scientific character, whose importance was mainly confined to the maritime sector, to one of crucial importance for security and China's long-term goals and ambitions – by labelling and including it in a category that carries such connotations. The label "strategic," in the Chinese context, not only alludes to issues of national security, but also signals priority and importance and implies that an issue is of crucial importance for long-term developments. Labeling something "strategic" thus facilitates elevating it from a purely sectoral issue to one that deserves attention on the central state agenda. Apart from shaping the security agenda, the "strategic new frontier" concept has been used within the context of, e.g., Chinese diplomacy and global governance policies for the "new era" (新时代) of China's development (the "strategic new frontiers" being promoted as testing grounds for China's model for global governance).

The concept of "strategic mineral" has hitherto been used mainly in sector-specific policy and planning documents. It would thus seem to be an example of experts using categorization to shape policies for the mineral sector, rather than those overarching national polices emanating from the center. On the other hand, the concept has been referenced by senior leaders in political speeches, and it was included in China's fourteenth FYP released in 2021, which is the main document for setting the overall direction and long-term agenda of the state. If the concept of "strategic mineral" has contributed to placing the issue of mineral resource scarcity more prominently on the state's agenda – which I believe it has – it has arguably contributed to shaping that agenda as well.

As to the distinction between setting and shaping policy, it should be noted that these experts, even if highly respected and well-connected, do not have the power to sign their own ideas into policy. Their categories (or revisions to categories) have to be adopted and approved by elite decisionmakers. In that sense, they do not "set" policy, but rather shape it. As the literature has told us, this can happen when, e.g., a decisionmaker picks up a policy recommendation from an expert's academic writings, from a conversation between them, or from an expert-authored research report commissioned by the government. Another scenario could be that an expert tries inserting a category in a draft policy document that has been circulated and shared with him/her as part of the policy consultation process.

5.2. USING POLITICAL LANGUAGE IN CHINA

As I have argued above, experts, officials, and companies not only contribute to shaping political language, but they also make strategic use of already established political language. To be sure, the very act of creating or shaping a political category is in itself a way of "doing things with words;" that is, of *using* categories (or categorization) to differentiate, elevate, or downgrade issues. However, whereas the previous section focused on the early processes of constructing and shaping political language, and how categorization is used in these processes, the focus of this discussion is on how actors respond to and work with officially established categories.

That actors make strategic use of official language in different ways has been well established in both the FA literature and in the literature on language games in Chinese politics. The former has, as noted above, highlighted how policy entrepreneurs make use of official (and unofficial) language in their framing; the latter on how official language has the potential to both restrict and enable political action. My contribution to this debate has lied mainly in taking this form of policy analysis to study how the Chinese mineral sector works and what the implications of this are, while focusing on a particular form of political language – categories and labels. In Section 3.2 of the theoretical framework, I introduced three ways in which labels and categories are performative: 1) categories as conveyors of information; 2) categorization as a means to establish official priorities and elevate (or downgrade) policy issues; and 3)

categories as framing devices. Below, I will discuss my findings in relation to the first and third uses, as the second mainly concerns processes that occur as categories are constructed.

Labels and categories inform actors not only about the overarching state agenda but also the priorities established for different sectors. Companies who seek to align their own agendas with those of the government thus need to stay attentive to changes in categories and the emergence of new categories. My findings suggest that the degree and form of influence differs between mineral and foreign policy classifications. Mineral classifications, while used in the framing strategies of companies (see below), do not seem to have any obvious, direct impact on the business decisions of Chinese companies, at least not to the extent that companies will pursue minerals just because they are classified as "strategic". A slight change in classification may not make companies who are already specialized on and invested in a particular commodity change focus to an all-new commodity. This is in line with what Chinese companies have told me at the China Mining conference and elsewhere. When asked what factors they consider when investing in projects, they instead highlighted more typical factors, such as economic feasibility, rule of law, and the local political situation, while mineral classifications were "a matter for the government". This is especially the case since, despite the meaning of "strategic" as crucial for long-term developments, the dynamic and fluid nature of criticality means that what is classified as "strategic" today may not be so in five or ten years.

However, mineral classifications may still have a profound impact on the development strategies of companies, not because they are reacting directly to classifications but because they respond to government polices resulting from those classifications. As I have argued in Paper II, the government makes policies based on raw material classifications, policies that will shape the incentive structures that companies adjust to in the long term. For example, REEs have long been considered "strategic" in China, and they also belong to the category of "advantageous" or "protected" strategic minerals – the only category for which the government sets production quotas rather than production targets. This has had the effect of encouraging some Chinese companies to bypass the quota system by mining and processing REEs outside of China. From the perspective of the Chinese central government, it could be a way of conserving domestic reserves and moving some of the pollution of rare earth mining overseas, while still making sure that China gets the rare earth resources it needs. In either case, these policies – which have clearly influenced the strategies of companies – have followed from the official recognition and classification in China of REEs as a "strategic" resource for the country's development.

By contrast, the influence of foreign policy classifications on company decisions seems to be more direct in the sense that companies respond not only to the policies resulting from classifications, but also to the labels themselves, which they show a

higher level of awareness of. It has, for instance, already been documented in the literature that companies may invest in BRI countries in the hope of securing economic and political benefits for doing so, or at least that they will incorporate this consideration into decisions of where to invest. It may furthermore be easier for companies to respond to foreign policy labels than to changes in mineral classifications. While the former might entail employing their existing experience and expertise in a challenging new environment, it may still be easier (and less costly) than switching focus to an entirely new commodity.

As to the use of official categories as framing devices, my findings suggest that different actor groups focus on different categories and use them for different purposes. "Strategic new frontier" seems to have been used mainly by Chinese academics to add political importance to what they do. An interesting observation is that issues that have been elevated through categorization and spread to new sectors can seemingly be "reclaimed" by actors within the original sector. As I argued in Paper III, classifying the Arctic as a "strategic new frontier" allowed it to be elevated into something more than simply a maritime space by linking it more closely to China's security and foreign policy agendas. Following this elevation, however, Chinese maritime scholars and officials have framed the Arctic as a "maritime strategic new frontier". This essentially means maintaining the political elevation and security connotations that come with the label "strategic new fronter" while reclaiming the issue as one for the maritime sector.

Paper IV of this thesis found that the Chinese company Shenghe Resources in texts intended for the government, potential investors, and other domestic audiences made references to Chinese industrial development priorities in its framing of projects. This included references to, e.g., Chinese foreign policy initiatives, industrial policies, and mineral classifications. Concerning the latter, while, as noted above, a change in how a mineral is classified may not in itself prompt a company to change focus to a different commodity, they are likely to pick up on the fact that their targeted mineral has been classified as "strategic" and take advantage of the opportunities this brings, by, e.g., using it in their framing to add political importance to their project.

5.3. ANSWERING THE RESEARCH QUESTIONS

Comprehensive and detailed answers to the two overarching RQs have been given in the discussions carried out in Section 5.1. and 5.2. respectively. For convenience and simplicity, I will provide them below in a more explicit, concise, and summarized form.

RQ 1: How are official priorities and strategies for the raw material and foreign policy sectors constructed, bargained, and changed in China?

Official priorities for the two sectors are constructed through processes that involve experts, bureaucrats, and companies. The distinction between these actor groups is often blurred in China. Academics and experts who are embedded in or close to the state bureaucracy play a key role in proposing, selecting, and developing policies for different sectors. Priorities are constructed through a process that involves categorization. Actors use categories as tools to elevate policy issues and construct hierarchies of priorities. In the mineral sector, geologists, mineral resource strategists, and other experts conduct raw material assessments which result in hierarchies of minerals. Different categories of "strategic minerals" are differently prioritized and subject to different policies.

For the foreign policy sector, IR experts and Arctic scholars use labels to construct hierarchies of foreign policy priorities and to contextualize the Arctic in such hierarchies. This has resulted in the Arctic being contextualized in a hierarchy of "maritime interests" as an "important" maritime interest. While not being elevated to "core" in the "interest" category, other categorizations have contributed to elevating the Arctic on the policy agenda. As a "strategic new frontier," the Arctic has been elevated into something more than simply a maritime space. This classification has allowed it to be more closely connected to China's security and foreign policy agendas. Given the role of categorization in establishing priorities, priorities can be changed by changing the content of categories, and the relatively open and flexible nature of some categories (some industrial categories are revised and updated regularly) facilitates policy change.

RQ 2: In what ways do Chinese official priorities for the raw material and foreign policy sectors influence Chinese companies' decisions and approaches when engaging in Arctic mining and mineral exploration projects?

Official categories convey information to Chinese companies that engage or seek to engage in Arctic projects about Chinese foreign policy and industrial development priorities. These categories may influence to some degree decisions of where to invest and in what commodity. The degree and form of influence seem to differ between mineral and foreign policy classifications. Mineral classifications may not have a direct influence on investment decisions overseas in the sense that companies will respond to them directly and target minerals because they are categorized in a certain way. They do, however, respond to policies that have resulted from those classifications.

By contrast, the influence of some foreign policy classifications, such as "BRI country," seems to be more direct in the sense that companies respond not only to the policies resulting from classifications, but also to the labels themselves, which they show a higher level of awareness of. The influence of official priorities can be seen more clearly in the framing strategies of companies. Companies may seek to tailor

their framing to align with the objectives of different sectors in an effort to secure economic and political support for projects.

5.4. SPEAKING BACK TO LITERATURES

In this section, I will return to the four major academic debates that were the focus of the literature review in Chapter 2. The aim is to summarize the main findings in relation to each debate, discuss how I have contributed to addressing the specific questions and research gaps that were identified in each of the literatures, and what it means for research going forward.

A "China Inc." or "every soldier for himself"?

A major debate to which the thesis has contributed concerns the drivers behind Chinese engagement in Arctic mining and mineral exploration projects and the degree to which activities of Chinese state and nonstate actors in the Arctic are centrally coordinated. In this debate, scholars have proceeded from two basic perspectives: one viewing China's overseas quest for minerals as part of a coordinated and strategic "China Inc." approach, and one viewing it as fragmented and disorganized, closer to a situation of "every soldier for himself". Yet most scholars have tended to agree that while the government can in principle intervene whenever it finds it necessary, it still relies mainly on incentives to achieve strategic objectives.

This study has contributed to improving the understanding of where these incentives are coming from, what national priorities they are designed to help realize, and the processes and mechanisms through which information about these priorities are conveyed to companies. Categories, I have argued, not only provide companies with information about Chinese foreign policy and industrial development priorities, but they also to some extent help inform their decisions of what and where to mine and can be used strategically in framing to attract political and economic support for projects.

Policies, priorities, and categories of China's mineral sector

While existing research has improved our understanding of China's resource policies, including how policies are set and changed, my study is the first to provide a deeper analysis of the mechanics of the process. Crucially, it has told us when and how politics intervenes in what is often portrayed as objective processes shaped by industrial need and supply. I did this through a focus on raw material assessments and the role of categorization in shaping and changing priorities and policies for the Chinese mineral sector. The thesis found that Chinese experts at institutions such as CGS and CAGS develop definitions and methodologies which they employ to assess the "strategic-ness" of mineral raw materials. Domestic debates around a Chinese

concept of "strategic minerals" that took off in the early 2000s led up to the establishment of China's first official catalogue of 24 "strategic minerals" in 2016.

The analysis revealed that, unlike in criticality assessments in, e.g., the EU or the US, where a mineral is "critical" only if there is both economic importance and supply risk, the Chinese concept of "strategic minerals" is broader in the sense that it also includes minerals for which China controls global supply chains, so-called "advantageous" strategic minerals. That is in fact the main reason they are deemed "strategic". While I do not wish to exaggerate the difference between raw material assessments in China and elsewhere – a fear of supply disruption of important minerals is at the core of raw material assessments everywhere – it does suggest a wider scope in the Chinese assessments than seen in, e.g., Europe and the US, all of which are countries with advanced manufacturing industries that rely heavily on imported raw materials. The thesis also found that raw material categorization has an impact on policy and industry, with different policy measures targeting different categories of minerals.

Policies, priorities, and categories of China's foreign policy sector

The thesis has contributed to debates within IR and China studies on what China's foreign policy priorities are, how they are formulated, and how companies respond to them, in particular those engaging or seeking to engage in the Arctic. Through its theoretical focus on labels and categories, the thesis has built upon efforts to study Chinese foreign policy priorities through a discursive approach.

In analysis of Chinese foreign policy, the hierarchy of core and periphery were foundational in understanding the tributary system, and the division between core issues like Taiwan and the South China Sea and other issues remains important. By showing how foreign policy categorizations other than the typical hierarchizations of interest also have relevance for policymaking in China, the thesis has provided a more finely grained analysis of foreign policy hierarchies, thereby also setting a new standard for debates about how the Arctic is ranked and contextualized among China's foreign policy priorities. Specifically, it has proposed that there are two basic ways of constructing foreign policy hierarchies: by including/excluding in a category of priority (the binary hierarchy) and by adding various gradients or qualifiers to objects (the multi-tiered hierarchy), while noting that most multi-tier hierarchies begin with binary categorization. I identified and analyzed two classifications of the Arctic as a foreign policy priority – "strategic new frontier" and "important maritime interest," each of which is the result of different forms of categorization, and which describe a different type of importance.

The Role of Experts in the Chinese Policy Process

The thesis contributed to three strands of literature on the influence of experts and expertise on the Chinese policy process. The literature on Chinese think tanks has enlightened us on the institutionalized channels for producing and transferring policy advice to decisionmakers. The literature on the influence of academics and academic literature in China has shown how academics who manage to get the attention of elite leaders may have their ideas picked up and turned into policy, and how this may play out in a very public way. The FA literature has instead focused on the structural conditions that allow policy entrepreneurs entry points into the policy process, and how they make use of experts and expertise to build more convincing cases for their policy proposals.

My research has viewed experts as policy entrepreneurs in their own right, capable of pursuing policies in which they have interests. In particular, I have argued that experts influence policy through categorization. Certain types of categories in certain types of sectors are especially open and conducive to the participation of experts, who possess the technical knowledge needed to shape their content. And while the literature on celebrity academics have found that academics can influence policy by means of categorization in policy areas with much public attention, such as rural development and ethnic policy, I have shown how this happens also in fields that are much less public and much more specialized, that is plays out in processes that are more bureaucratic and systematic, and that it can produce categories that are more open and fluid.

5.5. FUTURE RESEARCH

The subject of what is driving Chinese engagement in Arctic mining and mineral exploration projects is incredibly complex. While this study has helped improve our understanding of the overall research problem, and of several topics relating to this problem, there are other topics that I have only begun to scratch the surface of. One such topic concerns the role and relative weight of geostrategic incentive and mineral demand in influencing investment decisions in different projects. While the findings of this study have suggested that the geostrategic incentive may be considerable for some projects, not least in Greenland, further studies are needed to gain a more comprehensive understanding of how this influences companies. In particular, to identify patterns and relationships more clearly, there is a need for studies based on a more comprehensive number of cases in different parts of the Arctic. And relatedly, while some claim that Chinese firms have “locked up supplies” of strategically important raw materials around the world, little is known about the degree to which their activities are actually aligned with Chinese official strategies and policies. Another topic concerns the scale and scope of Chinese engagement in Arctic mining and mineral exploration projects. Research on Chinese mining in Africa has dealt with this question. However, despite Arctic resource extraction supposedly being an important component of China’s goal of becoming a “Polar Great Power,” little is known about the actual magnitude of Chinese engagement in Arctic mining

operations, and the impact of these activities on the global supply chains of critical raw materials.

LITERATURE LIST

Abb, Pascal (2015) China's foreign policy think tanks: institutional evolution and changing roles. *Journal of Contemporary China* 24(93): 531-53.

Abb, Pascal and Patrick Koellner (2015) Foreign policy think tanks in China and Japan: characteristics, current profile, and the case of collective self-defence. *International Journal* 70(4): 593-612.

Ahrens, Nathaniel (2013) China's industrial policymaking process. CSIS. Available at: https://www.csis.org/analysis/china%E2%80%99s-industrial-policymaking-process (accessed 14 July 2021).

Allan, Iona M. (2019) *Arctic Narratives And Political Values: Arctic States, China And NATO*. Riga: NATO StratCom COE.

Alsabah, Nabil (2016) Around the world in 1,000 days: Xi's superpower diplomacy in practice. MERICS. Available at: https://merics.org/en/short-analysis/around-world-1000-days (accessed 17 May 2021).

Auerswald, David P. (2020) Arctic narratives and geopolitical competition. In: Joachim Weber (ed.) *Handbook on Geopolitics and Security in the Arctic: The High North Between Cooperation and Confrontation*. Cham, Switzerland: Springer.

Austin, John Langshaw (1975) *How to Do Things with Words* (2nd ed.). Oxford: Oxford University Press.

Bachman, David (1998) Structure and process in the making of Chinese foreign policy. In: Samuel S. Kim (ed.) *China and the World: Chinese Foreign Policy Faces the New Millennium*. Boulder: Westview.

Balzacq, Thierry (2011) *Understanding Securitisation Theory: How Security Problems Emerge and Dissolve*. London: Routledge.

Barnett, A Doak (1974) *Uncertain Passage: China's Transition to the Post-Mao Era*. Washington: Brookings.

Barteková, Eva and Rene Kemp (2016) Critical raw material strategies in different world regions. *UNU-MERIT Working Paper Series* 2016-005.

Baum, Richard (1993) The road to Tiananmen: Chinese politics in the 1980s. In: Roderick MacFarquhar (ed.) *The politics of China: The eras of Mao and Deng*. Cambridge: Cambridge University Press.

Baumgartner, Frank R and Bryan D Jones (1993) *Agendas and instability in American politics*. Chicago: University of Chicago Press.

Béja, Jean-Philippe (2019) Xi Jinping's China: on the road to neo-totalitarianism. *Social Research: An International Quarterly* 86(1): 203-30.

Bennett, Mia M (2015) How China sees the Arctic: reading between extraregional and intraregional narratives. *Geopolitics* 20(3): 645-68.

Bigo, Didier (2002) Security and immigration: toward a critique of the governmentality of unease. *Alternatives: Global, Local, Political* 27: 63-92.

Blackwill, Robert D and Kurt M Campbell (2016) *Xi Jinping on the global stage: Chinese foreign policy under a powerful but exposed leader. Council special report No. 74*. Council on Foreign Relations Press.

Boje, David M (1991) The storytelling organization: a study of story performance in an office-supply firm. *Administrative science quarterly* 36(1): 106-26.

——— (2019) "Storytelling organization" is being transformed into discourse of "digital organization". *M@n@gement* 22(2): 336-56.

Bowker, Geoffrey C and Susan L Star (2000) *Sorting Things Out: Classification and its Consequences*. Cambridge, Mass.: MIT press.

Brady, Anne-Marie (2017) *China as a Polar Great Power*. Cambridge: Cambridge University Press.

Brittingham, Michael A (2007) The "role" of nationalism in Chinese foreign policy: A reactive model of nationalism & conflict. *Journal of Chinese Political Science* 12(2): 147-66.

Bryman, Alan (2012) *Social Research Methods* (4th ed.). Oxford: Oxford University Press.

Brødsgaard, Kjeld Erik (ed.). 2016. *Chinese Politics as Fragmented Authoritarianism: Earthquakes, Energy and Environment.* Abingdon/New York: Routledge.

Buzan, Barry, Ole Wæver and Jaap De Wilde (1998) *Security: A New Framework for Analysis*. Boulder/London: Lynne Rienner Publishers.

Cabestan, Jean-Pierre (2019) Beijing's 'going out' strategy and belt and road initiative in the Sahel: The case of China's growing presence in Niger. *Journal of Contemporary China* 28(118): 592-613.

Cáceres, Sigfrido B and Sophal Ear (2013) *The Hungry Dragon: How China's Resource Quest is Reshaping the World*. London/New York: Routledge.

Cai, Xia (2021) China-US relations in the eyes of the Chinese Communist Party: an insider's perspective. Hoover Institution. Available at: https://www.hoover.org/research/china-us-relations-eyes-chinese-communist-party-insiders-perspective-zhong-gong-yan-zhong (accessed 25 August 2021).

Campbell, Caitlin (2013) China and the Arctic: objectives and obstacles. US-China Economic and Security Review Commission. Available at: https://www.uscc.gov/research/china-and-arctic-objectives-and-obstacles (accessed 29 July 2021).

Christou, Odysseas and Constantinos Adamides (2013) Energy securitization and desecuritization in the New Middle East. *Security dialogue* 44(5-6): 507-22.

Collier, Stephen J. and Andrew Lackoff (2008) The vulnerability of vital systems: how 'critical infrastructure' became a security problem. In: Myriam Anna Dunn and Kristian Søby Kristensen (ed.) *Securing the Homeland: Critical Infrastructure, Risk and (In)security*. Oxfordshire: Routledge.

Conley, Heather A (2018) *China's Arctic Dream*. Washington DC: Center for Strategic & International Studies.

Crookes, Paul I (2013) Resetting EU–China relations from a values-based to an interests-based engagement. *International Politics* 50(5): 639–63.

Crowhurst, Isabel and Madeleine Kennedy-Macfoy (2013) Troubling gatekeepers: methodological considerations for social research. *International Journal of Social Research Methodology* 16(6): 457-62.

CSIS (2021) What do overseas visits reveal about China's foreign policy priorities? CSIS. Available at: https://chinapower.csis.org/diplomatic-visits/ (accessed 12 May 2021).

Dahinden, Janine, Carolin Fischer and Joanna Menet (2020) Knowledge production, reflexivity, and the use of categories in migration studies: tackling challenges in the field. *Ethnic and Racial Studies*: 1-20.

Downs, Erica (2014) Whatever became of China, Inc.? *China Economic Quarterly* (June 2014): 22-28.

Du, Julan and Yifei Zhang (2018) Does One Belt One Road initiative promote Chinese overseas direct investment? *China Economic Review* 47: 189-205.

Dunn Cavelty, Myriam and Kristian Søby Kristensen (ed.). 2008. *Securing 'The Homeland': Critical Infrastructure, Risk and (In)security.* Oxfordshire: Routledge.

EC (2006) Communication from the Commission on a European programme for critical infrastructure protection. European Commission. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52006DC0786&from=EN (accessed 6 October 2021).

——— (2008) Communication from the Commission to the European Parliament and the Council—The Raw Materials Initiative: meeting our critical needs for growth and jobs in Europe {SEC(2008) 2741}. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0699 (accessed 1 November 2019).

——— (2017) 2017 list of Critical Raw Materials for the EU. Available at: https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-490-F1-EN-MAIN-PART-1.PDF (accessed 5 February 2019).

——— (2020) Critical Raw Materials resilience: charting a path towards greater security and sustainability. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0474 (accessed 6 May 2021).

Economy, Elizabeth and Michael Levi (2014) *By All Means Necessary: How China's Resource Quest is Changing the World*. New York: Oxford University Press.

Ericsson, Magnus, Olof Löf and Anton Löf (2020) Chinese control over African and global mining—past, present and future. *Mineral Economics* 33(1): 153-81.

Feng, Huiyun, Kai He and Xuetong Yan (ed.). 2019. *Chinese Scholars and Foreign Policy: Debating International Relations.* London/New York: Routledge.

Feng, Zhongping and Jing Huang (2014) China's strategic partnership diplomacy: engaging with a changing world. European Strategic Partnerships Observatory. *ESPO Working Paper No. 8*.

Fisher, Jonathan and David M Anderson (2015) Authoritarianism and the securitization of development in Africa. *International Affairs* 91(1): 131-51.

Fishman, Ted (2005) *China, Inc.: How the Rise of the Next Superpower Challenges America and the World*. New York: Simon and Schuster.

FP (2019) Mining the Future: How China is Set to Dominate the Next Industrial Revolution. Available at: https://foreignpolicy.com/2019/05/01/mining-the-future-china-critical-minerals-metals/ (accessed 7 May 2019).

Frenzel, Max, Jakob Kullik, Markus A Reuter, Jakob Kullik and Jens Gutzmer (2017) Raw material 'criticality'—sense or nonsense? *Journal of Physics D: Applied Physics* 50(12): 1-18.

Friedberg, Aaron L (2011) *A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia*. New York/London: W.W. Norton & Company.

Gabriel, Yiannis (2000) *Storytelling in Organizations: Facts, fictions, and fantasies*. Oxford: Oxford University Press.

Garlick, Jeremy (2018) Deconstructing the China–Pakistan economic corridor: pipe dreams versus geopolitical realities. *Journal of Contemporary China* 27(112): 519-33.

Gervits, Felix, Megan Johanson and Anna Papafragou (2016) Intentionality and the role of labels in categorization. *Proceedings from the 38th Annual Meeting of the Cognitive Science Society*.

Gill, Bates and James Mulvenon (2002) Chinese military-related think tanks and research institutions. *The China Quarterly* (171): 617-24.

Glöser, Simon, Luis Tercero Espinoza, Carsten Gandenberger and Martin Faulstich (2015) Raw material criticality in the context of classical risk assessment. *Resources Policy* 44: 35-46.

Golev, Artem, Margaretha Scott, Peter D Erskine, Saleem H Ali and Grant R Ballantyne (2014) Rare earths supply chains: current status, constraints and opportunities. *Resources Policy* 21(1): 52-59.

GPPI (2021) Free universities: putting the academic freedom index into action. Global Public Policy Institute. Available at: https://www.gppi.net/media/KinzelbachEtAl_2021_Free_Universities_AFi-2020.pdf (accessed 29 October 2021).

Grieger, Gisela (2018) *China's Arctic Policy: How China Aligns Rights and Interests*. Brussels: European Parliamentary Research Service.

Gupta, Rukmani (2012) China's national interests: exploring the domestic discourse. *Strategic Analysis* 36(5): 804-18.

Hamrin, Carol L, Suisheng Zhao and A Doak Barnett (ed.). 1995. *Decision-making in Deng's China: perspectives from insiders.* New York/London: M.E. Sharpe.

Hansen, Mette Halskov (2006) In the footsteps of the Communist Party: dilemmas and strategies. In: Maria Heimer and Stig Thøgersen (ed.) *Doing fieldwork in China*. Copenhagen: NIAS Press.

Harding, Harry (1981) *Organizing China: The Problem of Bureaucracy, 1949-1976*. Stanford: Stanford University Press.

Harris, Stuart (2014) *China's Foreign Policy*. Cambridge: Polity Press.

Hayes, Sarah M and Erin A McCullough (2018) Critical minerals: A review of elemental trends in comprehensive criticality studies. *Resources Policy* 59: 192–99.

Hayward, Jane (2018) The rise of China's new-type think tanks and the internationalization of the state. *Pacific Affairs* 91(1): 27-47.

Herrnstein, Richard J and Donald H Loveland (1964) Complex visual concept in the pigeon. *Science* 146(3643): 549-51.

Hu, Yongda 胡永达 (2016) 我国重要矿产资源战略性评价 [Assessment of the Strategic-ness of Important Minerals in China]. *地质论评 [Geological Review]* 62(11): 103-04.

Humprheys, David (1995) Whatever happened to security of supply? Minerals policy in the post-Cold War world. *Resources Policy* 21(2): 91-97.

Ikenberry, G John (2008) The rise of China and the future of the West: can the liberal system survive? *Foreign Affairs* 87(1): 23-37.

Jacobs, Dirk (2018) Categorising what we study and what we analyse, and the exercise of interpretation. In: Ricard Zapata-Barrero and Evren Yalaz (ed.) *Qualitative Research in European Migration Studies*. Cham: Springer.

Jakobson, Linda (2013) China wants to be heard on Arctic issues. *Global Asia* 8(4): 98-101.

——— (2016) Domestic actors and the fragmentation of China's foreign policy. In: Robert S Ross and Jo Inge Bekkevold (ed.) *China in the Era of Xi Jinping: Domestic and Foreign Policy Challenges*. Washington, D.C.: Georgetown University Press.

Jakobson, Linda and Dean Knox (2010) *New Foreign Policy Actors in China (SIPRI policy paper 26)*. Solna, Sweden: Stockholm International Peace Research Institute.

Jakobson, Linda and Ryan Manuel (2016) How are foreign policy decisions made in China? *Asia & the Pacific Policy Studies* 3(1): 101-10.

Jakobson, Linda and Jingchao Peng (2012) *China's Arctic Aspirations (SIPRI policy paper 34)*. Solna, Sweden: Stockholm International Peace Research Institute.

Ji, Fengyuan (2004) *Linguistic Engineering: Language and Politics in Mao's China*. Honolulu: University Of Hawai'i Press.

——— (2019) The power of words: labels and their consequences in Mao's China (1949-1976). In: Giulia Bassi (ed.) *Words of Power, the Power of Words: The Twentieth-Century Communist Discourse in International Perspective*. Trieste: Edizioni Università di Trieste.

Kalvig, Per and Hans Lucht (2021) Greenland's minerals to consolidate China's rare earth dominance? DIIS Policy Brief (February 2021). Available at: https://pure.diis.dk/ws/files/4108598/DIIS_PB_Greenland_WEB_locked.pdf (accessed 4 May 2021).

Kang, Xiaoguang (2018) Moving toward neo-totalitarianism: a political-sociological analysis of the evolution of administrative absorption of society in China. *Nonprofit Policy Forum* 9(1): 1-8.

Kastner, Scott L and Phillip C Saunders (2012) Is China a status quo or revisionist state? Leadership travel as an empirical indicator of foreign policy priorities. *International Studies Quarterly* 56(1): 163-77.

Kaufman, Alison A and Daniel M Hartnett (2016) Managing conflict: Examining recent PLA writings on escalation control. Center for Naval Analyses. Available at: https://apps.dtic.mil/sti/pdfs/AD1005033.pdf (accessed 13 July 2021).

Kent, Ann E (2001) China's participation in international organisations. In: Yongjin Zhang and Greg Austin (ed.) *Power and Responsibility in Chinese Foreign Policy*. Canberra: Asia Pacific Press.

Kingdon, John W (1984) *Agendas, Alternatives, and Public Policies*. Boston: Little, Brown.

Klinger, Julie Michelle (2018) Rare earth elements: development, sustainability and policy issues. *The Extractive Industries and Society* 5(1): 1-7.

Kluver, Alan R (1996) *Legitimating the Chinese Economic Reforms: A Rhetoric of Myth and Orthodoxy*. SUNY Press.

Lackenbauer, P Whitney, Adam Lajeunesse, Frederic Lasserre and James Manicom (2018) *China's Arctic Ambitions and What They Mean for Canada*. Calgary: University of Calgary Press.

Lam, Willy Wo-Lap (2015) *Chinese Politics in the Era of Xi Jinping: Renaissance, Reform, or Retrogression?* Abingdon/New York: Routledge.

Lampton, David M (1987) Chinese politics: the bargaining treadmill. *Issues and Studies* 23(3): 11–41.

Lanteigne, Marc (2014) *China's Emerging Arctic Strategies: Economics and Institutions*. Reykjavík: University of Iceland Press.

——— (2019) *Chinese foreign policy: an introduction*. Routledge.

Leibold, James (2013) *Ethnic Policy in China: Is Reform Inevitable?* Honolulu: East-West Center.

——— (2015) China's ethnic policy under Xi Jinping. *China Brief* 15(20): 6-10.

Leverett, Flynt and Bingbing Wu (2017) The New Silk Road and China's evolving grand strategy. *The China Journal* 77(1): 110-32.

Li, Cheng (2016) *Chinese Politics in the Xi Jinping Era: Reassessing Collective Leadership*. Washington, D.C.: Brookings Institution Press.

Li, Haibin and Dongtao Qi (2018) The new-type think tanks with Chinese characteristics: development and challenges. *China: An International Journal* 16(2): 3-11.

Li, Shaomin and Matthew Farrell (2020) The emergence of China, Inc.: behind and beyond the trade war. *International Journal of Emerging Markets* 16(4): 745-64.

Li, Xianhai, Dan Wang and Shangkun Wu (2014) 我国战略性矿产资源评价指标选择: 基于美国、欧盟等关键矿产名录的思考” [Selection of Evaluation Indicators for Strategic Mineral Resources in China: Reflections Based on the Lists of Critical Minerals by the United States and the European Union]. *中国矿业 [China Mining Magazine]* (4): 30-33.

Lieberthal, Kenneth G and David M Lampton (ed.). 1992. *Bureaucracy, Politics, and Decision Making in Post-Mao China*. Berkely/Los Angeles/Oxford: University of California Press.

Lieberthal, Kenneth and Michel Oksenberg (1988) *Policy Making in China: Leaders, Structures, and Processes*. Princeton, New Jersey: Princeton University Press.

Link, Eugene Perry (1993) *Evening Chats in Beijing: Probing China's Predicament*. WW Norton & Company.

Lulu, Jichang [a pseudonym] (2018) Icy Xi-speak and northerly exoprop: the Arctic white paper. Blog post. Available at: https://jichanglulu.wordpress.com/2018/02/02/icy-xi-speak-and-northerly-exoprop-the-arctic-white-paper/ (accessed 11 March 2021).

Ma, Degong, Chun Lei, Farid Ullah, Raza Ullah and Qadar Bakhsh Baloch (2019) China's one belt and one road initiative and outward Chinese foreign direct investment in Europe. *Sustainability* 11(24): 7055.

MacFarquhar, Roderick (1974) *The Origins of the Cultural Revolution* (Volume 1). New York: Colombia University Press.

Machacek, Erika (2017) Constructing criticality by classification: expert assessments of Mineral raw materials. *Geoforum* 84: 368-77.

Mancheri, Nabeel A, Benjamin Sprecher, Gwendolyn Bailey, Jianping Ge and Arnold Tukker (2019) Effect of Chinese policies on rare earth supply chain resilience. *Resources, Conservation & Recycling* 142: 101–12.

Marsh, Christopher (2003) Learning from your comrade's mistakes: the impact of the Soviet past on China's future. *Communist and Post-Communist Studies* 36(3): 259-72.

Martin, Miguel (2018) China in Greenland: mines, science, and nods to independence. *China Brief* 18(4): 14-17.

Massari, Stefania and Marcello Ruberti (2013) Rare earth elements as critical raw materials: focus on international markets and future strategies. *Resources Policy* 38(1): 36-43.

McCurry, Justin (2010) Japan-China row escalates over fishing boat collision. Available at: https://www.theguardian.com/world/2010/sep/09/japan-china-fishing-boat-collision (accessed 7 November 2019).

McLaughlin, Timothy (2021) How academic freedom ends. The Atlantic. Available at: https://www.theatlantic.com/international/archive/2021/06/china-hong-kong-freedom/619088/ (accessed 29 October 2021).

Mearsheimer, John J (2010) The gathering storm: China's challenge to US power in Asia. *The Chinese Journal of International Politics* 3(4): 381-96.

Medeiros, Evan S (2009) *China's international behavior: activism, opportunism, and diversification*. Santa Monica, California: RAND Corporation.

Mertha, Andrew C (2008) *China's Water Warriors: Citizen Action and Policy Change*. Ithaca, New York: Cornell University Press.

——— (2009) "Fragmented authoritarianism 2.0": political pluralization in the Chinese policy process. *The China Quarterly* 200: 995-1012.

Miller, Alice (2014) More already on the central committee's leading small groups. *China Leadership Monitor* 44: 1-8.

——— (2015) The 18th Central Committee Leadership with Comrade Xi Jinping as General Secretary. *China Leadership Monitor* (48): 1–15.

Mohr, Johannes (2020) China in the Arctic and the case of Greenland. In: Joachim Weber (ed.) *Handbook on Geopolitics and Security in the Arctic: The High North Between Cooperation and Confrontation*. Cham: Springer.

Munk, Tine Højsgaard (2015) *Cyber-security in the European Region: Anticipatory Governance and Practices*. (doctoral dissertation, The University of Manchester, United Kingdom).

Nathan, Andrew J (2016) Domestic factors in the making of Chinese foreign policy. *China Report* 52(3): 179-91.

Naughton, Barry (2002) China's economic think tanks: their changing role in the 1990s. *The China Quarterly* 171: 625-35.

NIAS (2021) AsiaPortal: A Nordic information resource portal for Asian studies. NIAS. Available at: https://www.asiaportal.info/ (accessed 25 November 2021).

Ning, Lu (1997) *The Dynamics of Foreign-policy Decision Making in China*. Boulder, Colorado: Westview Press.

NSTC (2016) Assessment of critical minerals: screening methodology and initial application. Available at: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/NSTC/csmsc_assessment_of_critical_minerals_report_2016-03-16_final.pdf (accessed 4 October 2021).

Nugent, Jeffrey B and Jiaxuan Lu (2021) China's outward foreign direct investment in the Belt and Road Initiative: What are the motives for Chinese firms to invest? *China Economic Review* 68: 101628.

Nye, Joseph S (2020) Power and interdependence with China. *The Washington Quarterly* 43(1): 7-21.

Nykänen, Tapio (2017) A common heritage: the place of the Arctic in the Chinese and Finnish discourses. In: Timo Koivurova, Tianbao Qin, Tapio Nykänen and Sébastien Duyck (ed.) *Arctic Law and Governance: The Role of China, Finland and the EU*. Oxford: Hart Publishing.

O'Brien, Kevin J (2006) Discovery, research (re)design and theory building. In: Maria Hedin and Stig Thøgersen (ed.) *Doing fieldwork in China*. Copenhagen: NIAS Press.

O'Brien, Kevin J and Lianjiang Li (1999) Selective policy implementation in rural China. *Comparative Politics* 31(2): 167-86.

O'Brien, Kevin J. (1996) Rightful resistance. *World Politics* 49(1): 31-55.

——— (2013) Rightful resistance revisited. *Journal of Peasant Studies* 40(6): 1051-62.

Olson, Stephen and Clyde Prestowitz (2011) The evolving role of China in international institutions. The Economic Strategy Institute. Available at:

https://www.uscc.gov/sites/default/files/Research/TheEvolvingRoleofChinainInternationalInstitutions.pdf (accessed 18 May 2021).
PCCIP (1997) President's commission on critical infrastructure protection: Overview briefing. Available at: https://www.hsdl.org/?view&did=487492 (accessed 6 October 2021).
Pei, Minxin (2016) China's rule of fear. Project Syndicate. Available at: https://www.project-syndicate.org/commentary/china-fear-bureaucratic-paralysis-by-minxin-pei-2016-02 (accessed 25 August 2021).
——— (2021) China: Totalitarianism's long shadow. *Journal of Democracy* 32(2): 5-21.
Pye, Lucian (1981) *The Dynamics of Chinese Politics*. Cambridge: Oelgeschlager, Gunn, and Hain.
Robinson, Thomas W and David L Shambaugh (ed.). 1995. *Chinese Foreign Policy: Theory and Practice.* New York: Oxford University Press.
Rozman, Gilbert (ed.). 2013. *China's Foreign Policy: Who Makes It, and How Is It Made?* New York: Palgrave Macmillan.
Rubin, Olivier and Erik Bækkeskov (2020) Expert-led securitization: The case of the 2009 pandemic in Denmark and Sweden. *Politics and Governance* 8(4): 319-30.
Sæther, Elin (2006) Fieldwork as coping and learning. In: Maria Heimer and Stig Thøgersen (ed.) *Doing fieldwork in China*. Copenhagen: NIAS Press.
Salidjanova, Nargiza (2011) *Going out: An Overview of China's Outward Foreign Direct Investment*. Washington, DC: US-China Economic and Security Review Commission.
Schoenhals, Michael (1992) *Doing Things with Words in Chinese Politics: Five Studies* 41. Institute of East Asian Studies, University of California, Berkeley.
Schrijvers, Dieuwertje, Alessandra Hool, Gian Andrea Blengini, Wei-Qiang Chen, Jo Dewulf, Roderick Eggert, Layla van Ellen, Roland Gauss, James Goddin and Komal Habib (2020) A review of methods and data to determine raw material criticality. *Resources, Conservation and Recycling* 155: 104617.
SCIO (2018) China's Arctic Policy. Available at: http://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm (accessed 21 February 2020).
Scrafton, Mike (2018) Grand strategy: all along the polar silk road. Australian Strategic Policy Institute. Available at: https://www.aspistrategist.org.au/grand-strategy-along-polar-silk-road/ (accessed 13 July 2021).
Shambaugh, David L (2002) China's international relations think tanks: evolving structure and process. *The China Quarterly* (171): 575-96.
——— (2013) *China Goes Global: The Partial Power*. New York: Oxford University Press.
Shambaugh, David L. (2008) *China's Communist Party: Atrophy and Adaptation*. Berkeley, Calif: Woodrow Wilson Center Press.

——— (2016) *China's Future* (first edition). Cambridge: Polity.
Shen, Yuzhou, Ruthann Moomy and Roderick G Eggert (2020) China's public policies toward rare earths, 1975–2018. *Mineral Economics* 33: 127-51.
Shettleworth, Sara J. (2009) *Cognition, Evolution, and Behavior*. New York: Oxford University Press.
Smith, Graeme (2009) Political machinations in a rural county. *The China Journal* (62): 29-59.
——— (2010) The hollow state: rural governance in China. *The China Quarterly* (203): 601-18.
Spicker, Paul (2009) What is a priority? *Journal of health services research & policy* 14(2): 112-16.
State Council (2016) 全国矿产资源规划 (2016-2020 年) [National Mineral Resources Plan (2016-2020)]. Available at: http://www.cgs.gov.cn/tzgg/tzgg/201612/W020161206616104236819.doc (accessed 5 February 2019).
Stittle, John (2003) *Annual Reports: Delivering your Corporate Message to Stakeholders*. Gower Publishing.
Strüver, Georg (2017) China's partnership diplomacy: international alignment based on interests or ideology. *The Chinese Journal of International Politics* 10(1): 31-65.
Su, Ping and Marc Lanteigne (2015) China's developing Arctic policies: myths and misconceptions. *Journal of China and International Relations* 3(1): 1-25.
Svensson, Marina and Eva Pils (2019) Academic freedom: universities must take a stance or risk becoming complicit with Chinese government interference. The Conversation. Available at: https://theconversation.com/academic-freedom-universities-must-take-a-stance-or-risk-becoming-complicit-with-chinese-government-interference-118001 (accessed 29 October 2021).
Swaine, Michael D (2010) China's assertive behavior: part one: on "core interests". *China Leadership Monitor* (34): 1-25.
——— (2013) Chinese views regarding the Senkaku/Diaoyu Islands dispute. *China Leadership Monitor* 41: 1-27.
Sørensen, Camilla T. N. (2018) China is in the Arctic to stay as a great power: how China's increasingly confident, proactive and sophisticated Arctic diplomacy plays into Kingdom of Denmark tensions. In: Heather Exner-Pirot and Lassi Heininen (ed.) *Arctic Yearbook 2018: Special Section on China & the Arctic*. Akureyri, Iceland: Northern Research Forum.
——— (2019) Intensifying U.S.-China security dilemma dynamics play out in the Arctic: Implications for China's Arctic strategy. In: Lassi Heininen, Heather Exner-Pirot and Justin Barnes (ed.) *Arctic Yearbook 2019*. Akureyri, Iceland: Northern Research Forum.
Têtu, Pierre-Louis and Frédéric Lasserre (2017) Chinese investment in Greenland's mining industry: toward a new framework for foreign direct investment. *The Extractive Industries and Society* 4(3): 661-71.

The White House (2003) National strategy for combating terrorism. Available at: https://www.gutenberg.org/cache/epub/29185/pg29185-images.html (accessed 22 October 2021).
Thunø, Mette (2006) In the 'field' together: potentials and pitfalls in collaborative research. In: Maria Heimer and Stig Thøgersen (ed.) *Doing fieldwork in China*. Copenhagen: NIAS Press.
Thøgersen, Stig (2009) Revisiting a dramatic triangle: the state, villagers, and social activists in Chinese rural reconstruction projects. *Journal of Current Chinese Affairs* 38(4): 9–33.
Turner, Stephen (2001) What is the problem with experts? *Social studies of science* 31(1): 123-49.
US DOS (2019) Looking north: sharpening America's Arctic focus. Available at: https://www.state.gov/looking-north-sharpening-americas-arctic-focus/
US Public Laws (2019) Strategic and Critical Materials Stock Piling Act. Chapter 190, enacted June 7, 1939. Available at: http://legcounsel.house.gov
USDOE (2021) Critical minerals and materials: U.S. Department of Energy's strategy to support domestic critical mineral and material supply chains (FY 2021-FY 2031). Available at: https://www.energy.gov/sites/prod/files/2021/01/f82/DOE%20Critical%20Minerals%20and%20Materials%20Strategy_0.pdf (accessed 6 October 2021).
USGS (2008) Circum-Arctic resource appraisal: estimates of undiscovered oil and gas north of the Arctic Circle. Available at: https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf (accessed 29 October 2021).
——— (2018) Interior releases 2018's final list of 35 minerals deemed critical to U.S. national security and the economy. Available at: https://www.usgs.gov/news/interior-releases-2018-s-final-list-35-minerals-deemed-critical-us-national-security-and (accessed 5 February 2019).
USNRC (2008) *Minerals, Critical Minerals, and the US Economy*. Washington, D.C.: National Academies Press.
Vaara, Eero and Janne Tienari (2011) On the narrative construction of multinational corporations: an antenarrative analysis of legitimation and resistance in a cross-border merger. *Organization science* 22(2): 370-90.
Vaughan, William (1988) Formation of equivalence sets in pigeons. *Journal of Experimental Psychology: Animal Behavior Processes* 14(1): 36-42.
Villumsen Berling, Trine (2011) Science and securitization: objectivation, the authority of the speaker and mobilization of scientific facts. *Security dialogue* 42(4-5): 385-97.
Vuori, Juha A (2008) Illocutionary logic and strands of securitization: applying the theory of securitization to the study of non-democratic political orders. *European journal of international relations* 14(1): 65-99.
——— (2011) *How to do Security with Words. A Grammar of Securitisation in the People's Republic of China*. Turku: University of Turku.

Wæver, Ole (1989) *Security, the Speech Act: Analysing the Politics of a Word*. (Working Paper no. 19.) Copenhagen: Centre for Peace and Conflict research.

Wang, Hongying and Xue Ying Hu (2017) The new great leap forward: think tanks with Chinese characteristics. CIGI Papers No. 172. Available at: https://www.cigionline.org/publications/new-great-leap-forward-think-tanks-chinese-characteristics/ (accessed 13 July 2021).

Wang, Shaosong and Weihua A Liu. 2020. "The Belt and Road Initiative's Impact on China's Outward Foreign Direct Investment." In *The 3rd International Conference on Economy, Management and Entrepreneurship (ICOEME 2020)*, 462-66. Atlantis Press.

Wilczak, Jessica (2020) Leveraging land values for rural development in China after the Sichuan earthquake. *China Information* 34(2): 229-49.

Woon, Chih Yuan (2020) Framing the "Polar Silk Road"(冰上丝绸之路): critical geopolitics, Chinese scholars and the (re)positionings of China's Arctic interests. *Political Geography* 78: 1-10.

Wright, David C (2013) China's growing interest in the Arctic. *Journal of Military & Strategic Studies* 15(2): 50-70.

——— (2018) The dragon and great power rivalry at the top of the world: China's hawkish, revisionist voices within mainstream discourse on Arctic affairs. Canadian Global Affairs Institute. Available at: https://www.cgai.ca/the_dragon_and_great_power_rivalry_at_the_top_of_the_world (accessed 13 July 2021).

Wuthnow, Joel and Dingding Chen (2021) China's 'new-type' private think tanks: is 'new' better? *Journal of Chinese Political Science* 26: 373-91.

Wübbeke, Jost (2013a) China's climate change expert community: principles, mechanisms and influence. *Journal of Contemporary China* 22(82): 712-31.

——— (2013b) Rare earth elements in China: policies and narratives of reinventing an industry. *Resources Policy* 38: 384–94.

——— (2015) China's rare earth industry and end-use: supply security and innovation. In: Ryan David Kiggins (ed.) *The Political Economy of Rare Earth Elements: Rising Powers and Technological Change*. New York: Palgrave Macmillan.

Xinhua (2020) China to expand investment in eight emerging industries. Xinhua. Available at: http://www.xinhuanet.com/english/2020-09/23/c_139391545.htm#:~:text=The%20eight%20strategic%20emerging%20industries,protection%20industry%2C%20and%20digital%20creative

Xu, Jin (2016) Debates in IR academia and China's policy adjustments. *The Chinese Journal of International Politics* 9(4): 459-85.

Xu, Yi-Chong (2014) Chinese state-owned enterprises in Africa: ambassadors or freebooters? *Journal of Contemporary China* 23(89): 822-40.

Xu, Zhao (2009) The Unirule Institute of Economics. *Zeitschrift für Politikberatung* 2(4): 649-56.

Yi, Jiahui, Sheng Dai, Jinhua Cheng, Qiaosheng Wu and Kailei Liu (2021) Production quota policy in China: implications for sustainable supply capacity of critical minerals. *Resources Policy* 72: 1-12.

Yu, Shu, Xingwang Qian and Taoxiong Liu (2019) Belt and Road Initiative and Chinese firms' outward foreign direct investment. *Emerging Markets Review* 41: 1-22.

Zeng, Jinghan, Yuefan Xiao and Shaun Breslin (2015) Securing China's core interests: the state of the debate in China. *International Affairs* 91(2): 245-66.

Zepf, Volker (2013) *Rare Earth Elements: A New Approach to the Nexus of Supply, Demand and Use: Exemplified along the Use of Neodymium in Permanent Magnets*. Berlin Heidelberg: Springer.

Zeuthen, Jesper W (2017) Part of the master plan? Chinese investment in rare earth mining in Greenland. In: Lassi Heininen, Heather Exner-Pirot and Joël Plouffe (ed.) *Arctic Yearbook 2017*. Akureyri, Iceland: Northern Research Forum.

Zeuthen, Jesper W and Malayna Raftopoulos (2018) Promises of hope or threats of domination: Chinese mining in Greenland. *The Extractive Industries and Society* 5(1): 122-30.

Zhang, Yifei and Heyang Fang (2020) Does China's overseas lending favor the One Belt One Road countries? Social Science Research Network. Available at: https://ssrn.com/abstract=3508589 (accessed 30 May 2021).

Zhao, Quansheng (1992) Domestic factors of Chinese foreign policy: from vertical to horizontal authoritarianism. *The ANNALS of the American Academy of Political and Social Science* 519(1): 158-75.

——— (2006) Epistemic community, intellectuals, and Chinese foreign policy. *Policy and Society* 25(1): 39-59.

Zhao, Suisheng (2013) Foreign policy implications of Chinese nationalism revisited: the strident turn. *Journal of Contemporary China* 22(82): 535-53.

——— (ed.). 2016. *The Making of China's Foreign Policy in the 21st Century: Historical Sources, Institutions/players, and Perceptions of Power Relations.* Abingdon/New York: Routledge.

Zhao, Taotao and Sow Keat Tok (2021) From academic discourse to political decisions? The case of the Xinjiang ethnic unity education textbook reform. *The China Quarterly* 245: 165-85.

Zhou, Le and Jianping Ge (2021) Estimating the environmental cost of mixed rare earth production with willingness to pay: a case study in Baotou, China. *The Extractive Industries and Society* 8(1): 340-54.

Zhu, Liqun (2010) China's foreign policy debates. European Union Institute for Security Studies. Available at: https://www.iss.europa.eu/sites/default/files/EUISSFiles/cp121-China_s_Foreign_Policy_Debates_0.pdf (accessed 12 May 2021).

Zhu, Xufeng (2009) The influence of think tanks in the Chinese policy process: different ways and mechanisms. *Asian Survey* 49(2): 333-57.

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Appendix A. Conversation guide samples

A1. Conversation guide: conversation with a Chinese resource strategist

Note: The meeting was conducted primarily in Chinese. English was used occasionally for clarification. The questions and discussion points below have been freely translated from Chinese into English by the author.

Prior to talk

Self-introduction

a) Name, affiliations, background
b) Brief introduction of my project

Questions

China's mineral needs and strategic minerals

2. Concerning China's demand for different types of minerals:
    a) Which minerals are most urgently needed in China today, and why?
    b) How does China define and determine what minerals are most urgently needed?
    c) Once the most urgently needed minerals have been identified – how does China ensure that they are mined (what are the different policies for ensuring that they are mined)?

3. What are Chinese strategies/policies towards resource extraction in different countries?
4. The EU has a concept of Critical Raw Materials (CRMs), i.e., raw materials that are considered to be of great importance for the European economy, green technologies and subject to high supply risk – what concepts of mineral criticality does China have?

Concerning China's concept of "strategic minerals"

5. There seem to exist multiple definitions of "strategic minerals" – is there one officially accepted definition?
    a) Why are they called "strategic" rather than, e.g., "critical"?
6. What is the methodology used to select "strategic minerals"?
    a) Is there a standardized methodology in place?
7. Which international approaches have inspired China's approach?
    a) How does Chinese concept differ from those?

8. Which institutions/actors/interests are involved in the creation of the list of "strategic minerals"?
    a) How often will the list be updated?
9. How does the list of "strategic minerals" matter? What is the significance of the list?
    a) Are there policies that incentivize companies to target "strategic minerals"? Are they effective?

A2. Conversation guide: conversation with a Chinese Arctic expert

Note: The meeting was conducted primarily in Chinese. English was used occasionally for clarification. The questions and discussion points below have been freely translated from Chinese into English by the author.

Questions regarding the importance of the Arctic and China's Arctic Policy

1. What is the importance of the Arctic compared to other global regions in China's foreign policy?
2. In your opinion, what are China's main interests in the Arctic?
    a) China's Arctic policy mentions Arctic shipping lanes, Arctic resources, and scientific research. Among these interests, which ones are more important?
3. Compared with other regions of the "Belt and Road", what characterizes the international environment of the Arctic? How does China adapt to these conditions?
4. China's Arctic policy emphasizes Arctic cooperation:
    a) At present, what kind of Arctic cooperation does China need the most?
    b) What factors will China consider when choosing a partner?
    c) Which specific countries and regions does China hope to cooperate with? What kind of cooperation is going on?
5. In your opinion, what is included in the "Polar Silk Road"? (China's Arctic policy did not provide a detailed explanation)
6. What are the main challenges China faces when cooperating with Arctic countries?
7. China's Arctic policy does not mention Greenland (although it mentions Denmark). What role does Greenland play in China's Arctic policy?

Questions concerning expert influence on policy

1. How does an Arctic expert like yourself influence policy besides publishing papers?
2. What issues in the Arctic will you pay attention to next (in your research)?

Questions relating to the expert's research papers

1. [Question withheld to protect anonymity of informant]
2. [Question withheld to protect anonymity of informant]

A3. Study guide for participation in China Mining Conference

Overarching goals with participating in the conference

1. Learn about Chinese interests in Arctic mining/mineral exploration projects and general ways of encouraging Chinese mining companies to invest overseas. What kind of credits do Chinese companies expect to receive when engaging in a project overseas?
2. Make new contacts (Chinese and Arctic)
3. Attend relevant seminars and presentations

What to look for at the conference?

1. The environment
    a) How large is the venue?
    b) How many people are attending? (compared to previous years)
    c) What is the atmosphere like?
2. Who are the Chinese stakeholders?
    a) Companies
    b) Banks
    c) Other actors
3. Who are the Arctic stakeholders?
    a) Government delegations
    b) Companies
    c) Other actors
4. Arctic mining projects
    a) What Arctic mining projects are promoted at the conference?
    b) Do they attract (Chinese) attention?
5. Interactions between Chinese and Arctic stakeholders
    a) How interested are Chinese stakeholders in overseas projects? What is decisive for their choices of where to mine?
    b) Which Arctic mining projects attract most attention?
    c) Who is approaching who? (Probably very difficult to establish…)
6. Factors influencing Chinese investment decisions abroad
    a) What makes a country an attractive destination for investments in mining or mineral exploration? Note from J: avoid asking question directly. Instead ask: "Oh, I can see you are looking on the Australian stand here: What do you think about mining in Australia? Do you have experience from Australia? Elsewhere? Why is that interesting for you…. have you heard about Greenland? How would you be financing mining activities in Australia? Is that easier than elsewhere?
    b) Are the Arctic/Greenland attractive mining destinations?

c) What are the opportunities for funding overseas mining projects? What is required from a project in order to receive funding?
d) How important is it whether a project can be branded as part of the Belt and Road Initiative or the “Ice Silk Road”?
e) Do mineral classification schemes matter (are you aware of them)? Or are companies simply responding to the policies/incentives that policymakers create *based on the classifications* (i.e., only researchers and policymakers are concerned with classification)?

Appendix B. Lists of conversations and other activities in the field

B1. List of conversations and other activities during field research in China

Date	Arctic expert(s)	Mineral expert(s)	Mining company	Description of meeting
2018. 12.24		X		Meeting over dinner with group of Chinese mineral researchers.
2018. 12.28		X		Meeting and dinner with two researchers at CAGS-affiliated institute.
2019. 01.08		X		Meeting with a group of Chinese geologists and mineral resource strategists at CAGS.
2019. 01.14	X			Meeting with a group of Arctic experts.
2019. 01.17	X			Meeting with group of three Arctic researchers.
2019. 01.18		X		Presentation by the author at CAGS.
2019. 01.22	X			Meeting and dinner with Chinese Arctic expert.
2019. 10.09 – 2019. 10.11			X	Conversation with Chinese mining company at China Mining Conference & Expo.
			X	Conversation with Chinese mining company at China Mining Conference & Expo.
			X	Conversation with Chinese mining company at China Mining Conference & Expo.

			X	Conversation with Chinese mining company at China Mining Conference & Expo.
2019. 10.14		X		Dinner with Chinese researchers at CAGS.
2019. 10.15	X			Conversation over dinner with Chinese Arctic expert.
2019. 10.16	X			Meeting with group of three Chinese Arctic experts.
TOT.	**5**	**5**	**4**	

B2. List of meetings and other activities during field research in Greenland

Date	Politician /official	NGO	Academic	Company	Description of meeting
2018. 08.16	X				Meeting with Pele Broberg, Minister of Finance, Government of Greenland (GoG).
2018. 08.17	X				Skype-Meeting with Ole Christiansen, Mining Advisor at Municipality Kujalleq.
2018. 08.17	X				Meeting with Jørgen Hammeken-Holm, Deputy Minister, Ministry of Mineral Resources, GoG.
2018. 08.20	X				Meeting with The High Commissioner of Greenland Mikaela Engell.

2018. 08.20				X	Meeting with Johannes Kyed, CSR Manager at Greenland Minerals and Energy (GME).
2018. 08.21			X		Meeting with Maria Ackrén, associate professor at Ilisimatusarfik.
2018. 08.21		X			Meeting with Mikkel Myrup, Chairman of Avataq (national environmental NGO).
2018. 08.22				X	Meeting with Greg Barnes, Chief Geologist at Tanbreez.
2018. 08.23	X				Meeting with Nick Bæk Heilmann, Ministry of Foreign Affairs, GoG.
2018. 08.24				X	Meeting with Bent Olsvig Jensen, Director at Xploration Services Greenland.
2018. 08.27	X				Meeting with Jakob D. Rousøe at the Arctic Command.
2018. 08.27	X				Meeting with Kaj Kleist, retired Greenlandic politician, Communications Manager at London Mining.
2019. 08.26	X				Meeting with Jørgen Hammeken-Holm, Deputy Minister, Ministry of Mineral Resources, GoG.

2019. 09.02					Visit at Kvanefjeld field site.
2019. 09.03					Dinner with Ib Laursen and a group of Chinese researchers from the Chengdu Institute for the Multipurpose Utilization of Mineral Resources (CIMUR).
2019. 09.04					Meeting with Ib Laursen, GME, and visit to GME's workshop in Narsaq.
TOT.	**8**	**1**	**1**	**3**	

Appendix C. Thesis papers

From *Arctic Yearbook 2018: Arctic Development in Theory & in Practice*

6

Chinese Mining in Greenland: Arctic Access or Access to Minerals?

Patrik Andersson, Jesper Willaing Zeuthen & Per Kalvig

This article contributes to the academic debate on China's growing interests in the Arctic and enriches our understanding of the various economic and political factors influencing Chinese investment decisions in the mineral sector. The article studies Chinese interests in two Arctic advanced mineral exploration projects: the Citronen Fjord zinc project in northern Greenland and the Kvanefjeld (Kuannersuit) Rare Earth Element (REE) uranium project in southern Greenland. It analyses China's different policies for REEs and zinc and their different roles in China's foreign policy strategy, the Belt and Road Initiative (BRI), which also includes plans for establishing an "Ice Silk Road". Based on a study of Chinese-language policy documents and academic articles from the mining sector, we argue that Chinese involvement in the two projects is driven by different strategic considerations. Chinese involvement in REE projects overseas is primarily driven by China's interest in the strategic resource itself, whereas decisions of where to engage in zinc projects are to a higher degree determined by China's foreign policy priorities. China has a well-developed and clearly defined national strategy for REEs, a resource it considers "strategic," of which the Kvanefjeld project is likely to be part. Zinc, on the other hand, is not a strategic resource to China, but still essential for its industry. Hence, we argue that the Citronen Fjord project is less tied to national resource strategy; instead, it offers China access to the Arctic region and to zinc as an added bonus. By focusing on the mineral sector, the article explores the extent to which mineral interests drive Chinese foreign policy and to what extent other foreign policy interests influence the Chinese mineral sector overseas.

Chinese Interests in Greenland: Mineral Resources and Power Balance

China's growing interests in the Arctic and emerging Arctic strategy have been the subject of several publications in recent years (e.g., Jacobson & Peng, 2012; Lanteigne, 2014; Brady, 2017; Lackenbauer et al., 2018; Sørensen, 2018). As Anne-Marie Brady (2017: 116) has shown in her book *China as a Polar Great Power*, China's Arctic policies are formally managed within China's maritime supra-bureaucracy. The maritime bureaucracy hosts at least seventeen different government agencies and departments with polar interests. In addition, external actors, including polar scholars, state-owned enterprises and other commercial forces, may also influence China's polar policies. In Greenland, a country many scholars of Chinese-Arctic relations regard as being of strategic importance for China's Arctic activities, mineral resources have been the focus of China's interests (Brady, 2017; Sørensen, 2018). This makes Greenland an interesting and well-suited case for further exploring the extent to which mineral interests drive Chinese foreign policy and to what extent other foreign policy interests influence the Chinese mineral sector overseas.

Chinese state involvement in Greenland's mineral sector has generated political controversy in Denmark and Greenland. In Denmark, apart from concerns that state-supported Chinese companies will seize control over Greenland's vast mineral riches, there are fears that Chinese investments come with hidden political and military agendas. In 2016, the Danish government stepped in to prevent the Hong Kong-based mining company General Nice from taking over the abandoned naval base at Grønnedal (Breum, 2016; Matzen, 2017). Recently, a bid by China Communications Construction Company, a Chinese state firm previously blacklisted by the World Bank, to build airports in Greenland prompted the Danish government to secure half of the financing of the airports. The interpretation in Greenland and Denmark was that this was done to keep China out. It resulted in the party Partii Naleraq, strongly in favor of fast Greenlandic independence, leaving the government in protest against accepting support from Denmark (Bennett, 2018). In Nuuk, parts of the political elite regard a vibrant mining sector largely fueled by Chinese capital as one of the few feasible ways of achieving economic self-sufficiency (Gad et al., 2018).[1]

While there have been plans for very large Chinese investments in Greenland for a while now, actual investments are so far extremely limited. This suggests that that "speculation and political rhetoric far exceeds actual developments" (Foley, 2017: 100). However, the establishment of the "Ice Silk Road" (冰上丝绸之路) as an official policy and the above-mentioned fact that Chinese state firms have made bids for building airports in Greenland – a country with inadequate and badly connected infrastructure – seem to indicate that Greenland has at least some priority in parts of the Chinese state system.

Since Lieberthal and Oksenberg (1988) first coined the concept of "fragmented authoritarianism," the view of large parts of the Chinese bureaucracy as being able to select between policy agendas set by competing sectors of the central leadership in Beijing became a common assumption in many studies of Chinese politics (Mertha, 2009). Under current president Xi Jinping, this view has become increasingly challenged, with one of the important elements of fragmented authoritarianism, policy experimentation, also questioned (Stepan & Ahlers, 2016). Recent studies of Chinese state-controlled enterprises, however, reveal that the fragmented authoritarianism approach may still have some relevance in the study of this sector. Based on telephone interviews with Chinese mining companies, Têtu and Lasserre (2017) argue that Chinese companies' decisions to invest in Greenland are based on a combination of economic and political considerations. Increased Chinese control over capital outflows means that both political support and commercial viability are increasingly required. We aim at exploring the incentives from the Chinese bureaucracy towards the mining sector and how these might be changing as a result of the "Ice Silk Road".

Chinese companies interested in Greenland are at least partly driven by state interests (Sørensen, 2018; Zeuthen, 2017; Têtu and Lasserre, 2017). Few, however, have studied what the state wants to gain from its involvement. Moreover, with few exceptions (e.g., Brady, 2017; Zeuthen, 2017; Martin 2018), most Western analysis relies exclusively on English-language sources to assess the interests and motivations behind Chinese state investments in Greenland. This article draws extensively on Chinese-language materials intended to inform and instruct Chinese stakeholders involved in mineral exploration projects overseas, some of which have never been analyzed in Western research. In addition, the article draws on data collected in interviews with stakeholders in some of the mining projects. It focuses on two

advanced[2] mineral exploration projects in Greenland where Chinese companies are involved – the Citronen Fjord zinc project in northern Greenland and the Kvanefjeld Rare Earth Elements (REEs)[3] and uranium project in southern Greenland.[4]

The article begins by discussing China's foreign policy interests in Greenland and the Arctic more broadly. It then moves on to present the global supply and demand outlook for zinc and REEs based on data from geological surveys, providing an explanation for China's interests in the two commodities from a macro perspective. It then compares China's policies on zinc and REEs[5] based on the official five-year plans for the two commodities, showing how zinc and REEs are differently prioritized and their different roles in China's Belt and Road Initiative (BRI 一带一路),[6] the larger policy framework of which the "Ice Silk Road" is a part. The next section discusses China's interests in Greenland's mineral resources based on a content analysis of Chinese-language geology journals from the Chinese Academic Journals Database (CAJ), a Chinese full-text database containing more than 66 million articles. It shows how, following a series of diplomatic exchanges between China and Greenland from 2011 to 2013, Chinese geologists began to publish detailed assessments of Greenland's mineral resources. The article then briefly introduces the two mining projects and the Chinese investments in these projects that followed the diplomatic exchanges. Finally, it analyzes and compares the two Chinese companies involved in the projects, their relationship to the Chinese state, and how they operate within Chinese and global policy frameworks, before concluding that Chinese involvement in the two projects is driven by different strategic considerations. We argue that Chinese involvement in REE projects overseas is primarily driven by China's interest in the "strategic" resource itself, whereas decisions

of where to engage in zinc projects are to a higher degree determined by China's foreign policy priorities.

China's Foreign Policy Interests in the Arctic and Greenland

Until 2018, China operated under an unofficial Arctic policy. Moreover, in public statements targeting international audiences, Chinese polar officials tended to deemphasize or avoid discussing China's interests in what they perceived as potentially sensitive areas, such as mineral resources and national security.[7] As late as 2012, Yang Huigen, Director of the Polar Research Institute of China, denied that China had any interest in Arctic mineral resources (Brady, 2017: 87). This contrasted with China's domestic discourse on Arctic issues, which showed great interest in mineral resources (ibid.). A 2015 Chinese-language report from the Shanghai Institutes for International Studies (SIIS), a government-affiliated think tank, stated: "with the rapid development of China's economy, China's demand for resources and energy continues to increase, and its dependence on imported energy sources is also rising. The Arctic region has abundant reserves of energy resources. There is great potential for China and Arctic countries to engage in energy cooperation and achieve joint economic development" (Zhang et al., 2015: 27).

With the publication of China's white paper on the Arctic in January 2018, the gap between China's domestic discourse and the message it transmits to foreign audiences appears to be shrinking. Although the white paper does not address China's military interests in the Arctic, it now makes clear that China intends to explore and exploit Arctic resources, including mineral resources, while stressing that it will be done in accordance with international law. It repeats China's intention to incorporate the Arctic into the BRI by establishing an "Ice Silk Road", a term officially established in May 2017 when Chinese Foreign Minister Wang Yi referred to it in a discussion on China-Russia cooperation in developing the Northern Sea Route (Xinhuanet.com).[8] In a Chinese-language analysis of the white paper, Yang Jian, Vice President of SIIS, noted that "from an economic perspective, China is a major country of world trade and energy consumption. The development and utilization of Arctic navigation channels and resources may have a huge impact on China's energy strategy and economic development" (Yang, 2018: 4).

Given its geostrategic location between North America and Europe, its proximity to new potential shipping lanes, and its vast potential for mineral resource exploitation, Greenland is expected to play an increasingly important role in China's emerging Arctic strategy. Although Chinese officials are careful to avoid addressing China's foreign policy interests in Greenland, influential Chinese scholars have since 2016 begun to publicly discuss the issue of Greenlandic independence and its implications for the geopolitical balance. As first reported in Western research by Martin (2018), Guo Peiqing, a law professor at Ocean University of China and one of China's most prominent polar researchers, has discussed the topic in one of China's leading international relations journals. Guo and co-author Wang Junjie believe that Greenland is moving towards independence at an accelerating pace. According to them, the international community has a "responsibility" to help an independent Greenland deal with its developmental problems. Mineral resources will play an important role in Greenland's future, especially REEs, which the authors regard as "the most important strategic resource of the 21st century" and "one of Greenland's most important strategic assets" (Guo & Wang, 2017: 64). Other scholars go even further, presenting views that could be regarded as highly controversial. Xiao Yang, Director of the Arctic Research Center at Beijing International Studies University, discusses the role of Greenland in China's foreign policy strategy. Greenland, which is "gradually gaining greater independence," is the key variable in the Arctic's future political and economic landscape. In Xiao's view, Greenland could serve as a "foothold" for China to "fully participate in Arctic affairs" (Xiao, 2017: 110). In a comment to one of the authors at a conference in 2016, Yang Jian expressed it more diplomatically, stating that China is happy with Greenland as a part of Europe, but fears that an independent Greenland might become a *de facto* part of the US.

Zinc and REEs: Global Supply and Demand

Zinc

Zinc is one of the most widely used non-ferrous metals.[9] Galvanizing, mainly for the automotive sector, accounts for over 50% of total zinc usage worldwide (Statista.com, 2017). Despite a declining demand for zinc in North America and Europe, the global demand for zinc increased by about 31% from 2005 to 2015, driven in particular by China's increasing demand (122%) (Meng, 2017). The forecasts for the zinc markets generally predict a

continued upward trend due to the closure of several major mines and growing global demand.

China has met some of its demand for zinc by increasing domestic production of zinc concentrate (by 76% in the period 2007-2017) (US Geological Survey, 2018). China produced 5.1 million t in 2017, equivalent to 39% of the global production. China has not been able to compensate for the production, resulting in depleted reserves. Hence, the lifetime of the Chinese zinc reserves has dropped from circa 11 to 8 years in the past decade. This is in contrast to the Rest of the World (ROW), where reserve lifetime has grown from 15 to 24 years. For this reason, China has to make alliances with zinc miners outside China to secure its future supply of zinc.

REEs

REEs comprise 17 elements always occurring together, of which 15 provide unique commercial properties that are essential raw materials for the production of emerging energy and communication technologies, such as wind turbines, electric vehicles, computers and smartphones. This has led to swiftly expanding markets for REE products, for which China has achieved a monopolistic role in all segments of the REE value chains. Growing demand outside China for REE raw materials stemming from the above market sectors amplifies concerns over the quasi-monopolistic supply situation, and consequently REEs are considered a Critical Raw Material[10] by the European Union (EU) and the United States (US) (EC, 2018; US DOI, 2018). However, political strategies in the EU and other Western countries aimed for the development of REE supplies outside China have been unsuccessful.

Global REE mine production in 2015 is reported to be about 126,000 t Rare Earth Oxides (REOs) of which about 20,000 t is produced outside China (US Geological Survey, 2016), although the figures are inaccurate due to unregistered and non-reported operations. Over the past three decades, the demand for REOs has increased about 5% annually. The fast-growing global demand for REOs in combination with Chinese taxes and quotas has put a pressure on ROW to develop new REE mines. However, the Chinese dominance of the value chains, and the technically complex process of transforming the REE mineral concentrate into various types of separated commercial REE products, are constraints for new projects. These reasons

make Chinese REE groups obvious partners for potential new REE mining projects in ROW.

Figure 6-1: Production of zinc concentrate in China and ROW from 2007 to 2017, based on data from the US Geological Survey, 2007 to 2017.

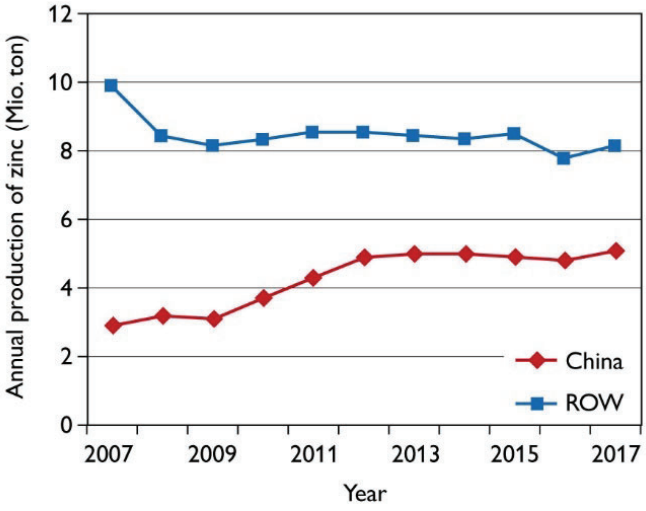
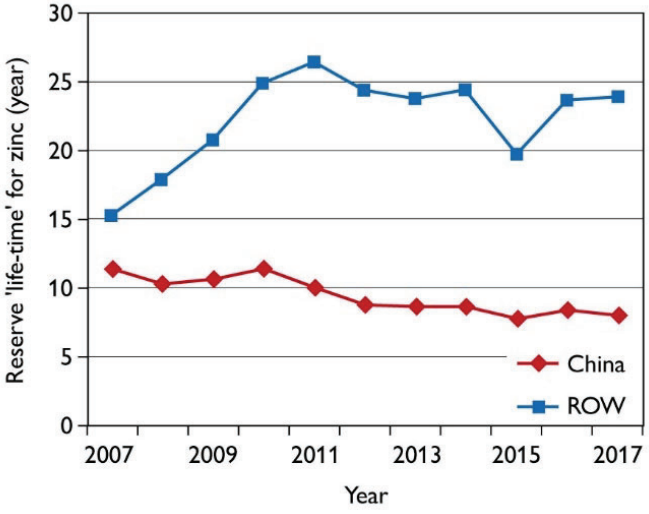


Figure 6-2: Lifetime (years) of zinc reserves in China and ROW from 2007 to 2017, based on data from the US Geological Survey, 2007 to 2017.



China's Five-Year Plans for Zinc and REEs

China has a well-developed and clearly defined national strategy for REEs, a resource it considers "strategic". Whereas the EU and the US use the term "Critical Raw Materials" to refer to minerals that are crucial for the economy, China's National Plan for Mineral Resources (2016-2020) uses the term "strategic minerals" (战略性矿产) to refer to minerals that are essential for "protecting national economic security, defense security, and strategic emerging industries" (State Council, 2016: 14). The plan lists REEs as one of 24 "strategic minerals," whereas zinc is listed as one of 35 "key minerals" (重点矿种) (which also includes REEs). Zinc, in other words, is not a "strategic" resource for China, but still important for its industry.

Despite China's many years of market reforms, both the zinc and REE sectors are subject to five-year plans issued by the Ministry of Industry and Information Technology (MIIT) and approved by the State Council. While REEs have their own five-year plan at the ministry level, zinc is part of the five-year plan for the non-ferrous sector (MIIT Plan No. 316, 2016; MIIT Plan No. 319, 2016). The five-year plan for non-ferrous metals is 44 pages long while the REE plan is 30 pages long. In the five-year plan for non-ferrous metals, zinc is mentioned 25 times, compared to copper (88 times) and aluminum (127 times). This suggests that zinc is regarded as far easier to regulate or much less in need of regulation than REEs.

Both the REE and the non-ferrous sectors in China are controlled by companies partly or fully owned by different levels of and/or sectors within the state. The goals set for the REE industry are, however, much tighter than in the non-ferrous sector. Most importantly, access to producing (extracting and processing) REEs is regulated through a quota system to which only six selected companies (the "Six Big") have access (Zeuthen, 2017). Zinc and other non-ferrous metals, on the other hand, are produced according to more loosely defined goals. Both fields are subject to centralization processes aiming to modernize the sector through larger, fewer and more efficient facilities. Given the very different incentives for implementing these policies, however, the REE sector is several steps ahead of the non-ferrous sector in this regard.

Table 6-1: Comparison between the five-year plans for zinc and REEs.

	Zinc	*REE*
Quota-system	Goals for growth in production in five-year plan: No clearly specified upper limit.	Production quotas managed strictly, so only the Six Big have access to declining quotas.
Industrial ambition	□ Five-year plan encourages larger and more advanced enterprises in regional clusters. □ No specific enterprises mentioned.	□ Five-year plan states how the Six Big should consolidate their positions and develop into world-leading enterprises. □ Regional clusters with down-stream industry encouraged.
Foreign investment policy	Foreign investments in China allowed.	Foreign investments in China not allowed.
Overseas strategy	Focus on BRI countries.	Focus on advanced resource countries.

Both in the non-ferrous and REE sectors, companies are encouraged to engage in overseas activities. In both sectors, an important element of engaging overseas is industrial upgrading opportunities through cooperation with supposedly more advanced global (Western) partners. In the non-ferrous sector, emphasis is on the BRI countries in Asia and Eastern Europe, while the REE sector is encouraged to cooperate with countries with advanced mining industries. The five-year plan for REEs states that "The initiation of a number of REE development projects and the first steps towards handling REE separation in countries with a generally strong resource sector such as the US, Australia, Russia, South Africa, Chile, and Brazil has relieved the pressure on supplies from our country" (MIIT Plan No. 319, 2016: 7).

The MIIT encourages investment overseas with the aims of gaining knowledge and displaying the Chinese REE sector in a world-class context. However, despite the MIIT listing the opportunity to show off world-class technologies as an incentive for overseas engagement, it elsewhere in the five-year plan describes the REE sector as backwards or intermediate with an ambition of becoming world-class. This paradox most likely reflects the great diversity of China's REE sector. While a large number of smaller producers that used to bypass the export quota system have been closed down as a result of the more strictly implemented production quota system and harsher environmental requirements, some survive and are incorporated into the Six

Big. Some of these facilities are far from world-class. By stating the ambition of becoming world-class, the five-year plan justifies further centralization. The MIIT's support for developing REE separation plants in leading resource countries suggests that it may in fact see China as a global leader within the REE sector that no longer needs to dominate the sector by processing REE in China, but instead by leading international cooperation within the field.

Chinese Assessments of Greenland's Mineral Resources

A search of academic articles in the CAJ reveals that Chinese geologists have since around 2011 begun to show a more active interest in Greenland's mineral resources. We listed articles simultaneously cataloged under the subjects "Greenland" (格陵兰) and "minerals" (矿产).[11] The search generated eight relevant articles published between 2011 and 2018 in the journals *Geological Science and Technology Information* (GSTI) (two articles), *Land and Resources Information* (four articles), *Mineral Exploration* (one article), and *Coal Geology of China* (one article). An internal search at the website of GSTI using the keyword "Greenland" generated an additional five articles, resulting in a total of 13 relevant articles. The articles in *Land and Resource Information*, a bulleting published by the Ministry of Natural Resources (then the Ministry of Land and Resources), were explored in Zeuthen (2017). We thus focus on the articles in GSTI, the only journal with "core" status[12] among the collected journals. All seven articles in GSTI were part of the same August 2013 issue[13]. The publication of these articles followed a series of diplomatic exchanges between Greenland and China, which began with a visit to Beijing by Greenland's minister for industry and natural resources in 2011, where he met with China's then-Vice Premier Li Keqiang and representatives from China Development Bank. In April 2012, Xu Shaoshi, then China's Minister of Land and Resources, visited Nuuk, and in July 2013, a large Chinese investor delegation visited Greenland.

The articles, coauthored by geologists from China University of Geosciences and the Chinese Academy of Geological Sciences (a research institution under China Geological Survey), provide detailed assessments of Greenland's mineral resources. The assessments, based almost exclusively on Western studies of Greenland's mineral deposits, are technical in style and seem to be written with Chinese geologists and mining companies as intended readers. Two of the articles provide a general assessment and overview of Greenland's mineral resources. One describes Greenland's

deposits of REEs, iron, gold, platinum-group elements (PGEs), zinc, lead, and nickel, pointing out that global warming is turning Greenland into "a focal point for the global mining industry and a hotspot for investments." The article highlights that Greenland possesses rich mineral resources that are yet to be exploited, and that "Greenland's most superior mineral commodities are ones that China urgently needs" (Lu et al., 2013: 55). The authors seem especially interested in Greenland's REEs, stating that "mineralization conditions for REE in Greenland are unique in the world; REE is one of Greenland's most advantageous mineral resources" (ibid.: 52).

The second article, titled "Introduction to Greenland's Important Metallic Minerals and their Distribution," provides an overview of Greenland's metallic mineral resources and various geological formations in Greenland. It highlights that, because of global warming and the rapid depletion of global resources, Greenland's mineral resources have caught the attention of many countries around the world. This article, too, seems to focus primarily on Greenland's REEs, stating that Greenland has "abundant REE resources; today nine REE deposits have been found, including the world's second largest in Kvanefjeld" (Li et al., 2013: 22).[14]

The Two Projects in Greenland

Citronen Fjord Zinc Project

The Arctic hosts six operating zinc mines, among them the second largest in the world, Red Dog in Alaska, and several major mines that are now abandoned (S&P Database, 2018). Additionally, a number of advanced zinc exploration projects are being developed, e.g. the Citronen Fjord project, which makes the Arctic a potential major zinc-supplying region. The Australian Ironbark Pty Ltd exploration group controls the right to exploit the Citronen deposit up to the year 2046, pending further regulatory approvals (Ironbark, 2015). In January 2017, Ironbark appointed China Nonferrous Metal Industry's Foreign Engineering and Construction Co (NFC) to develop the project further in compliance with standard codes in Greenland and China, and with the financing requirements of Chinese banks (Ironbark, 2017). The press release states that NFC was chosen due to its technical capabilities and because it can deliver a turnkey fixed-price Engineering, Procurement, and Construction (EPC) solution to develop and commission the project. The Citronen Fjord deposits hold a measured reserve

of 9 million t grading 6.6% zinc and 0.6% lead, in addition to about 21 million t of indicated and inferred resource, and the lifetime is estimated at 14 years. Shipment of the concentrate in the Greenland Sea is a technical challenge and will mainly be possible in August. Ironbark reports that the concentrates are aimed for European smelters (Ironbark, 2013). However, the combination of (i) the geographical position of the Citronen Fjord deposit, carrying the potential for a shortcut to China via the Northeast Passage, (ii) the growing Chinese demand for zinc concentrates, and (iii) the fact that NFC is the appointed turnkey contractor, makes the Chinese market a likely destination for the concentrates.

Kvanefjeld REE Project

Presently, about 31 REE projects outside China have reached an advanced stage of development (Kalvig & Machacek, 2018). Of these, six are situated in the Arctic: one in Alaska, three in Northern Canada, and two in Greenland. The latter two are Kringlerne and Kvanefjeld, both categorized as large tonnage/low grade deposits, although the REE ratio make them suited for the high-price REE market segments. Currently, plans for developing the Kvanefjeld project are more advanced and developing Kvanefjeld will require a larger investment than the Kringlerne project. Both projects have applied for exploitation licenses. The Kringlerne project, also known as the Tanbreez project, is privately owned and thus no information about business partners is available through stock exchange releases. The Kvanefjeld project is owned by Australian-based Greenland Minerals & Energy Ltd (GME). It is a multi-element deposit from which REEs, uranium, zinc and fluor are meant to be extracted. In April 2014, GME announced a Memorandum of Understanding (MoU) with NFC, aiming to develop a new REE supply chain. Under the MoU, separation would be carried out in China by the NFC subsidiary, Guangdong Zhujiang Rare Earths Company (GME, 2014). However, in September 2016 GME A/S announced that Shenghe Resources Holding Co Ltd (Shenghe), a Chinese REE miner, had acquired a 12.5% interest in GME, with the aim to bring REE processing technology and market understanding to the project (GME, 2016).

The Chinese Companies

As a result of the five-year plans discussed above, both the zinc industry and the REE sector have experienced a massive decline in the number of

companies engaged in the industries. The investor in Kvanefjeld, Shenghe, has been particularly capable of navigating the quota system through partnerships with companies partly or fully owned by different of the Six Big with access to quotas. In addition, the company's main activities are placed in Sichuan where the MIIT hopes to further develop already existing extraction and processing clusters. Since the largest investor, the Institute of Multipurpose Utilization of Mineral Resources, a subdivision of China Geological Survey (henceforth the CGS subdivision), owns only 14% of the company, the company requires fewer permissions for operating overseas than companies such as NFC, where a single state entity owns a larger share (Quan, 2017). In addition, permissions required by Australian and US authorities also depend on the degree of state ownership. In the latter half of 2017, Shenghe was the only larger REE producer that had unused REE production quotas (ibid.).

While NFC was founded and is controlled by a state-owned enterprise (SOE) directly under the State Council, Shenghe was founded by the CGS subdivision and shares substantial parts of its leadership with that subdivision. Although both companies are state-controlled, they are both (especially Shenghe) skilled at benefiting from different policies and institutions present in the Chinese and global environments wherein they operate. Shenghe is capable of being treated as a private company when needed and a state-owned enterprise with access to production quotas and beneficial credits when that is needed to gain new business opportunities both globally and domestically (idem.).

When asked about his interest in Greenland during an interview with one of the authors in February 2017 (when the "Ice Silk Road" was not yet an official policy), the Chairman of Shenghe, who was also the director of the CGS subdivision, explained that he expected the BRI to embrace Greenland. At the same time, he stressed his uncertainty of the project's viability irrespective of these plans. He did, however, believe that a future Arctic Silk Road policy would facilitate the financing of the project (Zeuthen, 2017). Shenghe appears to be aware of beneficial policies of some kind that would make investment in a particular locality especially attractive.

Table 6-2: NFC and Shenghe compared based on messages to Chinese stock exchanges including annual reports.

	NFC	*Shenghe*
2017 turnover	19 billion CNY.[15] 19% down from 2016.	5 billion CNY. 280% up from 2016.
History	Founded as a subsidiary of China Nonferrous Metal Mining (CNMC) in 1983, as a fully state-owned company specialized in overseas operations. Listed on the Shenzhen Stock Exchange in 1997. Through investment in subsidiaries, NFC's domestic activities have also become considerable. CNMC owns 34%.	Fundamentally restructured in 2013 when the Institute of Multipurpose Utilization of Mineral Resources, CGS and a number of largely Sichuan-based public partners and private investors bought Taiyuan Science and Engineering Tiancheng Technology Company Limited, renamed it Shenghe Resources and bought Shenghe Leshan Resources.
Overseas Activities	☐ In 2017, 58% of turnover from overseas activities. Up from 39% in 2016 (largely due to domestic decline). ☐ Ongoing investments in 28 projects classified as larger projects in 2017 with a total contract sum of 36 billion CNY. One project in Serbia (174 million CNY). All others in Asia and Africa. ☐ In 2009, CNMC attempted to buy 51.6% of Lynas Corp that controlled a REE processing plant in Australia. Australia's Foreign Investment Review Board (FIRB) blocked the transaction.	☐ Started engaging in overseas activities in 2016 when it acquired a company planning to build a REE separation plant in Vietnam and took a 12.5% stake in GME. The share in GME made the company the largest non-financial shareholder of GME. ☐ In 2017, the company led a consortium that bought the last active US REE mine, Mountain Pass, in California (after Molycorp's bankruptcy). ☐ GME-acquisition approved by FIRB. Mountain Pass acquisition approved by CFIUS, the US Foreign Investment Committee.
Mining commodities	Zinc, lead, copper, bauxite and REE (REE mainly through recently obtained subsidiaries, acquired in collaboration with shifting partners among the Six Big). Also has interest in other minerals, but not part of core business.	Almost exclusively REE. May become the first Chinese limited company to trade uranium though Kvanefjeld (Quan, 2017). The company itself, however, claims that it will not trade uranium (Zeuthen 2017).

Conclusion

Understanding China's intentions in Greenland is challenging. By analyzing what companies and policy advisors do and say, we may get an impression of why selected actors do as they do, but even under the very authoritarian leadership of Xi Jinping, China's interests in Greenland are still mainly controlled by incentives. Through analysis of Chinese-language policy documents and academic articles from the mining sector, this article has explored the different possible drivers behind Chinese engagement in two

mining projects in Greenland. We suggest that Chinese involvement in REE projects abroad is more likely to be driven by China's interest in the strategic resource itself, whereas decisions of where to engage in zinc projects are more likely to be determined by China's foreign policy priorities.

Greenland has strategic value for China both as a source of important minerals and as a foothold for accessing the Arctic region. As suggested by a growing number of Chinese scholars in Chinese-language publications, Greenland could come to play a key role in China's Arctic strategy. Clearly, parts of the Chinese state are building Arctic knowledge that may be used to facilitate investment in Greenland in the future, investments that could serve to support China's Arctic access.

The mineral sector's goal is to supply the minerals needed by China. At the same time, however, the industry is open towards utilizing incentives that other parts of the Chinese state bureaucracy might provide for geostrategic reasons and is subordinate to directives. The exact combination of mineral need and geostrategic incentive may vary from project to project, but in the case of Greenland, it appears as if the geostrategic element of possible future decisions on mining is considerable.

Notes

1. However, China's involvement in the Kvanefjeld Rare Earth Element (REE) and uranium project in southern Greenland also places it in the middle of the Greenlandic uranium debate – one of the most divisive political issues in Greenland today. See Bjørst (2017).
2. "Advanced projects" are projects for which the ore reserve is defined. Ore reserves are ores that are known to be economically viable.
3. References to Rare Earth Elements (REEs) are to the commodity term comprising the non-specific seventeen elements, such as REE minerals and REE products, although only a few of them are present in the REE products. References to Rare Earth Oxides (REO) are applied for quantification/statistic purposes.
4. The Kvanefjeld project will also produce zinc, although of very low grade.

5. The article focuses on REEs and zinc, since they are the main commodities involved in the two projects.

6. Also known under its literal translation One Belt, One Road.

7. For more on China's security interests in Greenland and the Arctic, see Lulu (2017) and Brady (2017).

8. However, as Brady (2017: 117-118) has demonstrated, both the Arctic and Antarctic have been part of the BRI since Xi Jinping's visit to Hobart, Australia, in 2014.

9. Non-ferrous metals are metals that do not contain any iron. The main non-ferrous metals are aluminum, copper, lead, nickel, tin, titanium and zinc.

10. Critical Raw Materials (CRMs) are raw materials that are considered to be of great importance for the European economy and subject to high supply risk.

11. 23 results were listed. 15 articles did not discuss mining in Greenland or were not relevant for our analysis.

12. Chinese core journals are nationally recognized journals in China, with a much lower acceptance rate than non-core journals. According to Peking University Library, which publishes the list of core journals, more than 100 Chinese journal workers and experts from Chinese top universities and libraries participate in the selection of core journals.

13. The existence of the GSTI articles was first noted in Western research by independent researcher and blogger Miguel Martin, also known under the name Jichang Lulu. See Martin (2018).

14. The remaining five articles in GSTI present research updates on some of Greenland's most significant mineral deposits, including the Kvanefjeld and Citronen Fjord deposits.

15. 1 USD = 6.41 CNY 1 June 2018

References

Bennet, Mia. 2018. "The Controversy over Greenland Airports Shows China isn't Fully Welcome in the Arctic — Yet", Accessed 17

September. https://www.arctictoday.com/controversy-greenland-airports-shows-china-still-unwelcome-arctic/

Bjørst, Lill Rastad. 2017. "Uranium: The Road to "Economic Self-Sustainability for Greenland"?: Changing Uranium-Positions in Greenlandic Politics." In Gail Fondahl and Gary N. Wilson (eds.), *Northern Sustainabilities: Understanding and Addressing Change in the Circumpolar World.* Cham: Springer.

Brady, Anne-Marie. 2017. *China as a Polar Great Power.* Cambridge: Cambridge University Press.

Breum, Martin. 2016. "Analysis: Did the Danish PM Prevent a Chinese Acquisition on Greenland?", Accessed 7 April. http://www.highnorthnews.com/analysis-did-the-danish-pm-prevent-a-chinese-acquisition-on-greenland/.

EC. 2018. "Report on Critical Raw Materials and the Circular Economy Commission (Staff Working Document)", 36.

Foley, Kevin. 2017. "The Politics of Economic Security: Denmark, Greenland and Chinese Mining Investment." In Kristian Søby Kristensen and Jon Rahbek-Clemmensen (eds.), *Greenland and the International Politics of a Changing Arctic: Postcolonial Paradiplomacy between High and Low Politics.* London: Routledge.

Gad, Ulrik, Graugaard, Holgersen, Jacobsen, Lave, and Schriver. 2018. "Imagining China on Greenland's Way to Independence", *Arctic Yearbook 2018*, (manuscript submitted).

GME. 2014. "GME Enters Partnership with Chinese NFC" Press release, 4 September, 2014. http://gme.gl/en/gme-enters-partnership-chinese-nfc.

———. 2016. "Leading Rare Earth Company Shenghe Resources Holding to Acquire 12.5% Interest in Greenland Minerals and Energy Ltd., and Commence Strategic Working Relationship" GME A/S Company Announcement. http://www.ggg.gl/docs/ASX-announcements/GMEL-Shenghe-Announcement.pdf.

Guo, Peiqing, and Jinjie Wang. 2017. "格陵兰独立问题的地缘政治影响" [The Question of Greenland Independence and its Geopolitial Influence], *现代国际关系 [Contemporary International Relations]*, 8: 58-64.

Ironbark. 2013. "Citronen Zinc-Lead Project: Feasibility Study". http://ironbark.gl/wp-content/uploads/2013/11/Citronen-Feasibility-Study.pdf.

———. 2015. "Ironbark Presentation-China Mining Conference" 22 October, 2015. file:///C:/Users/Admin/Downloads/0386-IBG-Company-Presentation-22-10-20151%20(1).pdf.

———. 2017. "Agreement with China Nonferrous" Press release, 24 January, 2017. https://ironbark.gl/index.php?download=true&pdf=wp-content/uploads/2017/01/0432-IBG-NFC-24-01-17.pdf.

Jacobson, Linda, and Jingchao Peng. 2012. *China's Arctic Aspirations.* Solna, Sweden: SIPRI, Stockholm International Peace Research Institute.

Kalvig, Per, and Machacek Erika. 2018. "Examining the Rare Earth Elements (REE) Supply-Demand Balance for Future Global Wind Power Scenarios", *Geological Survey of Denmark and Greenland Bulletin*, 41, 2018: 87-90.

Lackenbauer, P. Whitney, Adam Lajeunesse, Frederic Lasserre, and James Manicom. 2018. *China's Arctic Ambitions and What They Mean for Canada.* Calgary: University of Calgary Press.

Lanteigne, Marc. 2014. *China's Emerging Arctic Strategies: Economics and Institutions.* Reykjavík: University of Iceland Press.

Li, Jiuling, Wei Lu, Yuanyi Zhao, Zhenqing Li, Wenhui Yi, and Fengjun Nie. 2013. "格陵兰重要金属矿简介及分布规律" [Introduction of Important Metal Ore Deposits in Greenland and Their Distribution], *地质科技情报 [Geological Science and Technology Information]*, 32: 18-25.

Lieberthal, Kenneth, and Michel Oksenberg. 1988. *Policy Making in China, Leaders, Structures and Processes*. Reprinted ed. Princeton University Press.

Lu, Wei, Yuanyi Zhao, Wenhui Yi, Wei Jia, and Yingchuan Lu. 2013. "格陵兰优势金属矿产与矿业投资环境分析" [Analysis of the Superior Metal Mineral Resources and Investment Environment in Greenland], *地质科技情报 [Geological Science and Technology Information]*, 32: 52-57.

Lulu, Jichang. 2017. "Greenland: China discreetly launches satellite ground station project", accessed 17 September. https://jichanglulu.wordpress.com/2017/12/14/greenland-satellite/

Martin, Miguel. 2018. "China in Greenland: Mines, Science, and Nods to Independence", *China Brief*, 18(4) 14-16.

Matzen, Erik. 2017. "Denmark Spurned Chinese Offer for Greenland Base over Security: Sources", Accessed 6 April. https://www.reuters.com/article/us-denmark-china-greenland-base/denmark-spurned-chinese-offer-for-greenland-base-over-security-sources-idUSKBN1782EE.

Meng, Jianbin. 2017. "Global Market Outlook: Lead & Zinc". http://www.shfe.com.cn/content/2017-528/speech/youse-mengjianbing.pdf.

Mertha, Andrew. 2009. "'Fragmented Authoritarianism 2.o': Political Pluralization in the Chinese Policy Process", *The China Quarterly*, 200: 995-1012.

MIIT Plan No. 316. 2016. "有色金属工业发展规划 2016-2020 年)" [Non-Ferrous Metal Industry Development Plan (2016-2020)].

MIIT Plan No. 319. 2016. "稀土行业发展规划 (2016-2020 年) " [Rare Earths Industry Development Plan (2016-2020)].

Quan, Ba [权霸] (a blogger name). 2017. "盛和资源：唯一不受配额限产稀土霸主", Accessed June 1. http://bbs.jrj.com.cn/msg,100719885.html.

S&P Database. 2018. www.snl.com.

State Council. 2016. "全国矿产资源规划 (2016-2020 年"" [National Mineral Resources Plan (2016-2020)]. http://www.cgs.gov.cn/tzgg/tzgg/201612/W020161206616104236819.doc.

Stepan, Matthias, and Anna L. Ahlers. 2016. "Top-Level Design and Local-Level Paralysis: Local Politics in Times of Political Centralisation." *China's Core Executive Leadership Styles, Structures and Processes under Xi Jinping*, 34–39.

Sørensen, Camilla T.N. 2018. "Kina som Stormagt i Arktis", *Policy Brief - Forsvarsakademiet*, February 2018.

Têtu, Pierre-Louis, and Frédéric Lasserre. 2017. "Chinese Investment in Greenland's Mining Industry: Toward a New Framework for Foreign Direct Investment", *The Extractive Industries and Society*, 4: 661-71.

US DOI. 2018. "Draft List of Critical Minerals (Federal Register Notice on February 16, 2018)".

US Geological Survey. 2016. "Mineral Commodity Summaries 2016". https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf.

———. 2018. "Mineral Commodity Summaries 2018". https://minerals.usgs.gov/minerals/pubs/mcs/2017/mcs2017.pdf.

Xiao, Yang [肖洋]. 2017. "冰上丝绸之路的战略支点 —— 格陵兰"独立化"及其地缘价值" [The Strategic Fulcrum of the Silk Road on Ice: Greenland's "Independence" and its Geopolitical Value], *和平与发展 [Peace and Development]*, 2017: 108-29.

Xinhuanet.com. 2017. "王毅:俄罗斯是共建'一带一路'的重要战略伙伴" [Wang Yi: Russia is an Important Strategic Partner for the Joint Construction of the "Belt and Road"], Accessed 04 October. http://www.xinhuanet.com/world/2017-05/27/c_1121045357.htm

Yang, Jian [杨剑]. 2018. "中国的北极政策解读" [Interpretation of China's Arctic Strategy], *太平洋学报 [Pacific Journal]*, 26: 1-11.

Zeuthen, Jesper Willaing. 2017. "Part of the Master Plan? Chinese Investment in Rare Earth Mining in Greenland." In Lassi Heininen (ed.), *Arctic Yearbook.* Akureyri, Iceland: Northern Research Forum.

Zhang, Yao, Pei Zhang, Zongqi Qian, and Baozhi Cheng. 2015. "Beiji Zhili yu Zhongguo Jidi Zhanlue—Yi Beiji Hangdao Kaipi Liyong wei Anli." In *Shanghai Guoji Wenti Yanjiuyuan Xilie Keti Baogao*. Shanghai: Shanghai Guoji Wenti Yanjiuyuan (SIIS).

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Original article

Chinese assessments of "critical" and "strategic" raw materials: Concepts, categories, policies, and implications☆

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Expert assessment

ABSTRACT

Most research assumes that China works strategically with raw materials, and assessments of raw material criticality are shaped in part by perceptions of China's resource policies and strategies. Few, however, have studied the domestic debates and expert advice on raw material criticality that inform China's resource strategies. Based on a study of Chinese-language policy documents and academic articles, as well as conversations with Chinese researchers, this article explores how various categories of "strategic" and "critical" raw materials are constructed, bargained, and changed in China. Influenced in part by international discussions of criticality, Chinese assessments of the "strategic-ness" of mineral raw materials have supported the development of a Chinese prioritization and categorization scheme for raw materials, including the establishment of China's first official catalogue of 24 "strategic minerals" in 2016. Mineral categorization produced by Chinese experts and policymakers have an industrial and societal impact. Policies have been adopted to strengthen China's domestic supply capacity of minerals defined as "strategic" and different sub-categories of "strategic minerals" are subject to different policies and degrees of regulation.

1. Introduction

In July 2010, the government of the People's Republic of China (hereafter China) announced that it was reducing export quotas for rare earth elements (REEs)[1] by around 70 % year-on-year for the second half of 2010, causing a dramatic surge in REE prices worldwide (Mancheri, 2015). Two months later, in September 2010, the Japanese coastguard arrested a Chinese fishing trawler captain and 14 Chinese crew members following a collision near the disputed Senkaku/Diaoyu Island, an island claimed by both Japan and China (McCurry, 2010). The arrest gave rise to a major diplomatic crisis between the two countries and allegedly prompted China to halt exports of REE to Japan. In many countries, these events reinforced fears of an excessive reliance on China for supply of REE (Schmid, 2019), a resource deemed essential for the production of a wide-range of high-tech products, from smartphones, LED-screens and laptops to electric vehicles and wind turbines. In the years leading up to the 2010 crises, growing concerns over the supply security of important raw materials[2] had triggered a new round of academic debates about raw material "criticality" and prompted countries to develop strategies for ensuring unhindered and sustainable access to these raw materials at predictable prices. The European Commission (EC) has since 2010 maintained a list of "critical raw

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[1] Rare earth elements (REE) are a set of 17 elements (the 15 lanthanides, plus scandium and yttrium), of which 16 provide unique chemical properties that are essential in the production of materials used in emerging energy and communication technologies. Scandium is mainly sourced as a by-product from the aluminum value-chain.

[2] A mineral is an inorganic solid that occurs naturally in a definite chemical composition (USGS, 2019). Mineral raw materials are mineral constituents of the earth's crust, and the subsequent down-stream supply chain products, which are in demand by the industry. A mineral resource is "a concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction" (BGS, 2008). In Chinese discussions of criticality, the terms mineral (矿产) and mineral resource (矿产资源) are the most widely used; the term for mineral raw materials (矿物原料) is not used as frequently. Given the fact that, Chinese assessments and lists of "strategic minerals" are not strictly limited to minerals, but often include energy mineral resources such as oil, natural gas, and uranium, and supply chain products such as rare earth oxides, the term mineral raw materials more accurately describes the scope of Chinese criticality discussions. In this article, I apply these terms interchangeably when referring to criticality issues in a more general sense.

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materials" (CRMs), which it defines as raw materials that are considered to be of great importance for the European economy and subject to high supply risk (EC, 2018). The United States Department of the Interior (USDOI) regularly publishes a list of "critical minerals" deemed important to US economic and national security (USGS, 2018). Informing these lists are assessments from a wide range of experts in academia and industry concerning the criticality of different raw materials (Machacek, 2017). China is the world's largest producer and supplier of a majority of these raw materials (EC, 2018; USGS, 2018).

Most research assumes that China works strategically with minerals and raw materials, and China's strategic development of its REE sector is often highlighted as a case in point (Mancheri, 2015; Zepf, 2013; Barteková and Kemp, 2016; Kiggins and David, 2015). Few, however, have studied the domestic debates and expert advice on raw material criticality that inform China's mineral strategies – the ideas and theories behind the policies. Moreover, although criticality assessments are shaped in part by interpretations of China's resource policies and strategies, as well as of its state-led economic system, little is known about the domestic processes for deciding which minerals are to be prioritized in the Chinese state system. This article contributes to filling this research gap by answering the following questions: How are mineral raw materials prioritized and categorized in China, and what is the impact of raw material categorization on policy and industry? What appears to have gone largely unnoticed in international academia is that Chinese researchers are developing dynamic prioritization and categorization schemes for mineral raw materials based on assessments of their "strategic-ness" (战略性). There is an ongoing academic discussion in Chinese literature about theoretical concepts of mineral criticality, a discussion that is centered around a concept of "strategic minerals" (战略性矿产)[3], in which some of China's most prominent geologists and mineral resource strategists debate questions such as: How should we define and operationalize a Chinese concept of "strategic minerals"? What are China's "strategic minerals" and how can they be categorized? What methodology should be used to select "strategic minerals"? By using distinct labels to indicate the "strategic-ness" of minerals and raw materials, either by simply defining certain minerals as "strategic" or by using different labels to divide strategic minerals into sub-categories or classes, they engage in a "bureaucratic practice of classification" (Machacek, 2017, p. 368). In so doing, they contribute to the "construction" of mineral criticality. These experts are part of a network of professionals whose specialized knowledge and expertise provide guidance for policymaking, and some of whom are themselves involved in designing and implementing China's mineral policies. The academic discussions led up to the establishment of China's first official policy and catalogue of "strategic minerals" (战略性矿产) in November 2016. The catalogue, which will be updated every five years in parallel with China's national five-year plans (FYPs) for economic and social development, aims to "strengthen guidance and differentiated management of resource allocation, financial investments, major projects, and mining land utilization" (State Council, 2016a, pp. 14–15). The development of Chinese prioritization and categorization schemes for mineral raw materials will have an important impact on Chinese industry. Mineral categories produced by Chinese experts and policymakers are applied in important planning documents, and different sub-categories of "strategic minerals" are subject to different policies and regulations. For example, China's National Mineral Resources Plan (2016–2020) limits the annual production of two raw materials that Chinese experts have labeled "advantageous" – REE and tungsten – raw materials for which China dominates global supply chains, and both of which are considered "critical" and "strategic" by advanced, resource-dependent manufacturing economies such as the EU, the US and Japan (Kiggins and David, 2015; Calvo et al., 2019).

The article begins with an overview of the state of the art. I first provide a brief introduction to the history and development of raw material criticality, with a focus on approaches by the EC and the USDOI – the two approaches that have been of greatest interest to Chinese researchers. This is followed by a review of existing research on China's resource strategies and policies, which concludes with a statement on how this article contributes to the existing literature. Section 2 introduces the article's theoretical lens. The article analyzes how Chinese experts construct mineral criticality by means of classification. Using their own definitions and assessment frameworks, they assign different degrees of "strategic-ness" (战略性) to minerals, thereby contributing to a discourse that prioritizes some minerals over others. The research methods and materials are introduced in the second section. I rely primarily on content analysis of Chinese-language policy documents and journal articles obtained via keyword search in the Chinese Academic Journals Database (CAJ). Supplementary data has been collected in conversations with Chinese geologists and mineral resource strategists at the Chinese Academy of Geological Sciences in Beijing. The fourth section traces the genesis of the Chinese theoretical concept of "strategic minerals" through a study of Chinese academic articles and policy documents. Sections 5 and 6 summarize the different definitions, parameters and subcategories of "strategic minerals" developed by Chinese experts and policymakers. In the seventh and final section, I analyze the impact of raw material classification on Chinese policy and industry, showing how different categories of mineral raw materials are subject to different policies and regulations.

2. Mineral criticality in China and beyond – state of the art

2.1. Historical overview of mineral criticality discourse

A discourse about strategic raw materials centering on a fear of supply disruption can be traced back to the beginning decades of the 20th Century. The mass industrial warfare of World War I (1914–1918) prompted countries to think strategically about mineral raw materials deemed essential to national commerce and the projection of military power (Smith, 1920, 1921; Olien and Olien, 1993; Toprani, 2012). In July 1939, only months before the outbreak of World War II (1939–1945), the US Strategic and Critical Materials Stock Piling Act introduced the term "critical material," and a 1979 amendment defined "strategic and critical materials" as "materials that would be needed to supply the military, industrial, and essential civilian needs of the United States during a national emergency, and are not found or produced in the United States in sufficient quantities to meet such need" (US Public Laws, 1939). In the last decade, the combination of an ever-increasing demand for mineral raw materials and their tighter supply has caused renewed concerns about criticality (Barteková and Kemp, 2016). At the same time, the demand patterns for minerals have been fundamentally altered by factors such as population growth, economic growth in emerging economies (most notably China), technological advancements, and government policies (Erdmann and Graedel, 2011). As a result, the focus of the criticality discourse has moved from energy mineral resources to small-volume elements used in cutting-edge technologies, renewable energy and defense applications (Hayes and McCullough, 2018). In 2008, the US National Research Council (USNRC) published a report that defined "critical minerals" as minerals that perform "an essential function for which few or no satisfactory substitutes exist" and for which "an assessment also indicates a high probability that its supply may become restricted, leading either to physical unavailability or to significantly higher prices for that mineral in key applications" (USNRC, 2008, pp. 30–31). That same year, the European Commission (EC) launched the European Raw Material

[3] The term "strategic minerals" is a literal translation of the Chinese term (战略性矿产). In this article it refers specifically to the Chinese concept. The term "strategic minerals" has different meanings in the Western context. In the US, "strategic minerals" are usually considered a subcategory of critical minerals that consists of those that are crucial for national security applications. See US National Science and Technology Council (2016).

Initiative, which, among other things, sought to define "critical raw materials" (CRMs) (EC, 2008). The EC published its first catalogue of CRMs in 2010, which has since been updated twice, in 2014 and 2017. The most recent list, published in September 2017, features 27 raw materials that are considered to be of great importance for the European economy and subject to high supply risk (EC, 2017). China is the European Union's (EU) top supplier for 11 of these 27 raw materials (EC, 2017). Primary aims of the EC's list are to increase awareness of CRMs and to mitigate potential supply shortage of these raw materials for downstream industries (EC, 2014; DG-ENTR, 2010). In 2018, the USDOI published a list of 35 minerals deemed critical to "the economic and national security of the United States". Of these, China was the primary supplier of 13 and the primary producer of 19 (USGS, 2018).

The concept of criticality is subjective in the sense that a mineral that is considered "critical" in one region or industrial sector may not be so in other (Hayes and McCullough, 2018). The approaches by the EU and the US have been to identify minerals and raw materials deemed "critical" for their economies as a whole. In the methodology developed by USNRC, the degree of criticality is estimated based on a mineral's supply risk (availability and reliability of supply) and "importance in use" (Barteková and Kemp, 2016). The level of importance is estimated based on the chemical and physical attributes of minerals and their degree of substitutability. In criticality assessments by the EC, a range of indicators are compiled into aggregate scores for supply risk (SR) and economic importance (EI), which are then plotted against each other to arrive at a delimited list of critical raw materials (Frenzel et al., 2017).

2.2. Views on China's resource strategy and policies

China is widely perceived as taking a strategic approach to mineral resources at both the domestic and international level. This is partly because of China's history as a centrally planned economy, in which state planning of mineral resource exploration and exploitation has been a key characteristic. Today, despite many years of market-oriented reforms, China still issues plans for mineral resource development that include targets and quotas for production of selected minerals. In the words of Economy and Levi (2014, p. 20), "the state continues to play a dominant role in guiding resource investment and pricing. And concern over resource security remains a central focus of Chinese decision makers". There is also a common view in parts of academia and industry that China's resource strategies are crafted by a pragmatic and patient leadership who develop policies with a long-term perspective in mind, an approach that extends to China's overseas pursuit of resources. In 2019, a special report by Foreign Policy argued that Chinese firms "have locked up supplies" of strategically important raw materials around the world "with a combination of state-directed investment and state-backed capital, making long-term strategic plays, sometimes at a loss" (FP Analytics, 2019). According to Brady (2017, p. 15) "the level of forward planning" in the Chinese state system is a reflection of "a realist theoretical mindset," which views "competition for resources as a key driver of global politics". Perceptions of a Chinese strategic approach to raw materials are reinforced by the country's broad application of protectionist policies and measures, in particular with regards to REE. These include e.g. the extensive use of quotas and taxes, restrictions on the ability of foreign firms to engage in the REE supply chain in China, concentration of both production and export in a small number of large companies, the creation of a joint pricing platform, and a national pricing system for raw materials setting prices lower than those offered on the international market (Barteková and Kemp, 2016, p. 9).

A rich body of literature exists on China's resource policies and their effect on the global supply chain of critical raw materials. Indeed, China is often at the center of academic discussions of raw material criticality, because research on criticality is heavily focused on REE – a resource for which China is the world's largest producer, consumer and exporter, accounting for more than 85 % of world supply of the wide range of manufactured REE goods and products. China's above-mentioned decision in 2010 to cease exports of REE to Japan led to many studies of how China might leverage its market power to pursue political goals (Kiggins and David, 2015; Mancheri, 2015). Zepf (2013) has demonstrated how China regards REE as a "strategic" resource and the REE sector as a "strategic" sector, with supportive government policies that date back to the 1980s. Barteková and Kemp (2016) and Kiggins and David (2015) have highlighted how China's resource policies are aligned with its industrial policies to achieve strategic national objectives. Other studies have dealt with topics such as the historical development of China's REE sector (Zepf, 2013); supply security of the REE industry within China (Wübbeke, 2015); and influence of Chinese policies on global REE supply chains (Massari and Ruberti, 2013; Golev et al., 2014; Mancheri et al., 2019). Still others have dealt with Chinese strategies for pursuing resources overseas (Economy and Levi, 2014; Brady, 2017; FP Analytics, 2019; Zeuthen and Raftopoulos, 2018; Têtu and Lasserre, 2017).

For countries that depend on China for supply of critical minerals, interpretations of China's resource policies, including its strategic use of export taxes and production quotas for selected raw materials, have an influence on criticality assessments, as do perceptions of China's state-led economic system. Neither the EU nor the US consider China to live up to their definitions of a "market economy" (EC, 2016; USTR, 2019). For the EU, dependence on supply of important raw materials from countries that "do not have a market-based system" is considered a "particular risk" (EC, 2008). Although existing interpretations of China's resource policies may be largely correct, there is a lack of research on the domestic processes in China for deciding which minerals are "strategic" or "critical" – and therefore should be prioritized – in the Chinese state system. This article contributes to the existing literature by exploring these processes, aiming to answer the following research question: How are mineral raw materials prioritized and categorized in China, and what is the impact of raw material categorization on policy and industry?

3. Theoretical Lens: the criticality construct

This article takes the concept of the "criticality construct" as developed by Machacek (2017) and employs it in the Chinese context. Most of the literature view raw material "criticality" as objectively defined by industrial needs and supply. Inspired by Machacek, this article highlights that the classification of certain raw materials as "strategic" or "critical" is also a *decision* taken by experts and policymakers, and not merely the result of an objective need. The criticality construct highlights the role of experts and expert authority in the construction of mineral criticality. Machacek (2017) has shown how experts in the EU and the US construct criticality by means of classification. These experts estimate mineral criticality by allotting data to a set of parameters in a framework that has been established for assessing criticality. In a "bureaucratic practice of classification," "key materials" are turned into "critical materials" (Machacek, 2017, p. 368). Machacek presents two propositions. Firstly, as legitimizers of criticality assessment frameworks, experts are crucial for constructing the conceptual meaning of criticality. Through a process of "valorization," they highlight select aspects of mineral criticality while silencing others. Secondly, the criticality construct performs "political work" on behalf of the experts. By defining some minerals as "critical," experts influence policymakers (who seek to mitigate criticality) by directing their attention towards specific issues. In so doing, they "contribute to the redistribution of public wealth toward particular beneficiaries" (Machacek, 2017, p. 2).

In China, the experts with the most influence on the construction of criticality are based at institutions under the Ministry of Natural Resources (MNR), including China Geological Survey (CGS) and the Chinese Academy of Geological Sciences (CAGS), but also at Chinese

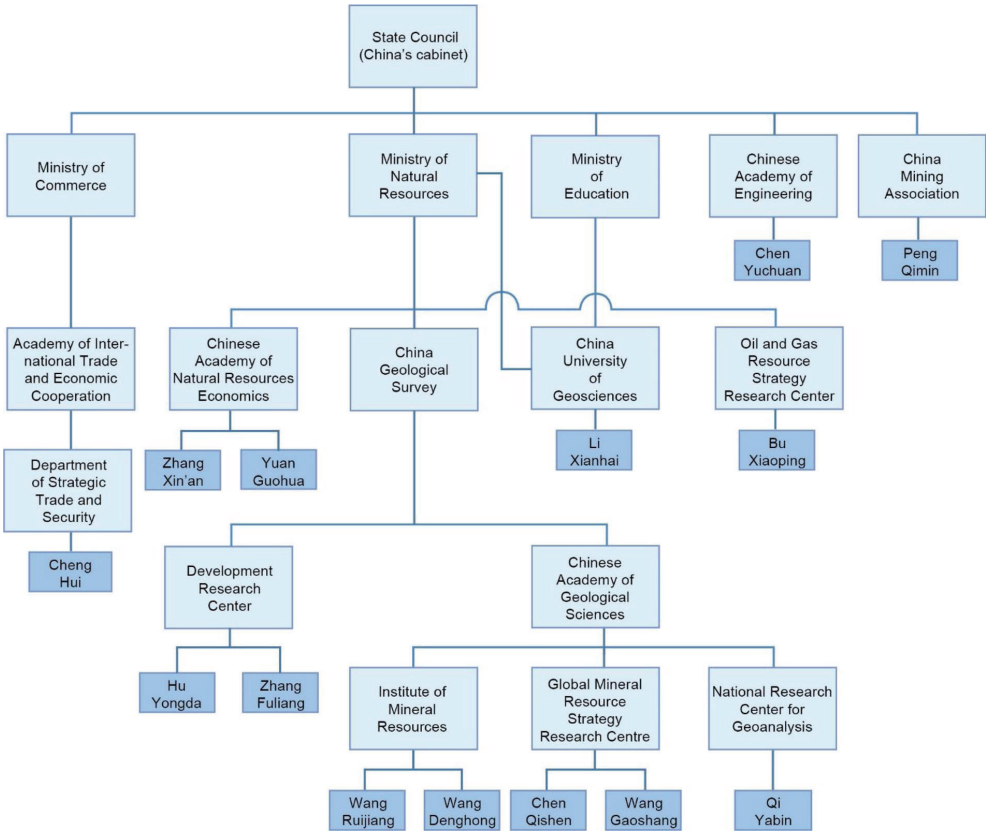

Fig. 1. Institutional affiliation of authors of selected articles focusing on the Chinese concept of "strategic minerals" and related sub-concepts. Authors are highlighted in dark blue. In case of multiple authors, only the leading author is listed.

universities and industry organizations (Fig. 1). Other ministries, such as the National Development and Reform Commission (NDRC) and the Ministry of Industry and Information Technology (MIIT), develop some of the industrial policies that influence criticality discussions. These individuals are part of a domestic community of experts that produces authoritative advice intended to support the development of China's mineral policies. Some also occupy positions within the bureaucracy, lending them a hybrid character of "expert-officials" (Wübbeke, 2013). At present, Chinese experts do not seem to have an official, well-established methodology to proceed from. Chinese scholars have stressed that Chinese research on mineral criticality began relatively late and that China is yet to develop a uniform approach towards defining and evaluating "strategic minerals" (Peng, 2017; Li et al., 2014; Conversation with CAGS researcher, 2019). Instead, these experts assess mineral criticality using assessment frameworks that they are themselves proposing in their research papers. Using their own definitions and assessment criteria, these experts assign different degrees of "strategicness" to mineral raw materials, thereby contributing (in varying degrees) to a discourse that prioritizes some minerals over others.

4. Methods

4.1. Data collection

Most of the academic articles were obtained via keyword search in the Chinese Academic Journals Database (CAJ). A search for articles catalogued under the two variations of the term "strategic minerals" ("战略矿产" or "战略性矿产")[4] generated a total of 325 articles published between 1980 and 2019[5] in journals covering fields such as geology, resource planning and industrial economics. A large number of articles that did not discuss the Chinese concept of "strategic minerals" could be excluded from analysis. Articles that did not provide a definition of "strategic minerals" were excluded. The main criteria for selecting articles for analysis were 1) influence on the conceptual development, measured in number of citations in subsequent research (taking into account that more recent publications will have a lower citation score), and 2) the seniority and institutional affiliation of the author. The latter was deemed relevant because of the importance attached to hierarchy and rank in Chinese academia and organizational culture, which presumably makes it easier for recognized experts at powerful, specialized institutions to achieve a stronger influence in criticality debates. A total of 10 articles published between 2002 and 2016 were selected as the focus of the analysis. As various sub-concepts

[4] The Chinese term "strategic minerals" is used in two slight variations, one combining the Chinese characters for "strategic" and "minerals," (战略矿产) the other adding a suffix in between, corresponding to "-ness" (战略性矿产). Although the terms are synonymous, the latter variant appears to have become preferred in recent years.

[5] 145 for "战略矿产" and 180 for "战略性矿产" (as of 5 February 2019).

of "strategic minerals" were identified in the initial selection of articles, additional articles that focused on these sub-concepts were selected based on the two above-mentioned criteria (Fig. 1). Supplementary data was collected in conversations with Chinese researchers at CAGS in Beijing on two occasions in December 2018 and January 2019. The conversations were attended by a group of researchers, one of whom is also a public official. The conversations filled several functions, including a) allowing for triangulation of the findings from the written materials; b) providing additional information not available in the articles and documents; b) helping to clarify the content of the articles (especially useful given my background as a non-geologist); and c) providing or recommending new materials. An interview guide was prepared that outlined some guiding questions. The conversations are recorded.

4.2. Reading strategy

Special focus was given to the following content: a) definitions of "strategic minerals;" b) methodologies for selecting "strategic minerals;" c) categories or classes of "strategic minerals;" and d) dimensions of "strategic minerals".

4.3. Analyzing criticality constructs

In line with the article's theoretical assumptions, an expert was regarded as constructing criticality if s/he meets the following two criteria:

- Provides a definition and/or methodology for selecting "strategic minerals," and uses this/these to highlight the strategic importance of certain minerals.
- Uses distinct labels to indicate the "strategic-ness" of minerals, either by simply defining certain minerals as "strategic" or by using different labels to divide strategic minerals into sub-categories or classes.

The article considers "criticality" to be "constructed" when knowledgeable researchers contribute with (scholarly) work, even if their individual contributions cannot be clearly linked to a policy outcome, such as an official list of "strategic minerals". Although a well-connected, highly recognized expert at a powerful institution may be more likely to achieve a noticeable impact in Chinese criticality discussions, other scholars and experts who, in varying degrees, influence policy discussion by "raising" and calling attention to criticality issues in their research, also contribute to the construction of criticality.

5. The origin of a Chinese theoretical concept of "strategic minerals"

In Chinese mass media, the term "strategic minerals" (战略矿产) can be traced back at least to 1951, when it appeared in an article in the People's Daily – the official newspaper of the Chinese Communist Party (CCP). The article, titled "Bloody Business – How Landlords and Businessmen in Latin America Get Rich in War," argued that the US had "almost monopolized the purchase of various strategic minerals" (Renmin Ribao, 1951). A search in CAJ reveals that the term has been used in Chinese research papers since at least 1980, with several papers containing the term between the years 1980 and 2000. In these early publications, the term seems to have been used mainly in critique of the two superpowers' (the United States and the Soviet Union) strategies for seizing control over "strategic" resources overseas (see e.g. Zhang, 1980; Hu, 1982). These early uses of the term "strategic minerals" did not contain any theoretical discussions of the concept itself nor did they carry a focus on China's own mineral needs or Chinese approaches or strategies for meeting those needs. In other words, before the 2000s, a public debate about a Chinese theoretical concept of "strategic minerals," based on a theoretical analysis of China's domestic needs and approaches, does not seem to have existed (even if such discussions may have occurred in unpublished or non-public sources). From the start of the millennium, however, the terms "strategic minerals" and "strategic mineral resources" started appearing in official policy and planning documents and in formal statements by senior Chinese leaders. In 2000, then Vice Premier Wen Jiabao gave a speech on the work to improve protection and utilization of resources, in which he called for China to carry out exploration of "strategic minerals" within its borders (Renmin Ribao, 2000). The following year, Wen repeated this call when delivering work instructions for CGS in a speech titled "Geological Work Should be More Proactive in Serving Economic and Social Development" (Renmin Ribao, 2001). In May 2001, at the Fourth Session of the Ninth National People's Congress, Premier Zhu Rongji called for the "gradual establishment of a strategic mineral resource stockpile and safe supply system" (Zhu, 2001). The same year, this formulation was included in the "Outline of the Tenth Five-Year Plan for Land and Resources," together with a call for establishing "a national reserve system for strategic mineral resources" to "enhance the ability to deal with emergencies in the minerals trade market" (MLR, 2001). This signaled that the term "strategic minerals" had officially entered into the highest level of political discourse. Moreover, it was now used in discussions of China's own mineral needs, i.e. to refer to minerals "strategic" to China, and not just in discussions of great power competition over "strategic minerals".

By now, a reevaluation of the term "strategic minerals" seems to have occurred and an academic debate on a Chinese theoretical concept of "strategic minerals" would soon follow in Chinese-language publications covering fields such as geology, resource planning and industrial economics. This debate will be explored in the following two sections.

6. Criteria and parameters of "strategic minerals" in Chinese academic debates

At least six different but sometimes overlapping criteria or parameters have been used by Chinese experts to define "strategic minerals". The most frequently applied are 1) importance for economic development/security, 2) importance for national defense and 3) supply risk. Some definitions also highlight 4) substitutability, and, in recent years, definitions have explicitly included 5) minerals deemed important for developing China's Strategic Emerging Industries[6] (overlaps with the criteria "importance for economic development/security"). In addition, Chinese definitions of "strategic minerals" tend to include 6) minerals that China has in abundance and for which it holds a competitive advantage relative to other countries. Some Chinese experts believe that China can leverage its dominant position in global supply chains of certain minerals to pursue strategic objectives (see discussion on "advantageous strategic minerals" below). Such minerals are not subject to supply risk – at least not in the short-to-medium term – but are still considered "strategic". Hence, although raw material assessments in China and elsewhere share the same conceptual core, i.e. the fear of supply disruption of raw materials deemed essential for the economy, there appears to be a difference in scope. While in e.g. the US, the EU and Japan, all of which are advanced manufacturing economies with a high dependency on imported raw materials, supply risk is always a key parameter (if there is no supply risk, the mineral is not "critical"), Chinese assessments of "strategic minerals" utilize a broader, more flexible set of criteria in which some "strategic minerals" are subject to supply risk, others are not.

[6] SEIs are sectors identified as crucial for driving Chinese economic growth and investment in the future, including next generation information technology, new-energy vehicles, new high-end equipment manufacturing, and biotechnology (State Council, 2016b).

6.1. Some notable definitions

In 2002, three papers were published that have been widely cited in subsequent Chinese-language discussions of "strategic minerals". The first was written by Chen Yuchuan, former head of CGS and a member of the prestigious Chinese Academy of Engineering. Chen (2002, p. 20) defined "strategic minerals" as "minerals that are indispensable for the country's economy, social development and national defense, that cannot be guaranteed domestically, and that can influence the international market". A similar definition was given by Qi (2002, p. 54), who argued that "strategic minerals" have the following characteristics: 1) they are essential for national defense and economic development, 2) in wartime they have to be imported, and 3) the domestic supply is "either lacking or abundant" ("lacking" refers to minerals for which there is a supply risk and "abundant" refers to the "advantageous" strategic minerals). Zhang Xin'an, Dean of the Chinese Academy of Natural Resources Economics, gave a definition of "strategic minerals" that emphasized importance for national defense: "minerals that are essential for national security, for which domestic supply cannot meet demand and the foreign supply situation is unreliable – to a point where there is a danger of urgent supply shortage" (Zhang, 2002, p. 1).

A definition by Wang Ruijiang, former Director of the Institute of Mineral Resources at CAGS, highlighted the role of "strategic minerals" in raising a country's international standing. His article defined "strategic mineral resources" as mineral resources that have important strategic value for the development, stability and international competitiveness of a country. Wang highlights that "the number of strategic mineral resources is an important indicator of a country's overall national strength" (Wang, 2004, p. 1074). A widely cited article by Chen and Wang (2007, p. 18) provided a definition of strategic minerals based on two criteria. Firstly, strategic minerals are minerals for which China relies heavily on imports (due to insufficient domestic resources or "backward" production technology), and for which supply disruption or large fluctuations in prices would have a major impact on China's economic security and national defense. Secondly, they include minerals for which China has a domestic resource advantage relative to other countries, allowing it to "control" the global markets (e.g. REE and tungsten).

In recent years, the resurgence of the international criticality discourse has had a profound influence on Chinese debates on "strategic minerals," with several articles discussing China's approach in relation to those of other countries, especially the US and the EU (e.g. Zhang et al., 2013; Li et al., 2014; Hu, 2016; Peng, 2017). Following the publication of the Strategic Emerging Industries Key Products and Services Catalogue in 2013 (NDRC, 2013), efforts were made to identify and pair the minerals and raw materials crucial for developing each of the SEIs (see e.g. CGS, 2016; Hebei Provincial Department of Land and Resources, 2017). Compared with the concept of "strategic minerals," this produced a narrower catalogue of raw materials that, because of its focus on small-volume elements used in high-tech industries, largely resembles the lists of "critical minerals" and CRMs by the US and the EC respectively (it did not include the "staple minerals," such as iron, copper, oil and natural gas, that are often included on lists of "strategic minerals"). Definitions of the broader concept of "strategic minerals" have also begun to explicitly incorporate the development needs of SEIs. Hu Yongda, a senior engineer at CAGS, defined "strategic minerals" as minerals that have an important impact on economic and social development and for which there is a supply risk in the medium to long term. It also includes minerals used in SEIs and key areas of national defense that are irreplaceable or have a very low substitutability (Hu, 2016, p. 103).

In sum, Chinese definitions of "strategic minerals" tend to consider a comprehensive set of parameters, of which importance for economic development/security, national defense and supply security are the most frequently applied. Some minerals are considered "strategic," regardless of whether they are subject to supply risk or not (or precisely because China has them in abundance), and since around 2013, Chinese definitions of "strategic minerals" have been linked with the industrial policy of promoting SEIs.

7. Sub-categories of Chinese "strategic minerals"

Chinese researchers use different terms and concepts to divide "strategic minerals" into sub-categories. Some of these categories are difficult to define and distinguish from each other, and there is sometimes overlap. Overall, Chinese definitions of "strategic minerals" tend to include a more diverse selection of minerals than typically seen in criticality assessments elsewhere. The below discussion will exclude terms that simply indicate type of material, e.g. "energy minerals," "metallic mineral," "non-metallic mineral".

7.1. Staple minerals

A prominent characteristic of the Chinese concept of "strategic minerals" is the inclusion of "strategic staple minerals," (大宗矿产) roughly defined as minerals or raw materials that China needs in very large quantities, and for which China's share of global demand in very high, e.g. iron, copper, potassium chloride and energy minerals such as oil and natural gas (Peng, 2017; Conversation with CAGS researcher, 2019). There is no consensus among Chinese researchers as to what qualifies as a strategic "staple mineral". One expert proposes defining them as "strategic minerals" whose demand exceeds 200,000 t/year (Wang, 2019, p. 1190). China's annual demand for raw materials such as iron, copper and aluminum exceeds one million tons or even one billion tons, whereas demand for REE and other rare metals is generally below 200,000 t/year (ibid.).

7.2. Critical minerals

The term "critical minerals" appears in Chinese debates of "strategic minerals". It is not a Chinese concept; it has been borrowed and translated from English-language discourse, using two different but synonymous terms – *weiji kuangchan* (危机矿产) and *guanjian kuangchan* (关键矿产) (Conversation with CAGS researcher, 2019). The term is mainly used to refer to criticality assessments by e.g. the EC and the US, but some researchers have applied it in discussions of Chinese "strategic minerals," where it is often equated with the term "SEI minerals" (Wang, 2019; Hu, 2016) (see below).

7.3. Strategic emerging industry (SEI) minerals

SEI minerals (also written as "Strategic Emerging Minerals") consists of minerals and raw materials that are deemed essential for the development of China's SEIs. These include e.g. lithium, tungsten, tin, molybdenum, antimony, cobalt, REE and zirconium (CGS, 2016; Hebei Provincial Department of Land and Resources, 2017). There is no official definition of "SEI minerals". Zhang et al. (2013, p. 8) provides the following definition: "At the stage of developing a new industrialization and ecological civilization, and guided by the new technological revolution, [SEI minerals are] new-energy minerals, new materials, new-rare minerals and new-functional minerals needed to ensure the sustainable development of strategic emerging industries, and for China to build a well-off society in an all-round way".

7.4. Advantageous minerals and protected minerals

"Advantageous strategic minerals" (优势战略性矿产) are mineral raw materials that China has in abundance, and for which it can use its dominant position in global supply chains to gain an international competitive advantage. Chen and Wang (2007, p. 18) defines them as minerals for which China has a domestic resource advantage relative to other countries, allowing it to "control or influence" the global markets.

Wang (2009, p. 818) defines them as "mineral resources for which a country has an absolute advantage relative to other countries, making it possible to control the market price and market trends for that resource, thereby having strategic value for raising the country's international standing". The most frequently cited examples of "advantageous strategic minerals" in the Chinese literature are REE and tungsten, although tin and antimony have also been labeled "advantageous". A similar concept is "protected minerals" (保护矿产), which Yuan (2010, p. 31) defines as "minerals that have an irreplaceable role for the defense industry, aerospace industry and national economic construction, and for which China has a relative advantage".

7.5. Other concepts

Other concepts in the literature include strategic "pillar minerals" (支柱性矿产), defined as minerals essential for ensuring the normal functioning of the national economy (Wang, 2009; Qi, 2002). "Pillar minerals" are "staple minerals," and tend to include raw materials such as oil, iron, and copper. "Short-supply minerals" (短缺/紧缺矿产) refer to mineral resources for which China has a serious domestic shortage and therefore relies heavily on the international market for supply (e.g. oil, uranium, high-quality iron, manganese, chromium, and copper) (Ye and Zhao, 2014). Another concept is "technology-constrained minerals" (技术制约型矿产), which Chen and Wang (2007) define as minerals for which China lacks advanced production technology, and therefore relies heavily on imports.

8. Impact of mineral raw material categorization on policy and industry

It is difficult to determine the extent to which academic debates influence policymaking in China. It is also difficult to establish who influences whom – is it policymakers at the top that introduce key terms and concepts, after which scholars interpret and apply these terms in their research? Or are the terms that appear in academic debates the "inventions" of the researchers themselves? The purpose of this section is not to establish the degree to which academic debates have influenced China's mineral policy, but to demonstrate that mineral categorization is not simply a theoretical exercise confined to the desktops of researchers and academics – it has also had policy implications. Key terms and concepts from academic debates on "strategic minerals" are also found in official policy documents, and categorizations produced by Chinese experts are used in important planning documents that the Chinese mining industry is expected to follow. Some of the policy suggestions put forward in the articles have been adopted, the most significant of which was the establishment of an official catalogue of 24 "strategic minerals" in 2016 (see Section 8.2).

8.1. Terms and concepts in policy documents

The terms "staple mineral," "advantageous mineral," and "SEI mineral," which have been used in the academic debates to label subcategories of "strategic minerals," have all appeared in China's FYPs for Land and Resources and in the National Mineral Resources Plans (NMRPs) – two key policy documents for the macro planning of mineral resources in China (Fig. 2). "Staple mineral," sometimes combined with the term "pillar mineral" to create the term "staple pillar mineral," has appeared in the three NMRPs that have been issued thus far (the first NMRP was issued in 2001), and in the two most recent FYPs for land and resources. The term "advantageous mineral" has appeared in the four FYPs for land and resources issued since 2001 and in the NMRPs issued for 2008–2016 and 2016–2020 respectively, but the frequency has decreased gradually. This coincides with a decline over time in the application of the parameter "domestic resource advantage" in Chinese assessments of "strategic minerals". The term "SEI mineral" is used three times in the 13th FYP for Land and Resources (2016–2020) and seven times in the NPMR (2016–2020). The inclusion of the term "SEI mineral" in these policy documents happened after it began to be used in academic debates on "strategic minerals" (around 2013). The Chinese term for "critical minerals" (关键矿产) does not appear in any of the analyzed policy documents, which is consistent with the finding that it is a concept imported and translated from English-language discourse that is used in Chinese academic discussions, but not as an official Chinese concept (see Section 7.2).

As was discussed in Section 5, the term "strategic mineral" has been used in policy documents since the early 2000s. Before 2016, however, no official definition or explanation of the concept had been provided and no official catalogue of "strategic minerals" had been established. This changed with the publication of the NPMRs in 2016, which will be analyzed below.

8.2. China's official catalogue of "strategic minerals"

The NPMR (2016–2020) established China's first official catalogue of "strategic minerals" (Sina, 2016). The Plan, which runs parallel with the 13th National FYP, aims to "coordinate the exploration, development, utilization and protection of mineral resources". It was drafted by the Ministry of Land and Resources (MLR) (in 2018 dissolved and replaced by the newly formed MNR), with input from the National Development and Reform Commission, the Ministry of Industry and Information Technology (MIIT), the Ministry of Finance, the Ministry of Environmental Protection (since 2018 replaced by the Ministry of Ecology and Environment), and the Ministry of Commerce. It has been formally approved by the State Council (China's cabinet). Hence, the Plan, although primarily produced by the MNR (which also oversees its implementation), should be regarded as a consensus document that merges the expertise and interests of a wide range of actors, including geologists, economists, national resource managers, environment officials and engineers among others.

Concerning the aim and logical basis for establishing the catalogue of "strategic minerals," the Plan states:

> For protecting national economic security, defense security, and the development needs of Strategic Emerging Industries, 24 mineral resources such as oil, natural gas, coal, REE and crystalline graphite are included in a catalogue of strategic minerals. [This to] serve as the focus of macro regulation, supervision and management of mineral resources, and for strengthening guidance and differentiated management of resource allocation, financial investments, major projects, and mining land utilization etc., with the goal of improving the supply security and the development and utilization of resources (State Council, 2016a, pp. 14–15).

Under the headline of "strengthening the macro management of mineral resources," The NPMR (2016–2020) introduces the catalogue of 24 "strategic minerals" divided into three groups based on type of material – energy minerals, metallic minerals and non-metallic minerals (Table 1). No details are given concerning the methodology used to select the 24 minerals. The Plan does not provide a full categorization of the 24 "strategic minerals" into the subcategories discussed above (staple mineral, advantageous mineral, SEI mineral). It does, however, refer to some of the "strategic minerals" using these subcategories. For example, it lists REE, lithium and crystalline graphite as "SEI minerals" (State Council, 2016a, p. 54) and oil, natural gas, iron, copper, aluminum as "staple minerals" (ibid., p. 4). The term "advantageous minerals" appears in the Plan, but no examples are given. The previous Plan (2008–2015) identified REE, tungsten, tin, antimony, fluorite and graphite as "advantageous minerals" (State Council, 2008). Based on the partial categorization provided by the NPMRs and the attempts to categorize "strategic minerals" by Chinese researchers (see Section 5), I have tried to categorize all of the 24 "strategic minerals" (Table 1).

A majority of the minerals and raw materials in the catalogue are classified as "staple minerals". The inclusion of "staple minerals" is

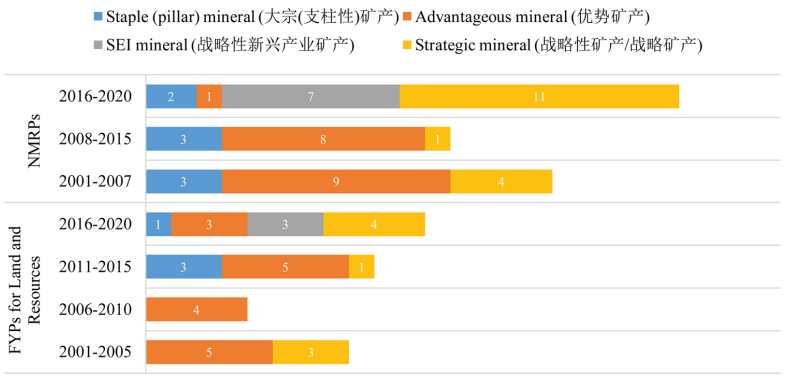

Fig. 2. No. of mentions of key terms in National Mineral Resources Plans (NMRPs) and FYPs for Land and Resources.

reflective of the stage of industrial development that China perceives itself to be in, namely later-stage industrialization (工业化中后期). China is urbanizing rapidly and therefore in need of large quantities of iron ore to produce steel needed for infrastructure development. Because of the low quality of its domestic reserves, China imports around 65 % of its iron ore (Peng, 2017, p. 2). At the same time, China is still a large agricultural country. Because China's arable land lacks potassium, it needs to import potassium chloride to produce fertilizers. China relies on imports for about half of its demand for potassium chloride (Peng, 2017, p. 3). Copper, another "staple mineral," is needed in large quantities for construction and manufacturing. About 70 % of China's copper is imported (Peng, 2017, p. 2). Although China's demand for "strategic staple minerals" remains high, it is expected to decline gradually in the coming years. For some energy minerals, such as coal, demand growth has already reached a peak (State Council, 2016a).

The inclusion of REE and tungsten in the catalogue of "strategic minerals" might seem surprising given that China dominates global production of these raw materials – China accounts for over 85 % of the world's production of REE and tungsten. Indeed, part of the reason these are considered "critical" by the US, the EU and Japan is that Chinese dominance over supply chains creates concerns over supply security. Although some Chinese experts and policymakers have worried that the country's REE reserves could deplete in the near future if production is not managed carefully (Wübbeke, 2015), there is no supply risk in the short-to-medium term, and supply security is not the main reason for labelling REE a "strategic" resource. As has been discussed above, these are considered "advantageous strategic minerals," i.e. minerals for which China can leverage its dominant market position to pursue strategic objectives (Wang, 2009; Chen and Wang, 2007). This, however, does not represent a distinct "Chinese way" of thinking strategically about raw materials for which one holds a comparative advantage. Other countries have sought to protect and exploit a domestic resource advantage. As the former Director of the US Geological Survey George Otis Smith wrote in 1909, when the US was the world's dominant producer of coal: "This glance at the world's reserves of coal shows plainly not only that the United States leads all other countries in production, our annual output being nearly forty per cent of the total, but also that it possesses the greatest reserves. Yet in respect to no mineral is there greater need to emphasize the folly of exporting the raw material. Let us keep our coal at home and with it manufacture whatever the world needs" (Smith, 1909, p. 682).

8.3. How does mineral raw material categorization affect industry?

Raw material assessments in China, like elsewhere in the world, are

Table 1
Breakdown of the 24 "strategic minerals" in the National Mineral Resources Plan (2016–2020).[a]

	Energy						*Metallic minerals*														*Non-metallic minerals*			
Mineral /raw material	Oil	Natural gas	Shale gas	Coal	Coalbed methane	Uranium[8]	Iron	Chromium	Copper	Aluminum	Gold[9]	Nickel	Tungsten	Tin	Molybdenum	Antimony	Cobalt	Lithium	REE	Zirconium	Phosphorus	Potassium chloride	Crystalline graphite	Fluorite
Stap.	X	X	X	X	X		X	X	X	X		X									X	X	X	X
SEI										X		X	X		X	X	X	X	X	X			X	X
Adv.													X	X		X			X				X	X

[a] Author's compilation (NPMR 2016–2020). Minerals highlighted in blue are categorized in the NMRP (2016–2020) and minerals highlighted in green are categorized in the NMRP (2008–2015). The minerals are listed in the same order they appear in the official catalogue of "strategic minerals". It is unclear whether the order represents a ranking. Tungsten and REE are the most commonly listed examples of "advantageous minerals" in Chinese research. In addition, Cheng (2013); Ye and Zhao (2014) and Bu, et al. (2009) list tin as an "advantageous mineral". Bu, et al. (2009) and Cheng (2013) also list antimony as an advantageous mineral. CGS (2016) and Hebei (2017) identify REE, lithium, graphite, fluorite, cobalt and zirconium as important for SEIs. Hebei (2017) also lists nickel, antimony, molybdenum, tungsten and aluminum as SEI minerals. Importance for defense security, one of the main parameters used in Chinese assessments of "strategic minerals" does not appear as a category in the table. This is because neither the Plan nor the Chinese research papers list the specific minerals that are deemed important for national defense.

to a large degree shaped by industrial demands. However, mineral categorizations produced by Chinese experts and policymakers also have an industrial impact. This is demonstrated by the fact that different categories of minerals are subject to different policies and regulations that industry must follow.

Although a wide range of minerals and raw materials have been subject to restrictions in China, including export taxes and production/export quotas, the raw materials that have by Chinese experts been labeled "advantageous" and "protected" are the most heavily regulated. In 2009, the MLR published a document titled "Interim Measures for the Management of Exploration and Exploitation of Specific Minerals for Protective Mining" with the purpose of "protecting China's advantageous mineral resources" (MLR, 2009). "Advantageous minerals" are the only raw materials that are subject to production quotas in the NMRPs (production estimates are set for other minerals). The NMRP (2008–2015) limited the annual production of four raw materials or products that it labeled "advantageous" – REE, tungsten, antimony and tin (State Council, 2008, p. 7). Restrictions for antimony (and tin) have since been removed, but the NMRP (2016–2020) keeps production quotas for the two raw materials most frequently defined as "advantageous" by Chinese experts – REE and tungsten (production of rare earth oxides is limited to 140,000 t/year, and of tungsten trioxide to 120,000 t/year) (State Council, 2016a, p. 11). The production quotas in the NMRPs are preliminary and updated or confirmed by the MNR and the MIIT twice every year.

SEI minerals, which overlap with the "advantageous minerals" (e.g. REE and antimony), are minerals deemed essential for supporting China's SEIs. Developing SEIs are, as noted above, an industrial policy that aims to elevate China into an advanced economy by relying on indigenous innovation in advanced technologies. A 2017 document from the MLR identified and mapped the raw materials needed for developing each of the then seven SEIs (two SEIs have since been added, making the current total nine SEIs), and assessed China's development level relative to other countries within each of these industries. For example, it identified REE, gallium, indium, silicon, germanium, tantalum and lithium as important for next generation information technology, the one SEI where "China has the biggest possibility to be a world leader". High-end equipment manufacturing, an industry where "there is a large gap between China and developed countries," needed mineral raw materials such as cobalt, rhenium, titanium, germanium, gallium, molybdenum and tungsten. The document also listed lithium, cobalt, platinum and nickel as needed for new-energy vehicles, an industry where China was "at a primary stage, but had potential for development" (Hebei Provincial Department of Land and Resources, 2017). Given their perceived importance for China's future industrial development, SEI minerals are the focus of several policy efforts. The NMRP (2016–2020) lists broad measures for "guaranteeing the supply of Strategic Emerging Industry minerals". For example, it pledges to "strengthen the rational development of REE, graphite, lithium and other minerals for which China has a good resource base, large market potential, and competitiveness on the international market" (State Council, 2016a, p. 30). Many of the policies concern REE. For example, the Plan calls for establishing six major REE "resource bases," including Baotou in Inner Mongolia, Liangshan in Sichuan and Zhangzhou in Jiangxi, to "consolidate the exploration, development and resource allocation-structure led by the large-scale REE groups". Other measures include promoting lithium exploration and development in Sichuan, Xinjiang and Jiangxi, establishing lithium mines in Sichuan as "new energy resource bases," and establishing graphite resource bases to ensure supply for downstream industries such as high-end new energy anode materials, graphene materials, silicon infiltrated graphite, and biomedical materials (State Council, 2016a, pp. 30–31).

"Staple minerals" are subject to less regulations and restrictions than the other categories, although coal may be an exception. China's coal sector is undergoing a major restructuring to address industry fragmentation, overcapacity and environmental problems. The idea is to focus on larger, cleaner, and more efficient facilities. The NMRP (2016–2020) states that no new coalmines with an annual output below 300,000 t will be built, and that mines with an annual production under 150,000 t will be closed down "within a time limit". The number of coalmines in the country will be reduced to no more than 6000 by 2020. State Council, 2016a, p. 25). The NMRP (2016–2020) sets annual production targets for several "staple minerals," such as iron ore (1.2 billion t), aluminum ore (73 million t), copper (metal) (2.6 million t), crude oil (200 million t) and natural gas (170 billion cubic meter) (State Council, 2016a, pp. 10–11).

8.4. Impact on Chinese mining activities abroad?

The catalogue of "strategic minerals" could potentially shape or at least influence to some degree Chinese mining and mineral exploration activities abroad. As China relies heavily on imports for supply of most of its "strategic minerals," Chinese mining companies could become incentivized to target "strategic minerals" in their overseas activities. In this way, the "strategic-ness" of targeted minerals could potentially become a factor (alongside commercial viability and geopolitical considerations) when state banks decide whether to grant financing for mining projects. Hence, just as mining companies investing in projects overseas hope to benefit from supportive government policies by framing their projects as part of China's international development project – the Belt and Road initiative (Zeuthen, 2017), they may further facilitate access to state resources by highlighting that their projects target nationally prioritized "strategic minerals". Although it seems likely that mining companies could benefit from framing their projects as aligning with government policy, to what extent the "strategic-ness" of minerals influence Chinese investment decisions in mining projects overseas is beyond the scope of this article.

9. Conclusions

To date most of the literature has assumed that China works strategically with minerals and raw materials, without considering the domestic debates and theories that underpin China's resource policies. To more fully understand China's resource strategy it is essential to study how different voices inside China understand criticality and the nuances of what a "strategic" or "critical" mineral means in the Chinese context.

Criticality assessments anywhere are based on the same idea at the conceptual core, i.e. the fear of supply disruption of raw materials deemed essential for economic growth and prosperity. In China, like elsewhere, the construction of criticality – the labelling of certain raw materials as "critical" or "strategic" by experts and policymakers – serves to legitimize the exceptional use of state power and resources to ensure sustainable access to and/or protected exploitation of those raw materials. Without the decision of defining certain raw material categories as "strategic" or "critical," the exercise of state power to mitigate concerns of supply security would be considered unjustified or even illegitimate as a government action or policy. However, while Chinese criticality assessments share the same conceptual foundation as those of other countries, the inclusion of raw materials explicitly labelled "advantageous" (e.g. REE and tungsten) on Chinese lists of "strategic minerals" suggests that some raw materials are considered "strategic" for reasons unrelated to supply risk, or precisely because China has them in abundance. Although this way of thinking strategically about raw materials for which one holds a comparative advantage is not unique to China – other countries have sought to protect and exploit a domestic resource advantage – it does suggest a wider scope in Chinese assessment of "strategic minerals" than typically seen in criticality assessments in e.g. the US, the EU and Japan, all of which have manufacturing industries that rely heavily on imported raw materials.

An important discovery of this article is that raw material

categorization developed by Chinese experts and policymakers has an industrial impact. Categories of minerals such as “staple minerals,” “advantageous or “protected” minerals and “SEI minerals” are subject to different regulations and policies. It suggests a circular feedback loop in which industrial demand to a large degree influence raw material assessments, after which policies and regulations are adopted (based on the assessments) that industry must follow. Put differently, in China’s state-led economic model, raw material assessments shape industrial policy (e.g. through adoption of different policies and regulations for different categories of raw materials), and industrial policy, in turn, (re) shapes industry by changing the structure of market incentives.

This article has found that Chinese academic debates can provide clues about future policy directions. Chinese researchers began to engage in academic discussions on a theoretical concept of “strategic minerals” in the early 2000s, long before an official catalogue of 24 “strategic minerals” was established in 2016. The findings indicate that academic publications serve as a forum for policy discussions, and that key concepts and categories from the debates have been adopted into policy. It suggests that the development of a Chinese policy and classification system of minerals is a dynamic and somewhat open process, not a closed and static one, as is often assumed by scholars of Chinese policymaking.

An official Chinese catalogue of “strategic minerals” has only existed since November 2016, making it difficult to assess its long-term effects on Chinese industry. An updated catalogue of “strategic minerals” is expected to be included in the next five-year plan for mineral resources that will be published in 2021. It may reveal more information about the policy implications of the concept. For now, while the catalogue of “strategic minerals” seems likely to have a considerable impact on the macro-management of mineral resources at the domestic level, more research is needed to establish how a categorization system of minerals based on criticality assessments might affect Chinese involvement in mineral exploration and mining activities abroad.

References

Analytics, F.P., 2019. Mining the Future: How China is Set to Dominate the Next Industrial Revolution (Accessed 7 May 2019). https://foreignpolicy.com/2019/05/01/mining-the-future-china-critical-minerals-metals/.

Barteková, Eva, Kemp, Rene, 2016. Critical Raw Material Strategies in Different World Regions. UNU-MERIT Working Paper Series 2016-005.

BGS, 2008. A Guide to Minerals Information in the Central Belt of Scotland (Accessed 1 May 2019). https://www.bgs.ac.uk/downloads/start.cfm?id=1343.

Brady, Anne-Marie, 2017. China as a Polar Great Power. Cambridge University Press, Cambridge.

Bu, Xiaoping, Meng, Gang, Zhao, Yali, Shang, Yu, Zhang, Cuiguang, 2009. 对我国优势战略矿产资源探析与对策建议 Analysis and suggestions concerning China’s advantageous strategic mineral resources. 工业技术经济 J. Ind. Technol. Econ. 5, 27–30.

Calvo, Guiomar, Valero, Alicia, Valero, Antonio, 2019. How can strategic metals drive the economy? Tungsten and tin production in Spain during periods of war. Extr. Ind. Soc. 6 (1), 8–14.

CGS, 2016. 服务国家能源与矿产资源安全保障 Serving National Energy and Mineral Resources Security. 中国地质调查百项成果 Achievements of China Geological Survey, Beijing: Dizhi Chubanshe 2016.

Chen, Yuchuan, 2002. 建立我国战略性矿产资源储备制度和体系 Establishing a reserve system of strategic mineral resources in China. 国土资源 Land Resour. 1, 20–21.

Chen, Qishen, Wang, Gaoshang, 2007. 我国非能源战略性矿产的界定及其重要性评价 Definition of China’s non-energy strategic minerals and evaluation of their importance. 资源经济 Resour. Econ. 1, 18–21.

Cheng, Hui, 2013. 我国优势战略矿产资源出口管制展望 Prospects for export control of china’s advantageous strategic mineral resources. 中国经贸导刊 China Economic and Trade Guide 7. pp. 28–30.

DG-ENTR, 2010. Critical Raw Materials for the EU (Accessed 20 March 2019). . http://www.euromines.org/files/what-we-do/sustainable-development-issues/2010-report-critical-raw-materials-eu.pdf.

EC, 2008. Communication from the Commission to the European Parliament and the Council. The Raw Materials Initiative: Meeting Our Critical Needs for Growth and Jobs in Europe {S EC(2008) 2741} (Accessed 1 November 2019). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52008DC0699.

EC, 2014. Report on Critical Raw Materials for the EU (Accessed 20 March 2019). . http://www.catalysiscluster.eu/wp/wp-content/uploads/2015/05/2014_Critical-raw-materials-for-the-EU-2014.pdf.

EC, 2016. European Parliament Resolution of 12 May 2016 on China’s Market Economy Status (2016/2667(RSP)) (Accessed 2 November 2019). http://www.europarl.europa.eu/doceo/document/TA-8-2016-0223_EN.html.

EC, 2017. 2017 List of Critical Raw Materials for the EU (Accessed 5 February 2019). https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-490-F1-EN-MAIN-PART-1.PDF.

EC, 2018. Critical Raw Materials (Accessed 5 February 2019). http://ec.europa.eu/growth/sectors/raw-materials/specific-interest/critical_en.

Economy, Elizabeth, Levi, Michael, 2014. By All Means Necessary: How China’s Resource Quest Is Changing the World. Oxford University Press, New York.

Erdmann, Lorenz, Graedel, Thomas E., 2011. Criticality of non-fuel minerals: a review of major approaches and analyses. Environ. Sci. Technol. 45, 7620–7630.

Frenzel, M., Kullik, J., Reuter, Markus A., Kullik, Jakob, Gutzmer, J., 2017. Raw material ‘criticality’ - sense or nonsense?". J. Phys. D Appl. Phys. 50 (12), 1–18.

Golev, Artem, Scott, Margaretha, Erskine, Peter D., Ali, Saleem H., Ballantyne, Grant R., 2014. Rare earths supply chains: current status, constraints and opportunities. Resour. Policy 21 (1), 52–59.

Hayes, Sarah M., McCullough, Erin A., 2018. Critical minerals: a review of elemental trends in comprehensive criticality studies. Resour. Policy 59, 192–199.

Hebei Provincial Department of Land and Resources, 2017. 战略性新兴矿产的分类, Classification of Strategic Emerging Minerals (Accessed 7 February 2019). http://www.hebgt.gov.cn/heb/gk/kjxx/kpyd/101514023512125.html.

Hu, Pinmei, 1982. 世界战略矿产资源争夺战 The battle for the world’s strategic mineral resources. 地质与勘探 Geol. Prospect. 6, 68–70.

Hu, Yongda, 2016. 我国重要矿产资源战略性评价 Assessment of the strategic-ness of important minerals in China. 地质论评 Geol. Rev. 62 (11), 103–104.

Kiggins, David, Ryan (Eds.), 2015. The Political Economy of Rare Earth Elements: Rising Powers and Technological Change. Palgrave Macmillan, Basingstoke.

Li, Xianhai, Wang, Dan, Wu, Shangkun, 2014. 我国战略性矿产资源评价指标选择: 基于美国、欧盟等关键矿产名录的思考" Selection of Evaluation indicators for strategic mineral resources in China: reflections based on the lists of critical minerals by the United States and the European Union. 中国矿业 China Mining Mag. 4, 30–33.

Machacek, Erika, 2017. Constructing criticality by classification: expert assessments of mineral raw materials. Geoforum 84, 369–377.

Mancheri, Nabeel A., 2015. World trade in rare earths, Chinese export restrictions, and implications. Resour. Policy 46, 262–271.

Mancheri, Nabeel A., Sprecher, Benjamin, Bailey, Gwendolyn, Ge, Jianping, Tukker, Arnold, 2019. Effect of chinese policies on rare earth supply chain resilience. Resour. Conserv. Recycl. 142, 101–112.

Massari, Stefania, Ruberti, Marcello, 2013. Rare earth elements as critical raw materials: focus on international markets and future strategies. Resour. Policy 38 (1), 36–43.

McCurry, Justin, 2010. Japan-China Row Escalates Over Fishing Boat Collision (Accessed 7 November 2019). https://www.theguardian.com/world/2010/sep/09/japan-china-fishing-boat-collision.

MLR, 2001. 国土资源“十五”计划纲 Outline of the tenth five-year plan for land and resources. 国土资源通讯 National Land Resour. Inf. 5, 4–13.

MLR, 2009. 保护性开采的特定矿种勘查开采管理暂行办法. Interim Measures for the Management of Exploration and Exploitation of Specific Minerals for Protective Mining. (Accessed 4 October 2019). http://www.chinamining.org.cn/index.php?m=content&c=index&a=show&catid=92&id=2096.

NDRC, 2013. 战略性新兴产业重点产品和服务指导目录. Strategic Emerging Industry Key Products and Services Guidance Catalogue. (Accessed 11 February 2019). http://www.ndrc.gov.cn/zcfb/zcfbgg/201303/W020130307592414547502.pdf.

Olien, Diana Davids, Olien, Roger M., 1993. Running out of oil: discourse and public policy, 1909–1929. Bus. Econ. Hist. 36–66.

Peng, Qiming, 2017. 提高战略性矿产供应能力, 推动新兴产业快速发展 Improve strategic minerals supply capacity and promote the rapid development of emerging industries. 国土资源情报 Land Resour. Inf. 1, 1–3.

Qi, Yabin, 2002. 中国矿产资源储备问题研究 Research on China’s mineral resources reserve. Korean Hum. Resour. Dev. Strategy Inst. 6, 53–54.

Renmin Ribao, 1951. 血腥的生意——拉丁美洲的地主和商人怎样在战争中发财. Bloody Business – How Landlords and Businessmen in Latin America Get Rich in War. Accessed.

Renmin Ribao, 2000. 全面提高国土资源开发利用保护水平. Comprehensively Improve the Protection and Utilization of Land and Resources. (Accessed 6 February 2019). http://www.yuzunjj.com/GB/channel3/21/20001226/362592.html.

Renmin Ribao, 2001. 温家宝：地质工作要更加主动地为经济和社会发展服务. Wen Jiabao: Geological Work Should Be More Proactive in Serving Economic and Social Development. (Accessed 5 February 2019). http://www.people.com.cn/GB/shizheng/19/20011201/616728.html.

Schmid, Marc, 2019. Mitigating supply risks through involvement in rare earth projects: Japan’s strategies and what the US can learn. Resour. Policy 63, 1–10.

Sina, 2016. 我国将24种矿产确定为战略性矿产, China Identifies 24 Types of Minerals as Strategic Minerals (Accessed 5 February 2019). http://finance.sina.com.cn/roll/2016-11-30/doc-ifxyawxa3153287.shtml.

Smith, George Otis, 1909. Our mineral resources. Ann. Am. Acad. Pol. Soc. Sci. 33 (3), 195–201.

Smith, George Otis, 1920. Minerals as essential raw materials. Ann. Am. Acad. Pol. Soc. Sci. 89 (1), 99–102.

Smith, George Otis, 1921. A foreign oil supply for the United States. Trans. Aime 65 (01), 89–96.

State Council, 2008. 全国矿产资源规划 (2008-2015 年). National Mineral Resources Plan (2008-2015). Accessed. http://www.mlr.gov.cn/xwdt/zytz/200901/t20090107_113776.htm.

State Council, 2016a. 全国矿产资源规划 (2016-2020 年). National Mineral Resources Plan (2016-2020). (Accessed 5 February 2019). http://www.cgs.gov.cn/tzgg/tzgg/201612/W020161206616104236819.doc.

State Council, 2016b. 十三五”国家战略性新兴产业发展规划, National Strategic Emerging Industry Development Plan for the "13th Five-Year Plan" (Accessed 5 February

2019). http://www.gov.cn/zhengce/content/2016-12/19/content_5150090.htm.
Têtu, Pierre-Louis, Lasserre, Frédéric, 2017. Chinese investment in Greenland's mining industry: toward a new framework for foreign direct investment. Extr. Ind. Soc. 4 (3), 661–671.
Toprani, Anand, 2012. Oil and Grand Strategy: Great Britain and Germany, 1918-1941. Georgetown University.
US National Science and Technology Council, 2016. Assessment of Critical Minerals: Screening Methodology and Initial Application (Accessed 5 February 2019). . https://www.whitehouse.gov/sites/whitehouse.gov/files/images/CSMSC%20Assessment%20of%20Critical%20Minerals%20Report%202016-03-16%20FINAL.pdf.
US Public Laws, 1939. Strategic and Critical Materials Stock Piling Act. Chapter 190, enacted June 7, 1939. Accessed. http://legcounsel.house.gov.
USGS, 2018. Draft Critical Mineral List—Summary of Methodology and Background Information—U.S. Geological Survey Technical Input Document in Response to Secretarial Order No. 3359. Accessed. https://pubs.usgs.gov/of/2018/1021/ofr20181021.pdf.
USGS, 2019. What Is the Difference Between a Rock and a Mineral? (Accessed 1 May 2019). https://www.usgs.gov/faqs/what-difference-between-a-rock-and-a-mineral?qt-news_science_products=0#qt-news_science_products.
USNRC, 2008. Minerals, Critical Minerals, and the US Economy. National Academies Press, Washington, D.C.
USTR, 2019. 2018 Report to Congress On China's WTO Compliance. Accessed. . https://ustr.gov/sites/default/files/2018-USTR-Report-to-Congress-on-China%27s-WTO-Compliance.pdf.
Wang, Ruijiang, 2004. 关于当前我国战略性矿产勘查工作几个问题的思考 Thoughts on Several issues of current strategic mineral exploration work in China. 地质通报 Geol. Bull. China 11, 1074–1077.
Wang, Ruijiang, 2009. 关于中国战略性矿产勘查工作若干问题的再思考 Rethinking Several Issues concerning China's strategic mineral exploration work. 地质通报 Geol. Bull. China 7, 817–820.
Wang, Denghong, 2019. 关键矿产的研究意义、矿种厘定、资源属性、找矿进展、存在问题及主攻方向 The significance of research on critical minerals, determination of mineral resources, resource attributes, progress in prospecting, and main directions. 地质学报 Acta Sin. 93 (6), 1189–1209.
Wübbeke, Jost, 2013. China's Climate Change Expert Community—principles, mechanisms and influence. J. Contemp. China 22 (82), 712–731.
Wübbeke, Jost, 2015. China's rare earth industry and End-use: supply security and innovation. The Political Economy of Rare Earth Elements: Rising Powers and Technological Change, Edited by Ryan David Kiggins. Palgrave Macmillan, New York.
Ye, Yufeng, Zhao, Chunqiang, 2014. 第三轮矿产资源规划矿种的重要性分类 Classification of the importance of minerals in the third round of mineral resources planning. 国土资源 Land Resour. 1, 48–49.
Yuan, Guohua, 2010. 确立我国的战略矿产和保护矿产 Establishing China's strategic minerals and protected minerals. 发展论坛 China Dev. Observ. 7, 31–33.
Zepf, Volker, 2013. The way to the Chinese predominance: a key for understanding the REE issue. Rare Earth Elements: a New Approach to the Nexus of Supply, Demand and Use: Exemplified Along the Use of Neodymium in Permanent Magnets. Springer, Berlin Heidelberg.
Zeuthen, Jesper, 2017. Part of the Master Plan? Chinese Investment in Rare Earth Mining in Greenland. Arctic Yearbook 2017, pp. 1–14.
Zeuthen, Jesper W., Raftopoulos, Malayna, 2018. Promises of hope or threats of domination: Chinese mining in Greenland. Extr. Ind. Soc. 5 (1), 122–130.
Zhang, Zhiyi, 1980. 南部非洲的矿产资源与苏美之争 Mineral resources in Southern Africa and the conflict between the Soviet Union and the United States. World Econ. 1, 34–39.
Zhang, Xin'an, 2002. 国外矿产资源储备历史及现状 History and current status of foreign mineral resource reserves. 国土资源情报 Land Resour.Inf. 1, 1–12.
Zhang, Fuliang, He, Xianjie, Du, Yulun, Wang, Zhenzhen, Lei, Xiaoli, Fang, Yiping, Hu, Yongda, 2013. 关于我国战略性新兴矿产几个重要问题的思考 Thoughts on several important issues of China's strategic new minerals. 中国矿业 China Mining Mag. 22 (10), 7–11.
Zhu, Rongji, 2001. 关于国民经济和社会发展第十个五年计划纲要的报告, Report on the Outline of the Tenth Five-Year Plan for National Economic and Social Development (Accessed 5 February 2019). . http://www.npc.gov.cn/wxzl/wxzl/2001-03/19/content_134506.htm.

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The Arctic as a "Strategic" and "Important" Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies in China's Arctic Discourses

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Abstract

Research confirms that China is becoming more engaged in the Arctic. However, international relations scholarship often extrapolates from relatively few instances of activity to wide-ranging claims about Chinese priorities. Fortunately, Chinese political discourse is organised by labels that allow us to study how the Arctic is classified and ranked along China's other foreign policy priorities. This article analyses two such classifications – "important maritime interest" and "strategic new frontier," exploring how they have come about, what they mean, and how they add political priority to the Arctic. It argues that hierarchies are constructed in two ways: by adding gradients and by including/excluding in categories of priority. It views categories as performative: they not only convey information about character and relative importance of interests but are also used for achieving different objectives. By focusing on foreign policy classifications, the article contributes to a more nuanced and precise understanding of China's Arctic interests.

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China, Arctic, categorisation, foreign policy hierarchy

Introduction

Following an increase in Chinese Arctic activities in recent years, which include the official incorporation of the region into the Belt and Road Initiative (BRI) in 2017, it has become commonplace to note that the region has "moved up the agenda" of Chinese foreign policy (Grieger, 2018; Sørensen, 2019). However, the fact that China is becoming more engaged in the Arctic does not necessarily mean that it has risen relative to China's other foreign policy priorities. While conducting fieldwork for this article in China in 2019, I asked some of China's leading Arctic scholars how they view the relative importance of the Arctic compared to other global regions. In their responses, they sometimes made use of distinct labels that seemed to rank the Arctic alongside other foreign policy interests. Their application of what seemed to be a structured set of labels – all of which carry distinct meanings and signal varying degrees of priority – suggests a thinking around foreign policy interests in terms of hierarchies. One scholar provided a particularly illustrative example:

> The Arctic is certainly not China's core interest […] China's surrounding areas are China's core interest areas. I think that the Arctic … can be classified as a "critical" or "strategic" area. It is strategically very important. That's it. It is not a core interest, but an important interest […] [China] has core interests, important interests and, if you divide further, peripheral interests (Anonymous 1, 2019).

This scholar categorised the Arctic as an "important interest" (重要利益, *zhongyao liyi*), placing it at the second tier of a three-tier hierarchy of Chinese interests, and then used the label "strategic" to specify its *form* of importance – it is "strategically very important" (战略上非常重要, *zhanlüe shang feichang zhongyao*). This example highlights the performative quality of labels in China's political discourse. Distinct labels are used to establish priorities, announce official positions, or set long-term political goals. In official policy and academic research, they describe, categorise, or rank a wide range of things, from domestic policies or international partnerships (Feng and Huang, 2014; Strüver, 2017) to geographical regions (Grant, 2018), or even raw materials (Andersson, 2020). To better understand China's Arctic interests, we need to study how such labels are applied to the region, and the domestic narratives surrounding them.

Few studies have explored the role of labels in China's Arctic discourses. Most such research has focused on how China *presents itself* in the Arctic (e.g. Bennett, 2015; Nykänen, 2017), not on how it prioritises the Arctic. There has not been any in-depth study of the labels and categories used in Chinese-language literature to classify the Arctic as a foreign policy priority vis-à-vis other and perhaps higher priorities. This article identifies and analyses two such classifications – "important maritime interest" (重要海洋利益, *zhongyao haiyang liyi*) and "strategic new frontier" (战略新疆域,

zhanlüe xin jiangyu), and investigates how these two classifications have come about, what they mean, and how they add political priority to the Arctic. The former is used by Chinese academics to contextualise the Arctic in a specific foreign policy hierarchy – a hierarchy of maritime interests. The latter is an official category that groups four different spaces – the polar regions, the deep sea, outer space, and cyberspace – based on their perceived importance as new domains for great power competition over strategic resources and geopolitical influence.

The article begins with a brief introduction to China's Arctic activities, to provide some context for the analysis. This is followed by a review of research on categorisation in Chinese foreign policy, and on the specific labels and frames in China's Arctic discourses. It proceeds by introducing the article's theoretical lens. The article views categories and hierarchies as *performative*, meaning that humans construct and use them to achieve things (Dahinden et al., 2021; Jacobs, 2018). It argues that there are two basic ways of constructing hierarchies: by including/excluding in a category of priority (the binary hierarchy) and by adding gradient labels (the multi-level hierarchy). The next section introduces the research methods, which consisted of conversations with Chinese Arctic experts and analysis of Chinese policy documents and academic articles. The final two sections explore the two foreign policy classifications of the Arctic and the narratives surrounding them.

China's Emergence as an Arctic Player: Activities, Interests, and Political Context

While Chinese scientific interest in the Arctic goes back as far as the late Qing dynasty (Brady, 2017), the past two decades mark the beginning of a more active Chinese engagement in the region. In 2007, two Russian mini-submarines dove down to the North Pole seabed, where they planted a Russian flag, an event that reinforced perceptions around the world of a "scramble" for Arctic resources (Dodds and Nuttall, 2017). China has since taken a greater interest in Arctic governance. In 2013, it became a permanent observer to the Arctic Council – an intergovernmental forum where representatives of the eight "Arctic states" and Arctic indigenous peoples meet to discuss Arctic issues.

Anne-Marie Brady (2017) has argued that China's polar policies are influenced by a wide array of actors with interests around strategic science, resources, and security, what she calls the party–state–military–market nexus. Within the Chinese bureaucracy, however, the polar regions – the Arctic and the Antarctic – are formally categorised as maritime affairs. As such, China's emerging Arctic strategy is part of its maritime strategy, and China's growing Arctic interests are at least partly a consequence of the growing importance attached to maritime affairs. Figure 1 shows that this trend is clearly reflected in policy documents. At the Eighteenth Party Congress in 2012, then Chinese Communist Party (CCP) General Secretary Hu Jintao called for China to "resolutely safeguard national maritime rights and interests," and announced China's ambition to become "a maritime great power" (海洋强国, *haiyang qiangguo*) (Hu, 2012). The polar regions are

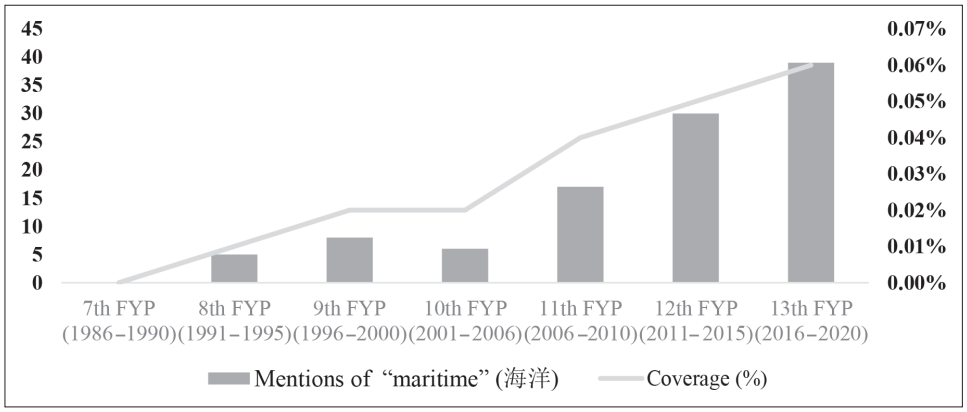

Figure 1. Number of Mentions of the Chinese Term for "Maritime" or "Ocean" (海洋, *Haiyang*) and Occurrence (Coverage) of the Term as a Percentage Share of the Full Text (Excluding Tables) in Chinese Five Year Plans (FYPs).
Source: Author's compilation.

viewed as important components of China's maritime ambitions. In 2014, Hu's successor Xi Jinping stated that "the polar regions have a unique role in [China's] maritime development strategy, and the process of becoming a polar great power is an important component of China's process of becoming a maritime great power" (China Ocean News, 2014). Since 2017, the Arctic has been officially incorporated into BRI, China's grand strategy for international infrastructure development, in the form of a "Polar Silk Road."

Categorisation in Chinese Foreign Policy Discourse: A Literature Review

Categorisation in Chinese foreign policy is a relatively recent and unexplored area for academic research. During the 1960s and 1970s, Chinese categorisation of countries was shaped by Mao Zedong's Three Worlds Theory, a theory that divided countries into three categories: the imperialist superpowers (the United States of America and the Soviet Union), the lesser powers (Europe, Japan, Canada), and the exploited countries of the third world. The theory was used, among other things, to justify China's economic co-operation with non-communist governments (Gillespie, 2004). In the 1990s, a system of different categories of foreign "partnerships" (伙伴关系, *huoban guanxi*) emerged in China. In this system, which has become known as China's "partnership diplomacy," labels such as "strategic," "comprehensive," "co-operation," and "co-ordination" are used not only to describe the different character of partnerships but also to create a hierarchy of China's foreign relations (Feng and Huang, 2014; Strüver, 2017). While a specific "partnership" is an indicator of the form and importance attached to a bilateral relationship, it is obviously not the only indicator. As Feng and Huang (2014) point out,

a "strategic" partnership with one country may be valued higher than an identically labelled partnership with another, and for relations with China's "closest friends" (North Korea, Pakistan), it may be considered unnecessary to enter a formal "partnership." While in some cases, the creation of new categories of "partnerships" may be designed to elevate and distinguish China's relations with a specific country, they are perhaps best understood as diplomatic tools for advancing Chinese interests that are applied when it is deemed advantageous to do so.

The label "core interest" (核心利益, *hexin liyi*) has, since the early 2000s, been used in Chinese political discourse to refer to China's "non-negotiable" "national interests." Initially applied in relation to Chinese sovereignty over Taiwan, it has expanded to cover other territorial interests such as Tibet, Xinjiang, and, more recently, China's claims in the South China Sea. An official definition from 2009 defined the following "core interests": China's fundamental system and state security, national sovereignty, territorial integrity, and sustainable economic and social development (Swaine, 2010). Research around China's "core interests" has covered conceptual development (Swaine, 2010), domestic debates (Gupta, 2012; Zeng et al., 2015), and impact on trade and diplomacy (Crookes, 2013). While Western research has noted the existence of categories of Chinese national interests below the "core interest" level (Kaufman and Hartnett, 2016; Zeng et al., 2015), it has mainly focused on how such categories help distinguish "core interests" from other national interests. Research on how such categories matter in themselves and how they are used to categorise and perhaps rank other less vital interests, including the Arctic, has been very limited.

Labels and Concepts in China's Arctic Discourses

As a topic of academic study, China's Arctic interests are located at the intersection of two research fields: China studies and Arctic studies. China's Arctic discourses had until recently received only limited attention by China scholars. This is reflected in the overall focus of the literature: to date, most studies have focused on external narratives promoted by the Chinese state to construct an Arctic identity and earn legitimacy as an Arctic stakeholder, and much of it has relied on analysis of English-language materials (e.g. Allan, 2019; Auerswald, 2020; Bennett, 2015; Conley, 2018; Nykänen, 2017). Less research has been conducted on Chinese-language discourses about the Arctic, although significant contributions have been made by, for example, Wright (2011, 2013), (Jakobson and Peng, 2012), Jakobson (2013), Brady (2017), and Woon (2020). Brady (2017) has highlighted the difference in scope and focus between China's domestic and external Arctic discourses, and found that Chinese polar officials work strategically with China's Arctic narratives, including tailoring messages for different audiences. Her observation underscores the importance of studying Chinese domestic literature for understanding the diversity and nuance of views on Arctic issues that do exist among Chinese officials and academics.

Existing literature has enriched our understanding of the labels and frames in Chinese discourses about the Arctic. These can be divided into the following categories based on

what they describe and are used for: labels used to construct an Arctic identity; labels describing China's aspirations as an Arctic player; labels and frames describing the Arctic in relation to the world; and labels that classify/rank the Arctic as a Chinese foreign policy priority.

Labels for constructing an Arctic identity include "near-Arctic state" (近北极国家, *jin beiji guojia*) and "Arctic stakeholder" (北极利益攸关者, *beiji liyi youguanzhe*). These concepts began appearing in Chinese domestic and external discourses in the run-up to the Arctic Council ministerial summit in Kiruna in 2013 (Jakobson, 2013; Lanteigne, 2014). The purpose was to support China's application for permanent observer status to the council. Notably, the concept "near-Arctic state" is not unique to China. The United Kingdom, for example, describes itself as "the Arctic's nearest neighbour" (HM Government, 2018).

The concepts "polar power" (极地大国, *jidi daguo*) and "polar great power" (极地强国, *jidi qiangguo*) describe China's aspirations as an Arctic player. China views itself as a "polar power" in the course of becoming a "polar great power" with a polar infrastructure comparable to the United States and Russia, a transformation it aims to accomplish before 2030. Brady (2017) has provided one of the most comprehensive analyses of how the polar regions fit within China's goal of becoming a global superpower. To fulfil this goal, it "must be dominant in the polar regions."

Concepts and frames that describe what the Arctic is to the world include "global common" (全球公域, *quanqiu gongyu*), "shared heritage of mankind" (人类共同遗产, *renlei gongtong yichan*), "window for observing global warming" (全球变暖的窗口, *quanqiu bian nuan de chuangkou*), and "treasure trove of resources" (资源的宝库, *ziyuan de baoku*) (e.g. Brady, 2017; Lanteigne, 2014; Nykänen, 2017). Most of these concepts or ideas did not originate in China, nor is China the only country that promotes them. In China, they are part of a discursive strategy to argue for the rights of "non-Arctic states" to participate in Arctic affairs. The first three are used both in China's external and domestic discourses, and the fourth is used primarily in domestic discourse.

Finally, a fourth category, which is the focus of this article, is used mainly in domestic discourse to classify and categorise the Arctic as a foreign policy priority. The most important of these is the categorisation of the Arctic as a maritime interest and a "strategic new frontier" (e.g. Brady, 2017; Sørensen, 2019). While scholars have noted that the Arctic is classified as a "strategic new frontier," there is a lack of research on the different meanings of this label and how it adds political priority to the Arctic. And while previous studies have noted that the Arctic is categorised as a maritime issue in the Chinese bureaucracy (Brady, 2017), little is known about how its importance is viewed relative to other maritime interests. Such attempts have been few and often limited to noting that the Arctic is not among China's "core interests" (Lackenbauer et al., 2018; Su and Lanteigne, 2015). Even less is known about how categories and hierarchies are constructed in Chinese foreign policy discourse. This article contributes to existing literature by exploring these questions.

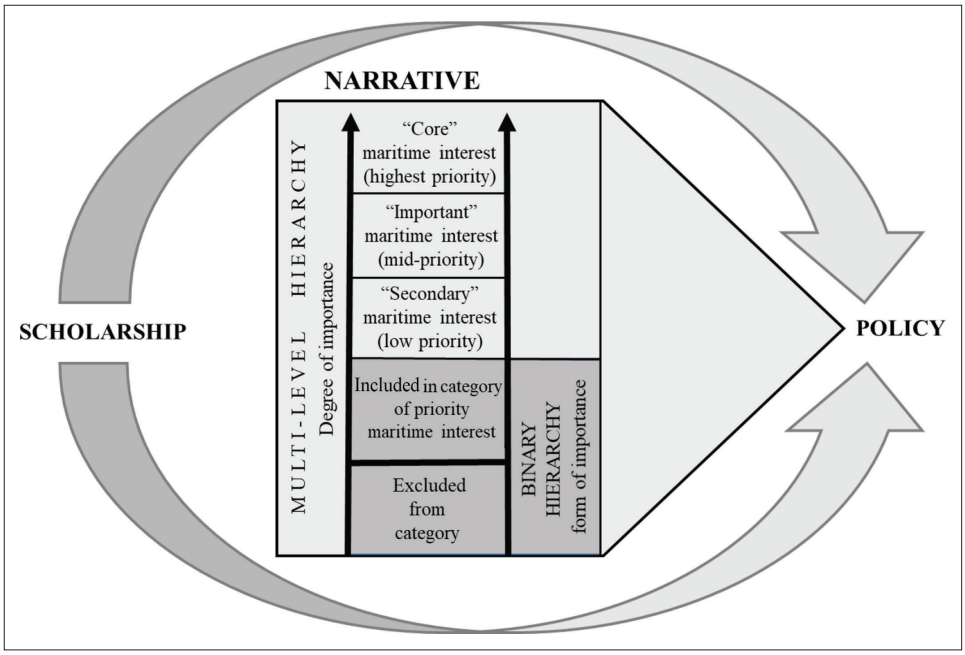

Figure 2. The Construction of Foreign Policy Hierarchies. *Note*: The category "maritime interest" and labels "core," "important," and "secondary" are included as examples.
Source: Author's research.

Theoretical Lens: How Are Hierarchies Constructed?

The theoretical perspective of this article takes forward three basic assumptions. First, humans tend to treat labels as category markers (Sloutsky and Fisher, 2012). Labels facilitate categorisation by "drawing attention to shared features, relations, or actions" (Gervits et al., 2016: 1). Second, categorisation is not simply a matter of objective assessment, but also of human decision, that is, categories are to some degree socially or politically constructed. Third, categories are *performative*, meaning that humans construct and use them to achieve things (Jacobs, 2018). Put differently, categorisation is a way of "doing things with words" (Austin, 1975). When people create categories that are recognised and applied in society, they contribute to the construction of the social world (Dahinden et al., 2021).

Categorisation, moreover, means that people or things are positioned in relation to other people or things, which often results in hierarchies. In politics and foreign policy, which is our concern here, categorisation can be used to describe, elevate, and rank policy issues. As illustrated in Figure 2, this article argues that there are two basic ways of constructing hierarchies. Both rely on categorisation but use different methods and produce different types of hierarchies.

By Including/Excluding: The Binary Hierarchy

One is by the very inclusion of something in a category of priority. This type of categorisation does not use a sliding scale but instead produces a binary hierarchy, in which the *included* is contrasted to the *excluded*. A category of priority has a special form of importance, which elevates the included from the excluded but does not necessarily make the included in one category more important than the included in other categories. For example, in China, nine emerging industries, including high-tech manufacturing, biotechnology and new-energy vehicles, have been labelled "strategic emerging industries" (Ban, 2017). The purpose behind this categorisation is not to rank these industries in order of importance but to elevate them from industries excluded from the category. And the "strategic emerging industries" are not necessarily of higher importance or priority than, for example, "pillar industries" or "traditional industries."

By Grading: The Multi-Tiered Hierarchy

A second is by adding various gradients to objects. When an object, for example, an "interest," is modified by a gradient, such as "essential," "important," or "secondary," it results in the creation of a concept or category – in this case "essential interest," "important interest," and "secondary interest." These are then situated in a structured hierarchy or ranking of "interests," in which "essential interest" is ranked higher than "important interest" and "important interest" is ranked higher than "secondary interest." Different "interests" within the hierarchy are differently prioritised and may be subject to different policies and resource allocations.

Most multi-level hierarchies begin with binary categorisation. A hierarchy of "national interests" begins by separating "national interests" from "non-national interests" before adding gradients to rank different "national interests" in order of importance. And "national interest" is *eo ipso* a category of priority that facilitates access to state resources (Weldes, 1999). Adding a high grading score to a specific interest further elevates an already elevated policy issue. While the result of categorisation is usually *either* a multi-level hierarchy (when gradients are used) *or* a dichotomously structured hierarchy (when it simply includes and excludes), some categorisations produce both. For example, while China's international "partnerships" are primarily categories that describe the different character of China's foreign relations, they are also to some degree ranked, with a "comprehensive strategic partnership" being of higher importance than, for example, a "constructive strategic partnership" or a "co-operative partnership" (Feng and Huang, 2014).

Some hierarchies become official, such as China's "partnership diplomacy" and "core interest" policy, while others may not have any obvious policy impact. However, categories that are seemingly confined to academia may still have an indirect impact on policy. Their creators are prominent academics who often serve as government advisors (Jakobson and Knox, 2010), and their thinking around foreign policy interests in terms of hierarchies is likely to be reflected in advice they provide to policymakers. Whether official or not, foreign policy categories, when perceived and employed inside and

outside of academia, are likely to have considerable influence on how foreign policy issues are understood, discussed, and managed.

Data Collection and Analysis

Data were collected from conversations with Chinese Arctic experts, and from Chinese policy documents and academic articles. My identity as a foreign researcher enquiring about China's Arctic interests – a politically sensitive topic for which the government seeks to promote a favourable narrative – may have influenced what respondents told me. Therefore, findings from conversations were triangulated with written sources for which I was not the intended recipient, including policy documents and academic articles. Policy documents provided official definitions of concepts, whereas articles were used to study in depth the different meanings and dimensions of concepts.

A total of five conversations were carried out in China in 2019 with Arctic experts who are among the most influential in Chinese Arctic studies. I had no prior relations with them, apart from one whom I had met briefly at an academic workshop. Questions were designed to cover the role and relative importance of the Arctic in Chinese foreign policy without explicitly enquiring about labels. This made it possible to study what labels respondents applied of their own accord and to assess the significance of labels in their descriptions in general. The conversations, together with findings from the literature review, helped me narrow the focus to the two classifications that were subsequently explored in depth through documents. Information from the conversations is cited where relevant throughout the analysis.

The articles were collected from the Chinese Academic Journals (CAJ) database. Articles discussing "strategic new frontier" were located by searching for Chinese-language items catalogued under subjects "strategic new frontier," yielding seven records, and "new frontier" (新疆域, *xin jiangyu*), yielding seventy-one records. In the first step, which involved tracing the origin of the Chinese concept, no articles were excluded. In the second step, which explored debates around the concept, twenty-four articles published between 2013 (the year of Yang Jiechi's speech) and 2020 were included in the analysis. Two of the three articles discussing a Chinese hierarchy of "maritime interests" were identified by searching for subject "national interest" (国家利益, *guojia liyi*) combined with "hierarchy" (层次, *cengci*), and one was identified through a separate Google search for the term "maritime interest" (海洋利益, *haiyang liyi*). Some of the articles discussing a hierarchy of "national interests" were located through this same search, while others were identified in reference lists of already collected articles. The articles were written by Arctic experts, maritime scholars, and other foreign affairs experts. Their diversity in background was deemed advantageous for gaining a balanced understanding of the Arctic's relative importance in Chinese foreign policy (as an Arctic researcher told me, some Chinese Arctic scholars may exaggerate the Arctic's importance to China, because they "rely on the Arctic for putting food on the table" [靠北极吃饭, *kao beiji chi fan*], a phenomenon that would hardly be unique to Chinese scholars) (Anonymous 2, 2019)

Analysis: Classifying the Arctic as a Foreign Policy Priority

The following analysis explores two Chinese foreign policy classifications of the Arctic, each of which uses one of the two ways of categorising described above. Apart from utilising different types of categorisation, the two classifications are part of different domestic debates, have taken inspiration from different international concepts, involve different scholars, and serve different purposes. They are therefore presented below as two relatively distinct narratives, although there is some overlap between them, particularly in the language used to argue for the importance of the Arctic.

The Arctic as an "Important Maritime Interest"

Since the announcement of China's goal of becoming a "maritime great power" in 2012, Chinese scholars have started using a set of gradients to categorise and rank China's maritime interests, including the Arctic. As Figure 3 shows, their efforts build on attempts by academics to construct hierarchies of national interests using gradients, which, in turn, are part of a broader academic debate in China around "national interests" that took off in the 1990s.

In 1996, Professor Yan Xuetong of Tsinghua University published his book *An Analysis of China's National Interest*, in which he categorised national interests based on content (security, political, economic, and cultural), temporality (constant, variable, midterm, short-term), and degree of importance. The latter distinguished between "existential" (生存, *shengcun*), "important" (重要, *zhongyao*), "main" (主要, *zhuyao*), and "marginal" (边际, *bianji*) interests (Yan, 1996). That same year, a group of prominent US academics and officials published a report that identified a hierarchy of US national interests, distinguishing between "vital," "important," "less important," and "secondary" interests (Commission on America's National Interest, 1996). Yan's work, along with this US report and earlier efforts by US scholars such as Donald Nuechterlein to rank national interests based on their "intensities" (Nuechterlein, 1976), inspired Chinese scholars to construct hierarchies of Chinese national interests using a similar set of gradients, in particular after the establishment of the concept "core interest" in the early 2000s. They begin by recognising China's official "core interests" as the country's most important interests but then proceed by proposing additional levels of interests to arrive at a hierarchy of interests. Although there is some variation in number of layers and specific gradients used, the hierarchy proposed by Wang Yizhou (2011a), Vice Dean of Peking University's School of International Studies, is typical. Wang separates between "core," "important," "general" (一般, *yiban*), and "secondary" (次要, *ciyao*) interests.

As noted above, following the growing importance of maritime affairs in Chinese foreign policy, Chinese academics have begun to rank China's maritime interests using this type of labelling system. Efforts at ranking "maritime interests" must begin with binary categorisation of interests into "maritime" and "non-maritime." Notably, "maritime interest" is in itself a category that may trigger opportunities in the political system, the performative quality of which has likely increased with the announcement of China's goal of becoming a "maritime great power." For scholars ranking China's maritime

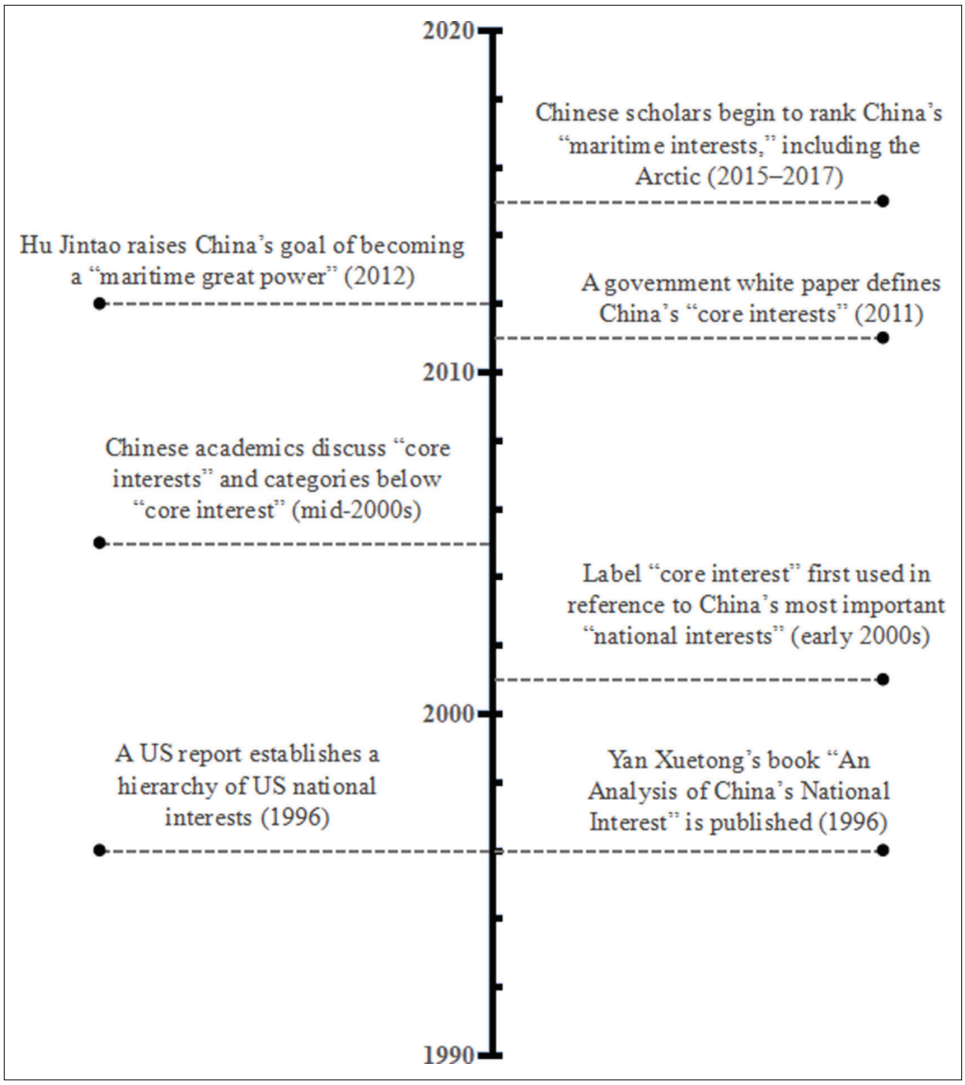

Figure 3. Origin and Development of Chinese Hierarchies of "Maritime Interests."
Source: Author's research.

interests, however, this initial categorisation into "maritime" and "non-maritime" interests is not the primary objective. Rather, it is the ranking of different interests – most of which are already classified as "maritime" in the Chinese state system – based on assessments of their relative importance for China's "national interest."

A hierarchy of maritime interests would assist policymakers in prioritising among competing maritime interests, and in assessing what strategies should be used to protect

different interests (Hu, 2015; Liu, 2017). Since 2015, at least three attempts have been made by Chinese academics in academic articles to construct such hierarchies. Hu Bo (2015) of Peking University is one of China's foremost naval strategists. Hu divides China's maritime interests into three categories – "core," "important," and "less important." The "core" maritime interests are essentially maritime translations of the "core interests" described above, and include the security of China's inland waters, territorial seas, and airspace; Taiwan "reunification"; sovereignty over the Senkaku/Diaoyu Islands, Nansha Islands and other disputed islands and reefs; and security of the world's major maritime channels. Hu (2015) lists "the right to peaceful use of the high seas, the seabed, the Arctic and the Antarctic" in the middle-tier, as one of four "important" maritime interests. The geographic location and abundant natural resources of the polar regions give them an "extremely important position and role" for maritime research, passageways, and resource development. Hu (2015: 25) concludes that "for China to become a maritime great power, it must participate more actively and comprehensively in various peaceful activities in the Arctic and Antarctic." Liu Xinhua (2017), a professor at Zhongnan University of Economics and Law, situates the Arctic Ocean within a hierarchy of maritime regions. The Western Pacific directly concerns China's national sovereignty and territorial security, and therefore belongs to China's "core interests." The Indian Ocean, because of its importance for China's economic development and security, is considered an "indispensable and important" maritime interest. The Arctic Ocean is classified as a "general" interest. Liu highlights the growing potential for Arctic shipping and resource extraction, as well as its military-strategic significance. The thick ice of the Arctic Ocean, he argues, "provides a better hiding place for strategic nuclear submarines," and the relatively short travelling distance makes it "the ideal launching position for underwater ballistic missiles" (Liu, 2017: 10). Finally, Professor Li Zenggang (2016) of Shandong University divides China's maritime interests into "core," "very important," "important," and "general." The Arctic is classified as an "important interest," defined as "those that do not affect China's survival but have an impact on the overall economic and social development." Li Zenggang (2016: 114) further states that "because of the huge amount of energy resources in the high seas, Antarctic and Arctic, they may become the main source of energy resources for mankind in the future."

The Arctic experts with whom the author had conversations provided assessments resembling those above. One prominent academic stated that the Arctic "is not a core interest, but an important interest" (Anonymous 1, 2019); another that "the Arctic is not a core interest of China" (Anonymous 2, 2019); a third described the Arctic as "very important" (Anonymous 3, 2019). A researcher at a government-affiliated research institute provided a more measured assessment:

> In the case of the Arctic, it is more related to our maritime policy, but our maritime policy does not mention the Arctic region … so the Arctic, whether in our polar policy or foreign policy, has a certain value, especially in terms of economic utilization and resources. But if you want to say very high, then ... not so far. And the importance of Antarctica is much higher. At least for China. (Anonymous 4, 2019)

Table 1. Categories and Gradients Used by Chinese Scholars to Classify and Rank Chinese Foreign Policy Interests.

Source	Category of priority	Gradient hierarchy			
		1	2	3	4
Liu (2017)	National maritime interest	Core	Important	General	N/A
Li (2016)		Core	Very important	Important	General
Hu (2015)		Core	Important	Secondary	N/A
Wang (2011b)	National interest	Core	Important	General	N/A
Wang (2011a)		Core	Important	General	Secondary
Xiao and Lang (2010)		Core	Important	General	Insignificant
Ma (2006)		Core	Major	General	N/A
Yan (1996)		Existential	Important	Main	Marginal

Source: Author's compilation.
Note: Cases where the Arctic is categorised are highlighted in grey. Translations from Chinese are my own.

It should be noted, however, that just as Arctic experts may seek to overemphasise the Arctic's importance, Chinese polar officials may have an interest in toning down China's Arctic interests when approached by foreign researchers.

The labels applied by Chinese academics in Chinese-language publications to classify Chinese foreign policy interests are summarised in Table 1. The Arctic is not a top priority of Chinese foreign policy. It is, however, considered an "important maritime interest" in a hierarchy that does not even list the Atlantic Ocean. The seeming explanation for the exclusion of the world's second largest ocean would be that it is considered too far from China and too closely connected to US interests. Following such a logic, however, the Arctic could also have been excluded. As we shall see below, the Arctic has a strategic role in China's geopolitical strategy and is considered too important to leave to the United States and other Arctic powers.

The Arctic as a "Strategic New Frontier"

"Strategic new frontier" (hereafter SNF) is a category in Chinese political discourse that groups four spaces – the polar regions, the deep sea, outer space, and cyberspace – based on their perceived importance as new domains for great power competition. The establishment of SNF as an official concept has triggered academic discussions in China around the meanings of the concept, resulting in a nuanced yet relatively coherent narrative. This section begins by tracing the origin of the category in Chinese academia and

official policy, after which it explores two narratives: one overarching narrative of SNFs and one sub-narrative of the Arctic as a SNF.

Origin of the Concept

The idea of unexplored or unexploited spaces as "frontiers" for competition over power and resources has a long history in the West (Slotkin, 2000). Former US president Ronald Reagan famously described outer space as the "final frontier" for humankind and regarded the creation of a space-based missile defence system as crucial for gaining a military edge over the Soviet Union (Logsdon, 2018). Imaginings of the Arctic as a "resource frontier" of endless economic opportunities go back several centuries (Bruun, 2018). In China, although first established as a political concept in 2011 (see below), individual portrayals of the SNFs as emerging domains of great power competition over resources and influence go back further in time. As early as 1990, a researcher at the China Institute of International Studies (a research institute affiliated with the Ministry of Foreign Affairs), perhaps inspired by Reagan, stated that "space development will promote the progress of human society and become a new frontier with significant impact on commercial, industrial and military strategies" (Zhang, 1990: 2). In 2002, Wang (2002: 161) wrote that because of rapid technological advances, great powers may soon extend their powers into previously unimaginable "high frontiers" (高边疆, *gao bianjiang*) such as the deep sea, the polar regions, and space. This suggests that the grouping of these spaces under a shared label based on shared characteristics predated the establishment of SNF as an official concept. In August 2011, an article in state media entitled "Cyberspace: a new frontier a rising China cannot ignore" stated that "competition within cyberspace will largely determine the [future] international power balance and structure … China, aiming for a peaceful rise, should pay more attention to this new frontier" (Tao, 2011). In December 2011, an opinion piece in *People's Daily* (the CCP's official newspaper) added the label "strategic" to the term "new frontier," marking what seems to be the first use of the concept SNF in state media. It was also the first time multiple "new frontiers" were grouped and collectively labelled "strategic." The article, written by Major General Chen Zhou, Director of the National Defence Policy Research Centre at the Chinese Academy of Military Sciences (AMS), stated that "competition and games around energy resources and strategic new frontiers such as outer space, the deep sea, and the polar regions are growing more intense by the day" (Chen, 2011). AMS, which has long focused its research on the future of warfare, plays a key role in drafting China's official military strategy (Gill and Mulvenon, 2002), and was likely behind the inclusion of the SNFs in the 2015 edition of the strategy (see below). This suggests that SNF as a political concept may have originated in the Chinese military establishment, or at least that the military was first to take ownership of the concept. As shown in Figure 4 and as shall be discussed in more detail below, it has since spread to other sectors of the Chinese state, including diplomacy and foreign policy, where SNFs are often viewed and presented as testing grounds for the CCP's vision for global governance.

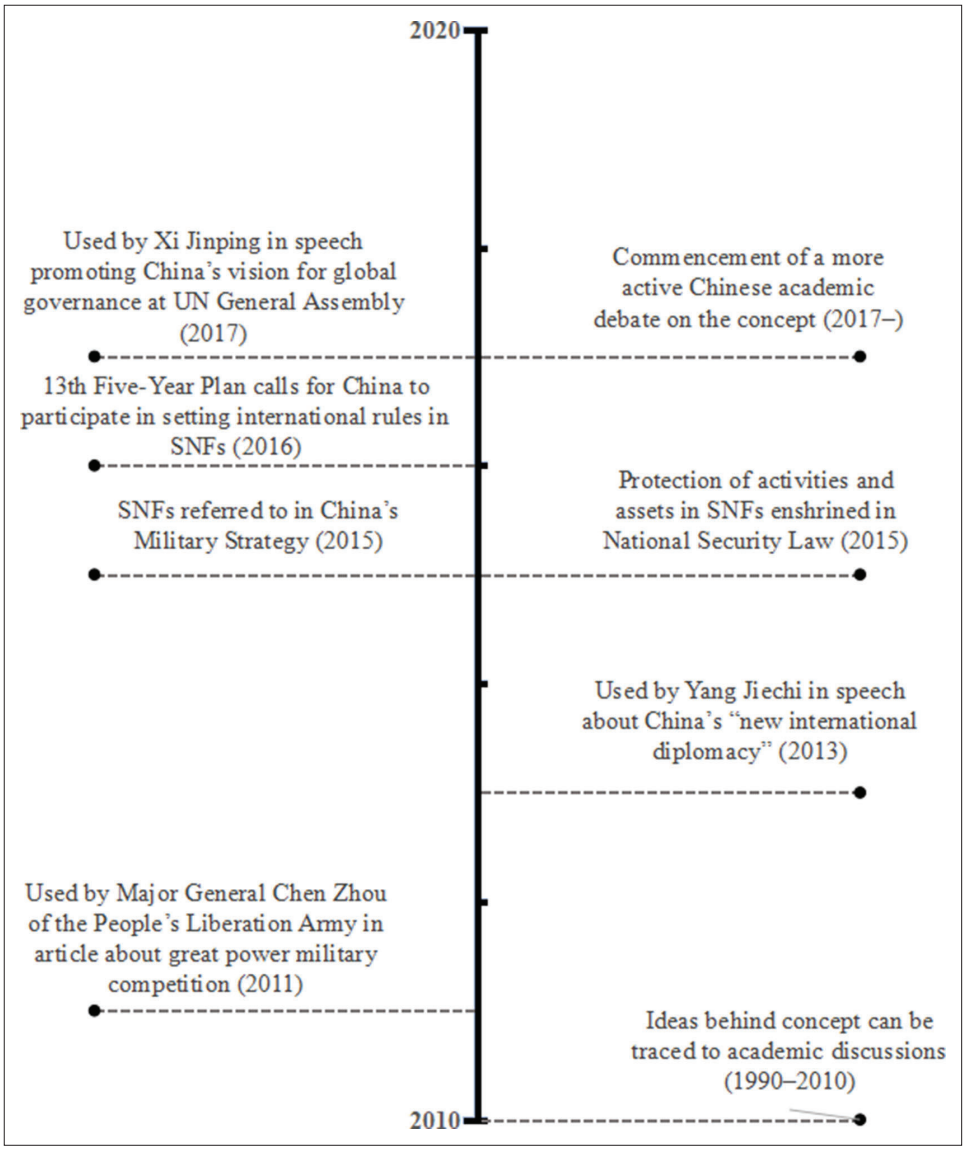

Figure 4. Origin and Development of Concept "Strategic New Frontier" (SNF).
Source: Author's research.

The "Strategic New Frontier" in Official Policy and Speeches

In November 2013, the term "strategic new frontier" was used by State Councillor Yang Jiechi in his keynote speech at the Annual Forum on the International Situation and China's Foreign Relations in Beijing. Yang (2014): 2) stated that "the international

community is increasingly engaged in co-operation and competition around strategic new frontiers such as the internet, outer space and the polar regions." Yang was observing "sharp disputes" over international systems, rules, and regulations, and viewed reform of the international system as a "general trend." Following Yang's speech, the concept would soon make its first appearance in authoritative documents. China's National Security Law, which entered into force in 2015, made protection of Chinese activities and assets in outer space, the international seabed, and the polar regions legally binding (NPC, 2015). A statement in Chinese state media provided some context for the decision:

> China has real and potential major national interests in "strategic new frontiers" such as space, the deep sea, and the polar regions, and is also facing security threats and challenges. Security tasks in these areas should be included in the national security law. (Xinhua, 2015).

China's military strategy, issued that same year, included a formulation that referred to the SNFs, but left out the polar regions (although they could technically be covered under the formulation "seas and oceans"): "Outer space and cyberspace have become new commanding heights in strategic competition among all parties … The seas and oceans bear on the enduring peace, lasting stability and sustainable development of China" (State Council, 2015). The SNFs were referred to in China's Thirteenth Five Year Plan (FYP) (2016–2020), which established that China should "actively participate in the formulation of international rules in the areas of cyberspace, the deep sea, the polar regions and space" (State Council, 2016). Then, in 2017, Xi Jinping referred to the concept in a speech at the United Nations General Assembly in Geneva, in which he sought to promote the CCP's vision for global governance – the so-called "Community of Common Destiny for Mankind" (人类命运共同体, *renlei mingyun gongtongti*). Xi (2017) stated that "We must uphold the principles of peace, sovereignty, inclusiveness, and shared governance, and turn the deep sea, the polar regions, outer space and the internet into new frontiers for co-operation rather than arenas for mutual games." Xi's omission of the word "strategic" and emphasis on co-operation, as opposed to competition and conflict, suggests that he had considered the audience and context of the speech.

Academic Discussions around "Strategic New Frontier"

The relationship between academic debates and policy in China tends to follow a rough pattern, whereby ideas behind concepts can be traced to academic discussions. At some point, the concept is applied by a senior official or included in a policy document, which triggers a more active academic debate, the participants to which often begin by citing official applications of the concept. As a more clearly defined official position emerges, and depending on the sensitivity of the issue, an initial period of relatively unconstrained debate is replaced by a more restrictive one (Andersson, 2020; Mohr, 2020). Discussions around SNFs appear to be in a stage of relatively unrestricted debate, in which participants adopt official positions, while able to offer their own interpretations. The boundary

between academia and politics can be very blurry, however, as some academics may themselves be government officials with close connection to decision-makers, and sometimes senior officials publish in academic journals.

Broadly speaking, Chinese academics portray SNFs as new domains of great power competition over strategic resources, development opportunities and international influence that have emerged because of technological progress, environmental degradation, and climate change. Jia Guide (2014) defines them as new arenas "for competition over strategic resources, the expansion of developmental space, and the pursuit of competitive advantages." The preface to a Chinese edited volume on the topic of SNFs defines them as "spaces and domains that transcend sovereign borders and physical boundaries; that are new directions for the extension of power and the acquisition of interests of great powers" (Wang, 2017).

While it is primarily great powers that engage in strategic competition within "new frontiers," developments within them have implications for all mankind. It is within SNFs that humanity will find the resources and development opportunities for ensuring sustainable development. Yang Jian (2017) defines the SNFs as "the new global frontiers for the survival and sustainable development of humans." Li et al. (2019) argues that they have become "the global focus of human sustainable development." The objects of competition vary somewhat between frontiers. Within the polar regions and the deep sea, competition is focused on strategic science, geopolitical influence, and access to strategic raw materials. Within cyberspace and outer space, it is mainly for achieving technological dominance and getting to set international standards.

The "new" in "new frontiers" refers to "new spaces" – both physical and virtual – that have become "new battlegrounds" for technological competition (Ao, 2014; Shi and Wu, 2020), or "new centre-stages" in the "game of international relations" (Jia G, 2014; Liu, 2018; Shi and Wu, 2020). It may also refer to "new materials" and "new experiences" made available to humans through the "expansion of space" as well as the "new global problems" and "new challenges" contained within these spaces (Yang, 2017). The Chinese word for "strategy" and "strategic" contains the characters "战" (*zhan*), meaning "war," and "略" (*lüe*), meaning "stratagem." Originally a military concept, it today refers to any type of overall strategy (Zdic.net, 2020). When used as a label, "strategic" signals priority and importance, and often alludes to issues of national security. It also implies that the described object is or should be part of a broader strategy or plan. It does not, however, function as a gradient that allows for ranking of objects in the same sense as, for example, "core," "secondary," "insignificant," etc. – what "strategic" describes is a particular *form* of importance. As noted above, the label "strategic" has described things such as bilateral partnerships, industrial sectors, and raw materials. The "strategic" in SNFs highlights not only that these areas are important for broader strategic objectives, but also that they concern national security.

To whom does sovereignty over SNFs belong? In answering this question, Chinese researchers have compared it to the concept of "global commons." Zhao (2018: 42) argues that whereas "global commons" refers specifically to the common resources, regions, and domains of humankind outside the jurisdiction of sovereign states, the "new

frontiers" refer to the expansion and extension of "traditional territories." They include both global commons and "new spaces" that humans can access and use due to technological advancements, some of which may be directly or indirectly under the jurisdiction of sovereign states. Yang (2017) uses the example of cyberspace. While no single country has complete sovereignty over the internet, activities within cyberspace are – and should be – subject to national regulations. The United States, by promoting the idea of the internet as a public space without national borders, seeks to squeeze the sovereignty of other countries within cyberspace (Yang, 2017: 42). To counter this idea, Chinese officials and academics have promoted the concept of "cyber sovereignty" as an alternative to the "Western" model of internet governance. Chinese scholars oppose what they consider to be two strategies of "powerful countries" (the United States) in SNFs. First, while it is generally accepted in the international community that most aspects of SNFs are global commons, powerful countries will in practice treat them as *terra nullius* and use their superior capabilities to dominate within these spaces. Second they infringe on other countries' sovereignty by exaggerating the "public-ness" of aspects of SNFs that should be under the jurisdiction of sovereign states, such as cyberspace activities (Li et al., 2019; Yang, 2017; Yang and Zheng, 2017).

Yet problems within SNFs affect all countries and solving them requires international co-operation. Chinese academics discuss problems in SNFs in Marxist terms, identifying and analysing "contradictions" within them (e.g. Yang, 2017; Yang and Zheng, 2017; Zhao, 2018; Zhang and Fan, 2019). Yang (2017) identifies three such "contradictions": the first is that between increased human activity within the new frontiers and "laggard" governance mechanisms; the second is between resource exploitation and environmental protection/governance; the third is between the narrow interests of "clubs of countries" and those of mankind. These three "contradictions," Yang argues, highlight the need for revising and improving existing governance mechanisms. Yang and others argue that China can contribute with "Chinese wisdom" (a term picked up and applied by Chinese academics since Xi Jinping used it at the Nineteenth Party Congress in 2017) to governance of "new frontiers" (Bai, 2019; Yang and Zheng, 2017; Zhang and Fan, 2019). Specifically, they promote the concept "Community of Common Destiny for Mankind" as China's contribution to the governance of SNFs (e.g. Bai, 2019; Liu, 2018; Yang, 2017; Yang and Zheng, 2017; Zhang and Fan, 2019; Zhao, 2018). Descriptions of this concept are vague. According to official documents, it builds on the values of "co-existence," "co-construction," "win–win," and "sharing," while maintaining China's long-standing official position of non-interventionism in other states' internal affairs.

In sum, although there is some variation in how Chinese scholars define and describe the SNFs, the basic narrative is relatively consistent: factors such as technological advancements, climate change, environmental degradation, and global resource depletion have led to an expansion of human activity into and within new physical and virtual spaces – so-called strategic new frontiers. Ripe with the resources that humans need for achieving sustainable development, the SNFs are domains where states – especially great powers – pursue national interests and extend their influence. Problems in SNFs transcend national boundaries, are global in nature, and require international co-operation

and co-ordination. Existing governance mechanisms and structures have lagged the increase of human activities in SNFs and are no longer capable of effectively governing activities there. This situation presents both opportunities and security risks for China, and China should seek to actively participate in and promote its own vision for governance of SNFs.

Sub-Narratives of the Arctic as a "Strategic New Frontier"

Sub-narratives about the Arctic as a SNF are based on the same core assumptions as the broader narrative about SNFs. The Arctic region is becoming a new frontier for geopolitical competition and "games" (博弈, *boyi*). In 2017, a special issue on China's emerging Arctic strategy in *Academic Frontiers*, a scholarly journal managed by *People's Daily*, stated that "As a new frontier that affects the sustainable development of the world and human survival, the polar regions are the strategic commanding points for the future competition between major powers around interests and influence" (Editor, 2017). Guo and Zou (2019: 40) argue that the Arctic has become "a new frontier for games between great powers." Xiao (2017: 109) writes that "as the warming of the Arctic Ocean continues, the Arctic is becoming a new field for international political games."

The "Arctic frontier" (北极疆域, *beiji jiangyu*) is understood primarily as a physical and geographical space. When discussing the Arctic as a SNF, some scholars prefer the term "Arctic public spaces" (北极公域, *beiji gongyu*), particularly when it concerns Arctic governance (Bai, 2019; Liu, 2018). Liu Huirong (2018), a leading maritime scholar, views both the polar regions and the deep sea as "maritime new frontiers." Such interpretations limit the scope of the "Arctic frontier" to the North Pole and surrounding international waters. The more common understanding, however, seems to be that it represents more than simply a maritime space, that it encompasses the entire "Arctic region" (北极区, *beiji qu*), which would include territories belonging to the eight "Arctic states," particularly those where sovereignty is ambiguous or changing. For example, Chinese experts have argued that Greenland, a territory of the Kingdom of Denmark, is a key variable in the Arctic's future geopolitical landscape (e.g. Guo and Wang, 2017; Xiao, 2017). They believe that Greenland is on a path towards formal independence, an event that would change the power balance in the Arctic, with both opportunities and risks for China in the emerging new order. One scholar shared some thoughts with the author on the geopolitical implications of Greenlandic independence. An independent Greenland would attract more attention from big powers, including the United States and China. The United States would step in to provide defence for Greenland. Economically, Greenland would gain more power to absorb foreign capital and export mineral products. Foreign investment in Greenland would increase dramatically as different countries compete for influence. As a result, "Greenland's relatively low position [in the international system] will suddenly rise to one that people would not have dared to imagine in the past" (Anonymous 1, 2019).

Some challenge the view of the "Arctic frontier" as a relatively fixed geographic space. Li et al. (2019), while recognising the geographical attributes of the "Arctic frontier," highlight its socially constructed nature. When viewed as a construct, the "Arctic

frontier" comes in many manifestations, all of which are expanding and constantly evolving, including a "political frontier" an "economic frontier" a "transportation frontier" and a "cultural frontier." Simply defining the "Arctic frontier" as the Arctic Ocean or the surrounding Arctic countries "is not in line with the main idea of the frontier, not conducive to the development and co-operation of the Arctic region and not in line with the trend of world development" (Li et al., 2019: 81). The view of the "Arctic frontier" as a changing and expanding construct could seemingly be used to justify and support the involvement of China and other "non-Arctic states" in Arctic affairs. The authors highlight that "research on the evolution of the Arctic frontier can [be used to] attack the view of the Arctic as belonging to certain countries and is conducive for [ensuring] a more reasonable and legal involvement for China in Arctic affairs" (Li et al., 2019: 77–78).

Existing Arctic governance mechanisms are portrayed as fragmented, ineffective, unfair to "non-Arctic states," and increasingly incapable of meeting the growing need for international co-operation and co-ordination (Bai, 2019). They are also viewed as unable to prevent or regulate the growing militarisation of the Arctic region (Guo and Zou, 2019). Because of its emphasis on equality, sustainability, mutual respect, and "win–win," the Chinese "model" for Arctic governance – the "Community of Common Destiny for Mankind" – is better suited to deal with the growing need for international co-operation in the Arctic (Bai, 2019; Yang and Zheng, 2017; Zhang and Fan, 2019).

The sub-narrative of the Arctic as a SNF can thus be summarised as follows: Human activity in the Arctic is increasing rapidly because of climate change, global resource depletion, and the emergence of new technologies. The Arctic has become a new frontier in the competition between great powers over strategic resources and geopolitical influence. The "Arctic frontier" is understood both as a geographic space – referring to Arctic "public spaces" or the whole "Arctic region" – and as a construct that manifests itself in different ways. Problems in the Arctic are global in nature and concern all countries, not just the eight "Arctic states," and solving them requires international co-operation. Institutions for Arctic governance are fragmented, laggard, discriminatory against non-Arctic states, and ultimately unable to accommodate the growing need for international co-operation and co-ordination in the Arctic. This presents both opportunities and security threats to China, which should promote its own model for Arctic governance.

Conclusion

Labels and categories in Chinese foreign policy discourse help us understand how the Arctic is contextualised and prioritised vis-à-vis other interests on China's foreign policy agenda. This article has studied two classifications of the Arctic as a Chinese foreign policy priority: "important maritime region" and "strategic new frontier." It has argued that they each represents one of two ways of constructing hierarchies: the former situates the Arctic in a multi-level hierarchy of maritime interests, a hierarchy that is constructed by adding gradients to different maritime interests. The latter elevates the Arctic as a policy issue by including it in a specific category of priority, the category of "strategic

Table 2. Comparison of Classifications "Important Maritime Interest" and "Strategic New Frontier."

	"Important maritime interest"	"Strategic new frontier"
Type of importance	*Degree* of importance	*Form* of importance
Method of prioritising	Grading labels/qualifiers; begins with inclusion in category of priority "maritime interest"	Inclusion/exclusion in category of priority
Type of hierarchy	Multi-level	Binary
Purpose	Assist policymakers in prioritising among competing maritime interests; assessing what measures should be used to protect different categories of interests	Adds political priority to the Arctic; allows for the Arctic to be elevated from an issue of primarily economic or scientific character to one of security
Venue	Academic discourse only	Official discourse, academic discourse
Debates/subdebates	"National interest" → hierarchy of "national interests" → hierarchy of "national maritime interests"	"Strategic new frontiers" → the Arctic as a "strategic new frontier"
International influences	US debates on a hierarchy of "national interests"	Western conceptualisations of "frontier," "global commons"
Background of authors/contributors	Mainly maritime affairs scholars, political scientists	Leaders/officials, International Relations scholars, Arctic scholars
Debate-triggering event(s)	Hu Jintao's announcement of China's goal to become a "maritime great power" in 2012	Yang Jiechi's use of the term in 2013; Xi Jinping's use of the term in 2017

Source: Author's research.

new frontiers." As opposed to the former, it does not describe degree but rather a specific form of importance and produces a binary hierarchy in which "strategic new frontiers" are elevated from the excluded, or contrasted to the included, in similar categories, such as "traditional territories." A summary of the findings is presented in Table 2.

The article has viewed foreign policy categories as performative. They not only convey information about the character and relative priority of different interests but are also used for achieving different objectives. The growing importance of maritime affairs and the official categorisation of the Arctic as a "maritime interest" in the Chinese system has added political priority to the Arctic. When "maritime interest" becomes a category of priority of itself, what adding a high grading score to a specific maritime interest does is further elevating an already elevated policy issue. While the grading and ranking of maritime interests have been confined to academic discourse, the category "strategic new frontier" has found its way into policy documents. This category, which seems to have originated in the Chinese military establishment and then spread to sectors such as diplomacy and foreign policy, allows for the Arctic to be elevated from an issue of primarily economic or scientific character to one of security. In China, like elsewhere, the "securitisation" of policy issues is done to facilitate access to state resources. As a "strategic new frontier," the Arctic becomes something more than simply a maritime space. It creates new opportunities for actors outside of the immediate maritime sector to add priority to their Arctic activities, not least for those that seek to engage China more in Arctic governance and security.

Researchers should pay closer attention to how Chinese officials and academics describe the importance of the Arctic to China. This helps to put China's Arctic interests in the context of its other priorities and reduces the amount of speculation around China's Arctic interests.

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References

Allan IM (2019) *Arctic Narratives and Political Values: Arctic States, China and NATO*. Riga: NATO StratCom COE.

Andersson P (2020) Chinese assessments of "critical" and "strategic" raw materials: concepts, categories, policies, and implications. *The Extractive Industries and Society* 7(1): 127–137.

Anonymous 1 (2019) Conversation, Chinese Arctic expert, 22 January.
Anonymous 2 (2019) Conversation, Chinese Arctic expert, 16 October.
Anonymous 3 (2019) Conversation, Chinese Arctic expert, 15 October.
Anonymous 4 (2019) Conversation, Chinese polar official, 14 January.
Ao Y 敖云波 (2014) 网络安全形势新动向及对策建议 [New trends of network security situation and suggested countermeasures]. **学理论** *[Theory Research]* 2: 12–14.
Auerswald DP (2020) Arctic narratives and geopolitical competition. In: Weber J (ed.), *Handbook on Geopolitics and Security in the Arctic: The High North Between Cooperation and Confrontation*. Cham: Springer, pp. 251–271.
Austin JL (1975) *How to Do Things with Words*. Oxford: Oxford University Press.
Bai J 白佳玉 (2019) 中国积极参与北极公域治理的路径与方法 [Paths and methods for China to actively participate in the governance of Arctic public domains]. **学术前沿** *[Academic Frontiers]*: 88–97.
Ban V (2017) China names latest "strategic emerging industries." Available at: https://www.globalpolicywatch.com/2017/03/china-names-latest-strategic-emerging-industries/ (accessed 16 July 2020).
Bennett MM (2015) How China sees the arctic: reading between extraregional and intraregional narratives. *Geopolitics* 20(3): 645–668.
Brady A-M (2017) *China as a Polar Great Power*. Cambridge, MA: Cambridge University Press.
Bruun J (2018) Sustaining Denmark, sustaining Greenland. In: Gad UP and Strandsbjerg J (eds) *The Politics of Sustainability in the Arctic: Reconfiguring Identity, Space, and Time*. London: Routledge, pp. 195–208.
Chen Z 陈舟 (2011) 观点：全球军事竞争升温 "软战争"渐凸显 [Viewpoint: global military competition is heating up, "soft war" is gradually becoming more evident]. Available at: http://world.people.com.cn/GB/16734616.html (accessed 4 June 2020).
China Ocean News (2014) 二论深入学 贯彻 近平主席重要讲话精神 [Second treatise on the in-depth study and implementation of the spirit of chairman Xi Jinping's important speeches]. Available at: http://www.oceanol.com/redian/shiping/2014-11-25/38013.html
Commission on America's National Interest (1996) *Americas National Interests*. Cambridge, MA: The Commission on America's National Interests.
Conley HA (2018) *China's Arctic Dream*. Washington, DC: Center for Strategic & International Studies.
Crookes PI (2013) Resetting EU–China relations from a values-based to an interests-based engagement. *International Politics* 50(5): 639–663.
Dahinden J, Fischer C and Menet J (2021) Knowledge production, reflexivity, and the use of categories in migration studies: tackling challenges in the field. *Ethnic and Racial Studies* 44(4): 535–554.
Dodds K and Nuttall M (2017) Materialising Greenland within a critical Arctic geopolitics. In: Kristensen KS and Rahbek-Clemmensen J (eds) *Greenland and the International Politics of a Changing Arctic*. London: Routledge, pp. 139–154.
Editor 编者 (2017) 中国的极地战略 [China's strategy for the polar regions]. **学术前沿** *[Academic Frontiers]* 6.
Feng Z and Huang J (2014) *China's strategic partnership diplomacy: engaging with a changing world*. ESPO Working Paper No. 8.
Gervits F, Johanson M and Papafragou A (2016) Intentionality and the role of labels in categorization. In: *Proceedings from the 38th Annual Meeting of the Cognitive Science Society*, Philadelphia, August 10-13.

Gill B and Mulvenon J (2002) Chinese military-related think tanks and research institutions. *The China Quarterly* 171: 617–624.

Gillespie S (2004) Diplomacy on a South-South dimension: the legacy of Mao's three- worlds theory and the evolution of Sino-African relations. In: Slavik H (ed.), *Intercultural Communication and Diplomacy*. Malta/Geneva: Diplo Foundation, pp. 109–130.

Grant A (2018) Hyperbuilding the civilized city: ethnicity and marginalization in eastern Tibet. *Critical Asian Studies* 50(4): 537–555.

Grieger G (2018) *China's Arctic Policy: How China Aligns Rights and Interests*. Brussels: European Parliamentary Research Service.

Guo P 郭培清 and Wang J 王俊杰 (2017) 陵兰独立问题的地缘政治影响 [The geopolitial influences of Greenlandic independence]. **现代国际关系** *[Contemporary International Relations]* 8: 58–64.

Guo P 郭培清 and Zou Q 邹琪 (2019) 特朗普政府北极政策的调整 [Adjustments of the Trump Administration's Arctic Policy]. **国际论坛** *[International Forum]* 4: 19–44.

Gupta R (2012) China's national interests: exploring the domestic discourse. *Strategic Analysis* 36(5): 804–818.

HM Government (2018) Beyond the ice: UK policy towards the Arctic. Available at: https://www.gov.uk/government/publication (accessed 4 June 2020).

Hu B 胡波 (2015) 论中国的重要海洋利益 [On China's important maritime interests]. **亚太安全与海洋研究** *[Asia Pacific Security and Maritime Affairs]* 3: 14–28.

Hu J (2012) 坚定不移沿着中国特色社会主义道路前进 为全面建成小康社会而奋斗 [Unswervingly follow the path of socialism with Chinese characteristics and strive for the comprehensive construction of a well-off society]. Available at: http://cpc.people.com.cn/n/2012/1109/c349998-19530612.html (accessed 2 June 2020).

Jacobs D (2018) Categorising what we study and what we analyse, and the exercise of interpretation. In: Zapata-Barrero R and Yalaz E (eds) *Qualitative Research in European Migration Studies*. Cham: Springer, pp. 133–149.

Jakobson L (2013) China wants to be heard on Arctic issues. *Global Asia* 8(4): 98–101.

Jakobson L and Knox D (2010) *New Foreign Policy Actors in China*. Solna, Sweden: Stockholm International Peace Research Institute (SIPRI).

Jakobson L and Peng J (2012) *China's Arctic Aspirations*. Solna, Sweden: SIPRI, Stockholm International Peace Research Institute.

Jia G 贾桂德 (2014) 关注"新疆域"秩序, 服务国际法治建设 [Pay attention to the order of "new frontiers" and serve the construction of international rule of law]. Available at: http://www.siis.org.cn/shgjwt201512107417/UploadFiles/file/20161227/201406001%20%E5%8D%B7%E9%A6%96%E8%AF%AD.pdf (accessed 4 June 2020).

Kaufman A and Hartnett D (2016) Managing conflict: examining recent PLA writings on escalation control. Center for naval analyses. Available at: https://apps.dtic.mil/sti/pdfs/AD1005033.pdf (accessed 1 April 2021).

Lackenbauer PW, Lajeunesse A and Lasserre F (2018) *China's Arctic Ambitions and What They Mean for Canada*. Calgary: University of Calgary Press.

Lanteigne M (2014) *China's Emerging Arctic Strategies: Economics and Institutions*. Reykjavík: University of Iceland Press.

Li Z 李增刚 (2016) 国家海洋利益的层次性与中国海洋利益维护 [The hierarchy of national maritime interests and the safeguarding of China's maritime interests]. **学 与探索** *[Study & Exploration]* 11: 112–119.

Li Z 李振福, Liu Y 刘永麟 and Wang H 王浩暵 (2019) 北极疆域及其变迁 究 [Research on the Arctic frontier and its evolution]. **俄罗斯东欧中亚 究** *[Russian, East European and Central Asian Studies]* 6: 77–90.

Liu H 刘惠荣 (2018) 海洋战略新疆域的法治思考 [Thoughts on rule of law of maritime strategic new frontiers]. **亚太安全与海洋 究** *[Asia-Pacific Security and Maritime Affairs]* 4: 16–18.

Liu X 刘新华 (2017) 中国海洋战略的层次性探析 [Analysis of the hierarchy of China's marine strategy]. **中国软科学** *[China Soft Science]* 6: 1–15.

Logsdon JM (2018) *Ronald Reagan and the Space Frontier*. Cham: Springer.

Ma P 马平 (2006) 国家利益与军事安全 [National interests and military security]. **中国军事科学** *[China Military Science]* 18(6): 61–72.

Mohr J (2020) China in the Arctic and the case of Greenland. In: Weber J (ed.), *Handbook on Geopolitics and Security in the Arctic*. Cham: Springer, pp. 113–129.

NPC (2015) 中华人民共和国国家安全法 [National security law of the PRC]. Available at: http://www.gov.cn/zhengce/2015-07/01/content_2893902.htm (accessed 21 February 2020).

Nuechterlein DE (1976) National interests and foreign policy: a conceptual framework for analysis and decision-making. *British Journal of International Studies* 2(3): 246–266.

Nykänen T (2017) A common heritage: the place of the arctic in the Chinese and finnish discourses. In: Koivurova T, Qin T and Nykänen T., et al. (eds) *Arctic Law and Governance: The Role of China, Finland and the EU*. Oxford: Hart Publishing, pp. 131–150.

Shi X 史先鹏 and Wu C 邬长斌 (2020) **基于海洋命运共同体理念的深海战略新疆域建设** *[Construction of a deep-sea strategic new frontier based on the concept of a maritime community of common destiny*. 海洋开发与管理 [Ocean Development and Management].

Slotkin R (2000) *Regeneration Through Violence: The Mythology of the American Frontier, 1600–1860*. Norman: University of Oklahoma Press.

Sloutsky VM and Fisher AV (2012) Linguistic labels: conceptual markers or object features? *Journal of Experimental Child Psychology* 111(1): 65–86.

Sørensen CTN (2019) Intensifying U.S.-China security dilemma dynamics play out in the arctic: implications for China's Arctic strategy. In: Exner-Pirot H and Heininen L (eds) *Arctic Yearbook 2019*. Akureyri: Arctic Portal.

State Council (2015) China's military strategy. Available at: http://english.www.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm (accessed 20 January 2021).

State Council (2016) 国民经济和社会发展第十三个五年规划纲要 [Outline of the 13th five-year plan for national economic and social development].

Strüver G (2017) China's partnership diplomacy: international alignment based on interests or ideology. *The Chinese Journal of International Politics* 10(1): 31–65.

Su P and Lanteigne M (2015) China's developing Arctic policies: myths and misconceptions. *Journal of China and International Relations* 3(1): 1–25.

Swaine MD (2010) China's assertive behavior. *China Leadership Monitor* 34: 1–25.

Tao L 陶略 (2011) 网络空间：中国崛起不可忽视的新疆域 [Cyberspace: a new frontier a rising China cannot ignore]. Available at: https://finance.qq.com/a/20110817/006891.htm (accessed 4 June 2020).

Wang Y 王逸舟 (2002) 国家利益再思考 [Rethinking national interests]. **中国社会科学** *[Social Sciences in China]* 2: 160–170.

Wang Y 王逸舟 (2011a) **创 性介入：中国外交新取向** *[Creative Involvement: A New Direction in China's Diplomacy*. Beijing: 北京大学出版社 [Beijing University Press].

Wang G 王公龙 (2011b) 国家 心利益及其界定 [National core interests and their definition]. **上海行政学院学报** *[The Journal of Shanghai Administration Institute]* 12(6): 75–82.

Wang Y (2017) 序言 [Preface]. In: Wang Y 王逸舟, Xiaoming Z 张小明 and Junju Z 庄俊举 (eds) 外交与国际关系新疆域, 新趋势 *[New Frontiers and Trends of Diplomacy and International Relations]*. Shanghai: 上海人民出版社 [Shanghai People's Press].

Weldes J (1999) *Constructing National Interests: The United States and the Cuban Missile Crisis*. Minneapolis: University of Minnesota Press.

Woon CY (2020) Framing the "Polar Silk Road" (冰上丝绸之路): critical geopolitics, Chinese scholars and the (re)positionings of China's Arctic interests. *Political Geography* 78(5): 1–10.

Wright DC (2011) A dragon eyes the top of the world: Arctic policy debate and discussion in China. *CMSI Red Books*, Study No. 8.

Wright DC (2013) China's growing interest in the Arctic. *Journal of Military & Strategic Studies* 15(2): 50–70.

Xi J 近平 (2017) 共同构建人类命运共同体——在联合国日内瓦总部的演讲 [Work together to build a community of common destiny for mankind]. Available at: https://language.chinadaily.com.cn/a/201701/19/WS5b20d22ba31001b82572148f.html (accessed 20 February 2020).

Xiao Y 肖洋 (2017) 冰上丝绸之路的战略支点—— 陵兰"独立化"及其地缘价值 [The strategic fulcrum of the silk road on ice: Greenland's "independence" and its geopolitical value]. **和平与发展** *[Peace and Development]* 6: 108–129.

Xiao X 肖晞 and Lang S 郎帅 (2010) 中国外交战略定位:基于外部环境与国家利益的分析 [Positioning China's diplomatic strategy: based on analysis of the external environment and national interests]. **内蒙古民族大学学报** *[Journal of Inner Mongolia University for Nationalities]* 1: 69–72.

Xinhua (2015) 国家安全法草案拟增 太空等新型领域的安全维护任务 [The draft national security law intends to add security maintenance tasks in new areas such as space]. Available at: http://www.gov.cn/xinwen/2015-06/24/content_2883509.htm (accessed 29 March 2021).

Yan X 阎学通 (1996) **中国国家利益分析** *[Analysis of China's National Interest*. Tianjin: 天津人民出版社 [Tianjin People's Publishing House].

Yang J 杨洁篪 (2014) 在纷繁复杂的国际形势中开创中国外交新局面 [Endeavor to open a new horizon of Chinese diplomacy in the complicated international situation]. **国际问题 究** *[International Studies]* 1: 1–7.

Yang J 杨 剑 (2017) 深海、极地、网络、外空： 新疆域的治理关乎人类共同未来 [The deep sea, the polar regions, the internet, outer space: the governance of new frontiers is related to the common future of mankind]. **世界知识** *[World Affairs]* 10: 39–43.

Yang J 杨剑 and Zheng Y 郑英琴 (2017) "人类命运共同体"思想与新疆域的国际治理 [The thought of community of common destiny for mankind and international governance in new frontiers]. **国际问题 究** *[International Studies]* 4: 1–16.

Zdic.net 汉典 (2020) 战略 [Strategy]. Available at: https://www.zdic.net/hans/%E6%88%98%E7%95%A5 (accessed 22 July 2020).

Zeng J, Xiao Y and Breslin S (2015) Securing China's core interests: the state of the debate in China. *International Affairs* 91(2): 245–266.

Zhang J 张健志 (1990) 关于争夺制天权的思考 [Thoughts around competition for space supremacy]. **系统工程与电子技术** *[Systems Engineering and Electronics]* 4: 1–9.

Zhang K 可辉 and Fan S 樊士博 (2019) "一带一路" 倡议下中国参与新疆域治理的实践进路 [A practical approach for China's participation in governance of new frontiers under the "Belt and Road" initiative]. **新东方** *[The New Orient]* 3: 59–65.

Zhao L 赵隆 (2018) 论中国新疆域外交的体系建构和话语建构 [On the system construction and discourse construction of China's new frontier diplomacy]. **世界经济与政治论坛** *[Forum of World Economics & Politics]* 4: 39–53.

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How China Left Greenland: Mutually Reinforcing Securitization Policies and Chinese Mining Plans in Greenland[1]

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Abstract: Securitization theory was developed in a Western, democratic setting and this has arguably shaped its explanations for how exceptional forms of governance emerge. Juha Vuori has, however, demonstrated that the theory is also relevant for understanding justifications of political interventions in matters classified as security issues in Chinese politics. Although Vuori's examples only cover situations that threaten the rule of the Chinese Communist Party - and it would not appear that anything close to this would emerge from conflicts in or about Greenland in the near future - we argue that Chinese engagement in Greenland is also enabled by the framing of issues in ways that allow for forms of policymaking highlighting the exceptional status of the issues that are dealt with. In China's authoritarian system, however, this type of framing is normalcy, so the measures do not necessarily count as extraordinary state intervention. Based on analysis of company documents from Chinese and Western investors in a potential rare earth mining operation in Greenland, we argue that Chinese actors engaging in Greenland frame projects as serving political strategies, in an attempt to attract state support for their activities. In so doing, they use language that, while not necessarily amounting to securitization in the Chinese context, sounds like securitization when intercepted in states controlling the Arctic, where it has the potential to trigger securitization discourses. Chinese counter policies to these discourses move China's activities in Greenland into a field labelled as "sensitive," and allows for intervention from policy actors that would typically engage in a securitized policy area. Chinese engagement in Greenland becomes a sensitive issue on both the Western and the Chinese side, giving rise to series of mutually reinforcing securitization policies and politically elevated silencing. This process currently seems to result in increasing reluctance from the Chinese government towards supporting Chinese mining investments in Greenland.

Keywords: China; Greenlandic mining; securitization

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Introduction

Chinese interest in Greenland has grown in the last decade. Examples include investments in potential mining projects (Andersson et al. 2018), a bid by a large state-owned company to assist in the refurbishment of airports (Simpson 2018. See chapter by Sejersen in this volume), and a controversial attempt by a Chinese mining company to acquire an abandoned Danish naval base (Breum 2016) to facilitate its activities in Greenland. Greenland's rich mineral deposits have been a focus of Chinese interest. In 2016, a Chinese company partly owned by a sub-division of China Geological Survey invested in one of Greenland's potential rare earth projects, the Kuannersuit (Kvanefjeld) project. Rare earth elements, often referred to as the "vitamins of modern industry," are considered essential in the EU, the U.S., China, Japan, and many other countries because of their importance for producing a wide range of high-tech products, including advanced communications and consumer technologies, emerging "green" technologies, and advanced military weapons. Then, in 2017, Chinese activities in the Arctic received an additional boost when the region was officially incorporated into the Belt and Road Initiative (BRI) - China's signature foreign policy and strategy for international development - with the introduction of a "Polar Silk Road". As discussed by Jacobsen and Olsvig in this volume, the U.S. has responded with a series of exceptional measures aimed at countering Chinese influence in Greenland, measures that point to a re-securitization of the country in U.S. politics. Although attempts at securitizing U.S. interests in Greenland are shaped in part by perceptions of China's Arctic strategy and its supposed security agenda in the region, very little is known about the degree to which Greenland or the Arctic more broadly are in fact viewed as security priorities in Chinese politics. Vuori (2008) has argued that, in the Chinese context, securitization, i.e., the justification of extraordinary political intervention to mitigate a potential threat, is reserved for issues that are perceived as existential threats to the survival of the Chinese Communist Party (CCP). It would not appear that anything close to this would emerge from conflicts in or about Greenland in any near future. This, however, does not mean that Chinese engagement in Greenland is not enabled by forms of policymaking that are framed as exceptional in China's authoritarian system.

This chapter studies how the Kuannersuit project is framed by the Chinese and Western investors in the project. Based on analysis of company documents such as annual reports, press releases and company presentations, we show how framing is tailored to different audiences to accomplish different goals, and how this tailoring may backfire if read by others than the intended recipients. At

the Chinese domestic level, we argue that Chinese companies use strategic framing, including references to Chinese industrial policy and foreign policy strategies, as a means to access specific forms of policymaking. Chinese actors that engage or seek to engage in Greenland are able to frame policies and investment plans as being part of China's mission of becoming a leading global industrial and economic power. Materials directed towards Western audiences, most of which are produced by the Australian license-holder of the project, highlight the Chinese investor's world-leading expertise in processing technology as a strength of the project. At the same time, vague statements of future European processing - which seem to partly contradict statements in Chinese-language reports - and recent efforts to highlight the role of non-Chinese investors in the project (Sermitsiaq 2020), suggest an awareness of how Chinese involvement in the project is viewed as both a selling point and as increasingly politically problematic. We conclude by arguing that while framing projects as serving national objectives creates opportunities for Chinese actors that seek to engage in the Arctic, it also has the potential to trigger securitization discourses in the states controlling the Arctic. Language that Chinese actors use domestically to elevate and add political priority to their projects is not intended as securitization in the Chinese context. When transmitted to the West, however, this language can be mistaken for securitization, and is often cited as evidence of a coordinated Chinese master plan for the region. In the end, this leads to increased competition over who gets to invest in Greenland, or it may result in Chinese investors pulling out as a result of the sensitivity that Danish and U.S. actors attach to Chinese investments, rather than as a result of competition.

Securitization and Chinese Politics

Securitization is about elevating specific issues into exceptional issues. In the West, this approach is mainly applied in relation to objects that are external to the democratic and "normal" domestic political system and perceived as constituting a threat to "normalcy". In the case of China, it is well documented how a specific form of very direct governance circumventing the usual bargaining between competing bureaucratic bodies is in place when an issue is perceived as a threat to the state's vital interests, i.e. stability and party state survival (Vuori 2008). This focus on the state's vital interests is also seen in China's long history of political campaigns that are carried out because they address issues highly placed on the policy agenda which are seen as very important for the country's development, but not necessarily for its security, such as poverty alleviation, food safety, or various industrial objectives (Looney 2020). By comparing three similar cases of dam building,

Mertha (Mertha 2008; 2009) has demonstrated that it is as much the framing of a case as the actual political problem that can trigger the form of governance applied. In all of Mertha's three cases the focus changed from the initial aim of meeting important state objectives (securing energy). In one case "state stability" became the referent object (public protests from those evicted formed a threat), in another the referent object was "cultural preservation" (the dam could destroy cultural heritage), and in the third the "environment" (the dam could reduce CO_2 emissions, but on the other hand destroy precious nature). Each referent object gave access to different sets of actors and offered different rooms for maneuver. In the case where "social stability" was the referent object, para-military forces were called in and there was no room for bargaining. The natural preservation case, however, allowed for an extended debate which, in the authoritarian context, is truly exceptional. This link between framing and policy process is thus not confined to those ex- or internal threats that are regarded as security issues for the Chinese state. Framing of cases as exceptional or at least special is in fact the foundation of the dominating approach for understanding policymaking in China since the 1980s – the bureaucratic bargaining approach. Following this approach, the framing of issues under a specific policy agenda is one of the main channels for bureaucrats and policy-makers to address the issues they want (Lieberthal and Oksenberg 1988). By framing issues under relevant policy agendas, they gain priority and access to specific channels of policymaking. Some processes, such as dam building, may become "normalized" and only result in the creation of, for instance, a category of relocated citizens who gain a particularly strong bargaining power. Other cases that were once part of a security issue, such as the governance of minorities, are not likely to become normalized. When policymaking is normalized again, the categories, such as relocated citizens or highly prioritized industry, still exist, and become building blocks of the "normal" bureaucratic bargaining process. They may potentially be reused in another policy campaign or in a case of securitization. Exceptional politics become the norm (Zeuthen 2020).

An important element of the bureaucratic bargaining approach is the division of the bureaucracy into parallel departmental sectors. The sectors at work within the bureaucratic bargaining framework are in principle possible to physically identify on an organizational diagram of the Chinese bureaucracy. The opportunity for framing occurs when a lower level of the bureaucracy meets a higher level where divides between different sectoral departments may be more refined and, thus, imply an opportunity to make a form of policy implementation more appealing to one segment of the bureaucracy than to another. The fragmented bureaucracy in China, when meeting international relations, introduces its (in a Chinese context fully normal) mixture of economic and

political logic to actors that are not used to it. Roselle et al. (2014) argue that a state's soft power capacity relies on the political system in which the narratives it attempts to construct is embedded, as well as the political system in the recipient communities. Through this lens, China's soft power capability may be very limited, and narratives deployed to recipient communities may easily damage its soft power capability, because they are interpreted as part of an overall offensive strategy. The narratives may contribute to increased securitization in the recipient communities. Australian mining companies, like those active in Greenland, are used to have to lobby governments both at home and overseas, but they are not used to dealing with partners that are listed on stock exchanges and at the same time have an organizational structure which is officially integrated into the CCP. This challenges both non-Chinese companies and the Western states in which Chinese mining companies operate, whose responses may in turn cause Chinese companies and the Chinese state to become more cautious about engaging in Greenland. Depending on the reactions from the Western states, it may lead to increased politicization, and eventually to actual securitization on the Chinese side.

We argue in this paper that Chinese-Western encounters in the Greenlandic mineral sector has triggered a series of mutually reinforcing securitization policies, a process which is at least partly driven by (mis)perceptions of the others' security priorities.

Framing of a Chinese mining project in Greenland

From the Chinese side, two policy sectors with relatively independent bureaucracies and somewhat independent policy agendas are at play in Greenland: the foreign policy sector, and the mineral/mining sector. The task of the foreign policy sector is to engage with foreign states while the mineral/mining sectors define goals for mining which state- and semi state-owned mining companies need to fulfill. In the Kuannersuit project, these two sectors overlap, and therefore Chinese mining companies need to address both the policies defined by these two sectors as well as the expectations set out by international mining companies and investors and state authorities in Greenland and a number of other Westerns states.

Chinese policies for the Arctic and the rare earth sector

Since 2017, the Arctic has been formally incorporated into China's overarching foreign policy strategy, the Belt and Road Initiative (BRI, formerly known as "One Belt, One Road," a closer

translation of the unchanged Chinese term), as the "Polar Silk Road" (Xinhua 2017). The establishment of BRI as a national foreign policy strategy - and the incorporation of the Arctic into this strategy - means that Chinese companies seeking government support for their Arctic investments are now required to address policies defined by the foreign policy sector. The fact that there is no clear definition of what constitutes a BRI project creates opportunities for Chinese companies in a wide range of industries to frame their overseas investments as serving BRI.

In China, the rare earth sector is part of the mineral resource sector. China has a long history of issuing plans for mineral resource development. This includes setting targets and quotas for production of selected minerals (Andersson 2020). From a state planning perspective, the goal of the mineral sector is to provide Chinese industry with the raw materials needed to ensure economic development, national security, and the normal functioning of society more broadly, but also to support a number of specific industrial policies. Different minerals are subject to different degrees of regulation in the Chinese system. The rare earth sector is regulated by a quota system consisting of quotas for both mining (extraction of ore) and processing (smelting and separation), to which only six large enterprises - the "six big"[2] - have access.

Studying the framing of the Kuannersuit project

The Kuannersuit project is located in the Ilimaussaq intrusive complex in south Greenland. It is claimed to hold the second-largest deposit of rare-earth oxides, and the sixth-largest deposit of uranium in the world. Although classified as a large tonnage, low grade deposit (Sørensen et al. 2018), the rare earth ratio makes Kuannersuit positioned for the high-end market segments (Andersson et al. 2018). Kuannersuit is one of around 30 advanced-stage rare earth exploration projects located outside of China (Kalvig and Machacek 2018). The license holder is the Australian firm Greenland Minerals A/S, owned by Greenland Minerals Limited (GML). In 2016, Shenghe Resources Holding Ltd, a company based in Chengdu, China, took a 12.5% ownership of GML. Shenghe was founded by a research institute under China Geological Survey - the Chengdu Institute for the Comprehensive Utilization of Mineral Resources (CICUMR) - which is also Shenghe's largest shareholder and whose director serves as the chairman of the company (Zeuthen 2017). As shall be explored below, the ambiguous status of Shenghe as neither fully private nor fully state-

[2] The "six big" are China Northern Rare Earth, China Southern Rare Earth, China Minmetals, Xiamen Tungsten, China Aluminum Corporation, and Guangdong Rare Earth.

owned is of importance not only for its strategies when engaging overseas but also for how its investments are perceived in recipient countries. Shenghe through cooperation with some of the "six big" has access to Chinese rare earth quotas, but possibly less so than the "six big" themselves.

For the last few years, GML has been seeking regulatory approval for the Kuannersuit project from the Greenlandic authorities. The project is highly controversial in Greenland due to environmental concerns, particularly because uranium will be an inevitable by-product of the project. The question of how to deal with the uranium has been a source of tension between Denmark and Greenland and it continues to be a divisive political issue in Greenland today (Bjørst 2017). GML reached a significant milestone in September 2020, when the project's environmental impact assessment was approved for public consultation (McGwin 2020). However, it faced a major setback in February 2021, when disagreement over the project and its environmental impact caused the governing coalition to collapse (Reuters 2021). A snap general election was implemented in April 2021 which saw the opposition party Inuit Ataqatigiit emerge victorious. Inuit Ataqatigiit ran on opposition to the Kuannersuit project and has promised to put a halt to the project (DW 2021). The project will need parliamentary approval in Greenland before a mining license can be issued, and, hence, the future of the project now looks uncertain.

In order to study investors' framing of the Kuannersuit project, we collected and analyzed materials from Shenghe and GML published between 2015 (one year before Shenghe invested in the project) and 2021, including annual reports and company presentations, all of which were publicly available on the internet. Annual reports are documents prepared by companies to inform investors and creditors about the important activities of the company of the past year, the financial situation of the company, and its future plans and goals. For publicly listed companies like Shenghe, such annual reports are mandatory, and required to be publicly available. For Chinese companies political status directly affects their credit worthiness, so fulfilment of policy goals can be part of the evaluation included in such annual reports (Shen et al. 2016). Presentations of the project delivered by GML or Shenghe in different contexts allowed us to study the framing of topics not discussed in annual reports (for example, while Shenghe's annual reports contain few details about the company's arguments for investing in specific projects, such questions have been addressed in company presentations), and how framing is tailored to different audiences. The analysis also draws on conversations with staff at GML and researchers and managers connected to Shenghe and the Chinese mining sector more broadly carried out by the authors between 2017 and 2020. Finally,

news articles in Chinese, English and Danish containing interviews with the companies are also part of the analysis.

Framing the Kuannersuit project in China

In Shenghe's annual reports, the company's overseas activities, including its investment in the Kuannersuit project, are presented as serving China's raw material strategy and industrial policy, as well as the company's own development needs. The reports highlight that the company is working with a resource (rare earths) that is not only "strategic" (战略性) and "indispensable" (不可或缺) for modern industry everywhere (Shenghe Resources 2016: 8; 2017: 10; 2019: 28), but also linked to and supporting a number of major Chinese national development strategies. They include references to several industrial policies, such as "Made in China 2025," and China's plan for developing "strategic emerging industries". For example, Shenghe's 2015 annual report states that "Following the successive implementation of national strategies such as [the plan for] strategic emerging industries, 'Made in China 2025' and 'Internet Plus', the development of emerging industries such as smart manufacturing, high-end equipment, new energy vehicles, industrial robots, and 3D printing is accelerating. Rare earths are important basic materials supporting the development of these industries" (Shenghe Resources 2016: 17). Shenghe's annual reports for 2019 and 2020 both highlight that rare earths are officially classified as "strategic minerals" (战略性矿产) in the National Mineral Resources Plan (2016-2020), one of the key documents for the macro planning of mineral resources in China. It also highlights that rare earth functional materials are part of the new material industry – one of nine "strategic emerging industries" in the Strategic Emerging Industry Key Products and Services Guidance Catalog (2016 Edition) (Shenghe Resources 2020a: 10; 2021: 10). The label "strategic mineral" has a specific meaning in the Chinese context. It refers to minerals that have been identified as crucial for ensuring economic security, defense security, and the development of emerging high-tech industries (State Council 2016: 14). It is part of a system of labels and categories that are used to attach different degrees of priority or importance to different mineral raw materials (Andersson 2020). Assessments of mineral "criticality" are common in most modern economies. In the EU, for example, "critical raw materials" refer to raw materials that are considered to be of great economic importance for the European economy and subject to high supply risk (EC 2018). In China, however, not all "strategic minerals" are deemed "strategic" primarily because of high supply risk; rare earths are among a group of minerals labeled by Chinese

experts as “advantageous strategic minerals” (优势战略性矿产), minerals for which China holds significant market power and influence (Andersson 2020; Wang 2009; Chen and Wang 2007).

Both Shenghe and CICUMR frame their activities as serving China’s foreign policy objectives and strategies. For example, Shenghe’s annual reports for 2017 and 2018 list being a “practitioner” of BRI (一带一路的践行者) as part of the “company development strategy” (Shenghe Resources 2018: 32; 2019: 29), a formulation that is also listed on the company’s Chinese-language website (Shenghe Resources 2020b). China’s foreign policy strategies are referenced in other materials by Shenghe/CICUMR or by Chinese researchers who are connected to the institute. An article from CICUMR frames the institute’s overseas activities in Greenland and elsewhere as both a response to government strategy and as serving the company’s own development needs: “Actively ‘going out’ and conducting mineral resource cooperation overseas is not only an inevitable requirement in responding to the call for constructing ‘One Belt One Road,’ but also the only way to expand overseas markets, enhance core competitiveness, and continuously develop and grow into an international mining brand” (CICUMR 2019). This framing of Shenghe as carrying out BRI, which, as noted above, since 2017 also includes the Arctic, paraphrases policies originally spelled out by CCP General Secretary Xi Jinping. Re-invoking these formulations may be a way of making Shenghe part of the foreign policy sector and ensure access to state credit institutions focused on China’s overseas engagement. At least, this was presented as a motivation when one of the authors interviewed leading researchers and part of the management of Shenghe and CICUMR in 2017. However, references to national foreign policy initiatives could also simply be the result of Shenghe needing to show that it delivers on multiple policy agendas.

Shenghe’s 2020 annual report stresses how international projects help diversify supply channels of rare earth concentrates and secure rare earth resources for the company’s downstream businesses, including rare earth smelting and separation (Shenghe Resources 2021: 11). Investment in rare earth companies at home and abroad, including in GML, “reserves abundant rare earth resources for the company’s development” (ibid.). Shenghe has claimed that it invests in projects abroad because of regulations and restrictions at home. Due to strict extraction quotas in China, Shenghe is unable to domestically acquire the ore it needs for its downstream smelting and processing business, which has been described as the “company’s main business” (Li 2017). Chinese mining and processing of rare earths overseas are not yet restricted by any quota system, and rare earth concentrates extracted abroad and processed in China may also be exempt from the quota system. A person from Shenghe’s secretary office told a domestic Chinese business journal that “There are designated

plans for domestic mining and smelting, [but] there are no restrictions in this regard abroad. Therefore, the company seeks some overseas mining and smelting enterprises. This is beneficial for the development of the company" (ibid.). Since Shenghe has limited access to national rare earth quotas, this appears as a likely motivation for Shenghe to engage overseas (Zeuthen 2017), and this is also in line with how a researcher associated with CICUMR explained it to one of the authors in 2019. When asked in certain contexts about its motivations for investing overseas (especially when asked by critical non-Chinese researchers), the company may be aware that citing domestic quotas and restrictions as the main motivation will be regarded as less sensitive than claiming it is part of a far-reaching Chinese master strategy. To receive official support for its overseas engagement, however, the company has to frame its activities as important not only for the company's own development, but also for national objectives and strategies.

Framing the Kuannersuit project to international investors

Most of the presentations of the Kuannersuit project on the global scene are made by GML, the mother company of the license holder, Greenland Minerals A/S. In annual reports and presentations to investors, GML portrays their Chinese partner as a fast-growing and internationally oriented company that brings to the project world-class processing technology and a global customer network (GML 2020b, 2019, 2018a, 2017). GML also highlights how Shenghe, which is described as a "public company" (i.e., a company open for investment on a stock exchange), has a "strong balance sheet" (GML 2020c) and that it "holds Chinese production quotas for the mining and separation/refining of rare earths" (GML 2017: 10). GML's annual reports for 2016 and 2017 include some discussion of Chinese domestic policies and plans for the rare earth sector. The 2016 report notes that the rare earth industry is considered to be of "strategic significance" in China and that the government is tightening control of the industry to secure future supply, including by limiting domestic production and encouraging companies to develop resources overseas (GML 2017: 12-13). The aim of these discussions seems to have been to demonstrate how developments and trends in the Chinese rare earth industry will have a positive impact on the Kuannersuit project and that the project has official support in China. The reports for 2018, 2019 and 2020 do not contain such discussions, which could simply be because there were few major Chinese policy changes to report to investors for those years (the next five-year plan for the rare earth sector is expected to be issued in late 2021). However, it could also suggest an awareness on the part of GML that framing the project to international investors as enjoying political backing in China or as

being part of a Chinese national resource strategy is becoming increasingly politically problematic (see below). As more attention is given to marketing, there is in the two latest reports and in recent presentations instead a stronger focus on how the project will work with and benefit European industry (GML 2021: 8-9; 2020b: 2, 13; 2020a, 2020d). GML presents Shenghe's motivation for investing in Kuannersuit as follows: "For Shenghe, investment in Greenland Minerals is aimed to secure access to rare earth resources outside of China which are capable of supporting a range of rare earth businesses, facilitating long term growth opportunities" (GML 2020c). This appears to be in line with how Shenghe frames its motivations in Chinese-language materials.

In the social impact assessment for the Kuannersuit project, GML has presented different scenarios for processing. In its preferred scenario, two stages of processing will be conducted in Greenland, while the most advanced and technically demanding processing will take place outside Greenland (GML 2018b: 99). Although final processing is expected to be carried out in China, which is where the required technology and expertise is located, GML and Shenghe also state that the long-term goal is for processing to take place in Europe. In one of few presentations directed to European investors, Shenghe states that it "hope[s] to work with European industry in areas of construction, processing and materials fabrication" (Hu 2019). In an interview with the Danish newspaper Berlingske, Shenghe chairman Hu Zesong stated that while processing of intermediate products may initially be carried out in China, a European processing strategy is the aim in the longer term (Winther 2020). Statements of future European processing lack specific details and are presented more as an ambition than an actual plan. Although processing in Europe may be a serious long-term consideration for GML (and Shenghe), such statements seem at least partially designed to address concerns that the Kuannersuit project will simply end up further reinforcing China's dominant role in the supply chain. This is supported by what appears to be an effort by GML to highlight the role of non-Chinese investors in the project (Sermitsiaq 2020). Given intensifying efforts in the U.S. of establishing supply chains independent from China, Chinese involvement in the Kuannersuit project is not only a selling point for GML but may also be viewed as politically problematic, especially considering China's increasingly vocal threats of "weaponizing" rare earths. In May 2019, Xi Jinping made a high-profile visit to a rare-earth magnet factory in Ganzhou, Eastern China (Johnson and Groll 2019). The visit and subsequent media coverage in China were widely interpreted as a warning to U.S. officials that China may leverage its control over rare earths in the ongoing U.S.-China trade conflict (ibid.). Moreover, the worsening relations between China and Australia, described by some observers as having deteriorated beyond repair (Verrender 2020; Hu 2020),

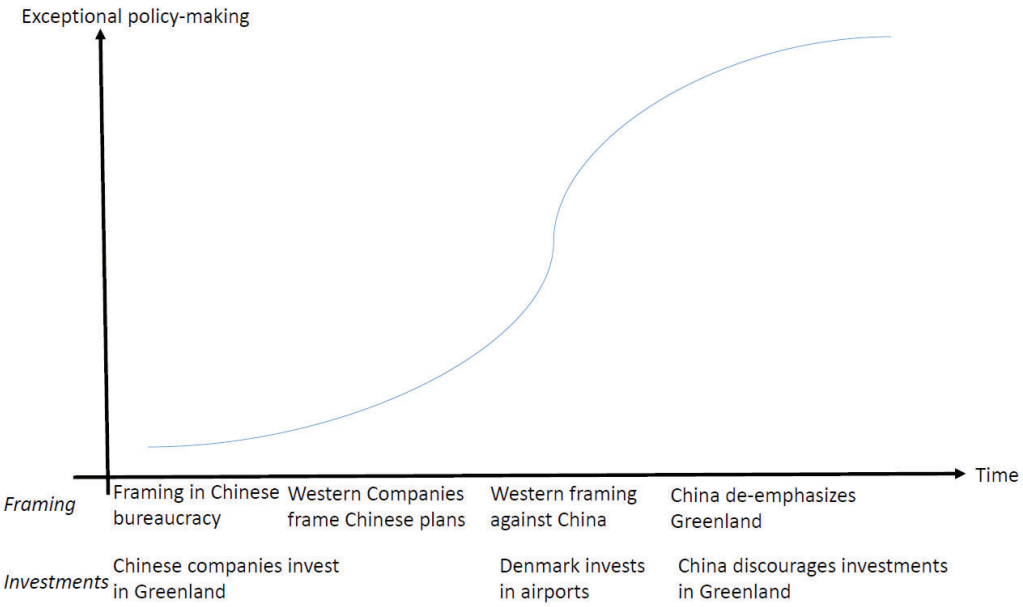
could potentially further add to the political problematique going forward. How Chinese participation in a rare earth project can be framed as either a strength or a weakness becomes evident when comparing with the other major rare earth exploration project in Greenland, the Killavaat Alannguat (Kringlerne) project, which has been promoted by its owner Tanbreez, another Australian company, as *not* requiring any Chinese involvement (Dempsey 2019).

Reactions in recipient countries and the Chinese response

For a Chinese company like Shenghe, framing an overseas mining project as aligning with official government priorities may be helpful for gaining political credit, attracting investors, and obtaining financial support from Chinese state banks, particularly at a time when multiple companies or agencies are competing over increasingly limited government resources. In the recipient countries, however, references to controversial Chinese industrial policies such as "Made in China 2025" or foreign policy projects such as the BRI or the "Polar Silk Road," may instead reinforce perceptions that Chinese companies - whether private or state-owned - are operating abroad not solely based on a business logic but also to carry out the long-term strategies of the CCP. The very real (and growing) integration between the CCP and the organizational structure of Chinese companies, e.g. via overlapping leadership structures (as seen in Shenghe) or through the presence of party committees in companies (Blanchette 2020), contribute to these perceptions. As a result, investments of Chinese companies, as well as the activities of other Chinese actors, are often perceived and portrayed as advancing Chinese economic, political and security interests in the Arctic. These images can then be invoked to securitize Chinese investments in the Arctic. At the 2019 Arctic Council Ministerial Meeting in Rovaniemi, Finland, U.S. Secretary of State Mike Pompeo stated that China's behavior in the Arctic "is part of a familiar pattern" of "develop[ing] critical infrastructure using Chinese money, Chinese companies, and Chinese workers – in some cases, to establish a permanent Chinese security presence". He further suggested that "China could use its civilian research presence in the Arctic to strengthen its military presence, including deployment of submarines to the region as a deterrent against nuclear attack" (U.S. DOS 2019b).

Chinese policymakers are aware of how the country's industrial policies and foreign policy projects, as well as the various labels and concepts associated with these, are being perceived abroad, and have made efforts to re-shape the global narratives surrounding them. In 2015, the National Development and Reform Commission, the Ministry of Foreign Affairs, and the Ministry of Commerce issued a joint statement in which they established that the Chinese name "One Belt One

Road" (一带一路) was to be translated in external official documents as "Belt and Road Initiative". Apart from dropping the word "one," which was deemed inappropriate for describing the global scope of the project, the statement insisted that the term "initiative" be used, not "strategy," "agenda," "project," or "program" (Sina 2015), as those were thought to induce more suspicion. References to "Made in China 2025" in Chinese media and official documents have been toned down since 2018 following criticism from the U.S. and other Western countries (Zenglein and Holzmann 2018). This seems to have affected the framing strategies of Chinese companies, including Shenghe, who removed references to "Made in China 2025" in its annual reports for 2019 and 2020, having referenced it in all the previous reports from 2015 to 2018. Moreover, in a conversation with a group of Chinese Arctic scholars in October 2019, one of the authors was told that Chinese official discourse may deemphasize the term "Polar Silk Road" because of concerns that the poor relationship between Europe and Russia may prevent Scandinavian countries from endorsing the initiative.[3]



[3] The idea of an Arctic "silk road" was supposedly proposed by a Russian minister (Tillman et al. 2018) and the "Polar Silk Road" has become a symbol of Sino-Russian cooperation in the Arctic.

Figure 1: The degree of exceptional policymaking increases as Chinese investments in Greenland become a sensitive issue for both the West and China. So far mutual interpretations of framings have contributed to intensifying securitization.

What is happening in Greenland could be described as a process of mutually reinforcing securitization policies (Figure 1) in which different Western and Chinese understandings of security and state interests, and the different needs for framing that this creates, have resulted in a gradual buildup of securitization measures in both the West and in China. Chinese framing of Arctic projects as important for objectives within the mineral/mining and foreign policy sectors, which, as noted above, is used to access specific forms of policymaking, but which does not amount to securitization in the Chinese context, is understood and portrayed in the West as evidence of a centrally coordinated Chinese approach to the region. The response has been particularly forceful in the U.S., where the securitization of Greenland as a strategic territory has coincided with the securitization of rare earths as a critical resource. Indeed, several instances of U.S. political intervention in Greenland in recent years - all involving China - suggest that the country has already re-entered the field of U.S. exceptional policymaking (see chapter by Jacobsen and Olsvig in this volume). In 2016, the U.S. is believed to have pressured Denmark to reject an offer by a Chinese company to acquire an abandoned Danish naval base in southwest Greenland (Matzen 2017). In 2018, U.S. and Danish concerns over a bid by a large Chinese state-owned company to assist with the refurbishment of Greenlandic airports prompted the Danish government to finance half of the estimated cost (Simpson 2018. See chapter by Lindbjerg and Jacobsen as well as the one by Sejersen in this volume). In September 2020, a year after the U.S. Department of State had signed a Memorandum of Understanding (MoU) with the Government of Greenland concerning cooperation on mineral resource governance (U.S. DOS 2019a), President Trump issued an executive order aimed at reducing reliance on "critical minerals" from "foreign adversaries". The order highlighted U.S. dependency on China for multiple critical minerals as "particularly concerning" (Exec. Order No. 13953 2020, 2020). These U.S. and Danish responses then feed back into Chinese perceptions of the security risks and benefits of investing in Greenland.

In the end, these developments will likely lead to increased competition over who gets to invest in Greenland, or it may result in Chinese investors pulling out not as a result of competition, but as a result of the sensitivity that Danish and U.S. actors attach to Chinese investments. A person who has been engaged in previous Chinese investment plans in Greenland told one of the authors that there are currently no further Chinese investments planned in Greenland, because these investments

were regarded as sensitive by Denmark. An ironic observation since it is perhaps typically assumed that references to "political sensitivities" are made by Chinese actors to describe how certain forms of engagement with the West are regarded as problematic in the Chinese system.

Conclusion

Chinese mining plans in Greenland connect types of actors which are not usually cooperating. These actors belong to different realms of policymaking and are part of epistemic communities in China and the West which are almost completely isolated from each other. These relations connect different forms and needs for framing in ways that easily lead to misinterpretations. Chinese companies wanting to invest in Greenland need first to present what they are doing as part of a grand strategy to raise funding, and then need to convince Western states that their real focus is on capital optimization. The reason for both forms of framing is the perception of what state security interests are. The supply of selected minerals to China is part of a political bargaining process where the survival and progress of the state is always presented as the ultimate goal. The discourses associated with this bargaining reflect this. Western observers may forget, however, that many other issues, such as poverty alleviation in rural China, food security etc. are also framed as essential state interest that could threat state stability if not dealt with. These initiatives are just less relevant to foreign states. Reframing mining projects as non-political is not a trustworthy pattern to follow for the Chinese mining companies, so they often appear non-professional and untrustworthy in the eyes of Western observers. This may further contribute to the buildup of securitization measures from Western states against the Chinese interest in Greenland. In the end, Chinese foreign policy-makers who are more closely connected to Western policymaking discourses encourage Chinese investors to refrain from investing in Greenland. In return, it appears, Western governments increasingly encourage Western companies to invest, and increasingly contribute with direct state support, i.e., dealing with Greenland in the way that they fear China will.

Theoretically, this chapter has sought to link the Chinese bureaucratic bargaining with securitization theory. The bureaucratic bargaining process elucidates some of the undemocratic, political processes that constitute normal governance in China. These processes happen in a semi-public space, and thus in a very amputated form contribute to form the Western pictures of what Chinese mining companies do, and how they address geographical areas. In the process of bureaucratic bargaining the things said about Greenland and minerals from Greenland affect Western views on

China as an actor in the Arctic in a way that in their eyes makes China's interests in Greenland a security issue. This adds sensitivity to the way in which Greenland and minerals from Greenland are dealt with from the Chinese side thus making Chinese mining in Greenland more a matter of China's central state politics than they probably were at the outset. Chinese mining in Greenland becomes regarded as a security issue by all parties involved in the process. This process then "self-reinforces" in a process of escalation in which both the West and China regard the issue as sensitive and in potential need for intervention from increasingly higher levels of state.

Bibliography

Andersson, P. (2020). Chinese assessments of "critical" and "strategic" raw materials: concepts, categories, policies, and implications. *The Extractive Industries and Society*, 7(1): 127-37.

Andersson, P., Zeuthen, J. and P. Kalvig (2018). Chinese mining in Greenland: Arctic access or access to minerals? *Arctic Yearbook 2018: Special Section on China & the Arctic*: 1-15.

Bjørst, L.R. (2017). Uranium: The road to "economic self-sustainability for greenland"? Changing uranium-positions in greenlandic politics. G. Fondahl and G.N. Wilson (eds.) *Northern Sustainabilities: Understanding and Addressing Change in the Circumpolar World*. Springer.

Blanchette, J. (2020). From "China Inc." to "CCP Inc.": A New Paradigm for Chinese State Capitalism. *China Leadership Monitor*, Winter 2020(66): 1-13.

Breum, M. (2016). Did Denmark's prime minister stop a Chinese firm from buying an abandoned military base in Greenland? Arctic Today. URL: https://www.arctictoday.com/did-denmarks-prime-minister-stop-a-chinese-firm-from-buying-an-abandoned-military-base-in-greenland/ [7 December, 2020].

Chen, Q. 陈其慎 and Wang, G. 王高尚 (2007). 我国非能源战略性矿产的界定及其重要性评价 [Definition of China's Non-Energy Strategic Minerals and Evaluation of their Importance]. *资源经济 [Resource Economy]*, 1(18-21).

CICUMR (2019). 以稀土为核心，三稀为重点，积极开创国际合作新格局 [Shenghe Resources Holding Co., Ltd. takes rare earths as core, three rare earths as focus, and actively creates a new pattern of international cooperation]. URL: https://www.cgs.gov.cn/gzdt/zsdw/201906/t20190606_483884.html [7 December, 2020].

Dempsey, H. (2019). US enticed by Greenland's rare earth resources. Financial Times. URL: https://www.ft.com/content/f418bb86-bdb2-11e9-89e2-41e555e96722 [7 December, 2020].

DW (2021). The battle over Greenland's untapped natural resources. URL: https://www.dw.com/en/the-battle-over-greenlands-untapped-natural-resources/a-57138809 [28 April, 2021].

EC (2018). Critical Raw Materials. URL: http://ec.europa.eu/growth/sectors/raw-materials/specific-interest/critical_en [5 February 2019].

Exec. Order No. 13953 2020 (2020). Executive Order on Addressing the Threat to the Domestic

Supply Chain from Reliance on Critical Minerals from Foreign Adversaries. URL: https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/24/executive-order-on-americas-supply-chains/ [16 September 2021]

GML (2017). Greenland Minerals and Energy Ltd 2016 Annual Report. URL: https://www.ggg.gl/assets/Uploads/Annual-Reports/3cc3e2280b/2016-Annual-Report.pdf [7 December, 2020].

GML (2018a). Greenland Minerals and Energy Ltd 2017 Annual Report. URL: http://www.ggg.gl/assets/Uploads/Annual-Reports/43ab98ed04/2017-Annual-Report.pdf [9 December 2020].

GML (2018b). Kvanefjeld Project Social Impact Assessment. URL: https://naalakkersuisut.gl/~/media/Nanoq/Files/Attached%20Files/Erhverv/ENG/VSB_UDKAST_ENG.pdf [31 January 2021].

GML (2019). Greenland Minerals and Energy Ltd 2018 Annual Report. URL: http://www.ggg.gl/assets/Uploads/Annual-Reports/444de82923/2018-Annual-Report.pdf [9 December, 2020].

GML (2020a). Building an integrated global rare earth supply business. Presentation at CLSA Rare Earths Deep Dive, 11 November 2020. URL: https://www.ggg.gl/assets/Uploads/Presentations/2020/20201111_CLSA-RE-Forum-Presentation.pdf [4 March, 2021].

GML (2020b). Greenland Minerals and Energy Ltd 2019 Annual Report. URL: https://www.ggg.gl/assets/Uploads/Annual-Reports/f430698c67/2019-Annual-Report.pdf [9 December, 2020].

GML (2020c). One of the world's most significant rare earth companies. URL: https://www.ggg.gl/partner/ [9 December, 2020].

GML (2020d). Positioning Greenland to be a major international rare earth supplier. Presentation at PDAC 2020: Greenland session, 3 March 2020. URL: https://www.ggg.gl/assets/Uploads/Presentations/2020/16e8cc7762/20200303_PDAC-Greenland-Session.pdf [8 December, 2020].

GML (2021). Greenland Minerals and Energy Ltd 2020 Annual Report. URL: https://www.ggg.gl/assets/Uploads/Annual-Reports/GML-2020_Annual_Report.pdf [28 April, 2021].

Hu, D. (2020) China-Australia relations doomed. The University of Western Australia. URL: https://www.uwa.edu.au/news/article/2020/december/china-australia-relations-doomed [9 March, 2020].

Hu, Z. (2019) Investment in Greenlandic Mining. Presentation at the Confederation of Danish Industry's Greenland Conference, December 2019. URL: https://www.ggg.gl/assets/Uploads/Presentations/b76a5718ad/Dec-2019-SKN-Investment-in-Greenlandic-Mining.pdf [8 December, 2020].

Jacobsen, M. and Olsvig, S. (Forthcoming). From Peary to Pompeo: United States securitizations of Greenland. In: Jacobsen, M.; Gad, U.P. and O. Wæver (eds.). *Greenland in Arctic security: (de)securitization dynamics under climatic thaw and geopolitical freeze*.

Johnson, K. and Groll, E. (2019). China Raises Threat of Rare-Earths Cutoff to U.S. Foreign Policy. URL: https://foreignpolicy.com/2019/05/21/china-raises-threat-of-rare-earth-mineral-cutoff-to-us/ [8 December, 2020].

Kalvig, P. and Machacek, E. (2018). Examining the Rare Earth Elements (REE) Supply-Demand Balance for Future Global Wind Power Scenarios. *Geological Survey of Denmark and Greenland Bulletin*, 41: 87-90.

Li, Z. 李哲 (2017). 盛和资源补“短板”：欲购美国最大稀土矿 [Shenghe Resources makes up for "shortcomings": wants to buy the largest rare earth mine in the United States]. URL: http://www.cb.com.cn/gongyeyucaikuang/2017_0624/1188458.html [16 September, 2021].

Lieberthal, K. and Oksenberg, M. (1988). *Policy making in China: Leaders, structures, and processes*. Princeton University Press.

Lindbjerg, S.L. and Jacobsen, M. (Forthcoming). Denmark's relations to USA, China and Russia in Greenland: How great power competition altered the Danish identity narrative in 2018-2019. In: Jacobsen, M.; Gad, U.P. and O. Wæver (eds.). *Greenland in Arctic security: (de)securitization dynamics under climatic thaw and geopolitical freeze*.

Looney, K.E. (2020). *Mobilizing for Development: The Modernization of Rural East Asia*. Cornell University Press.

Matzen, E. (2017). Denmark spurned Chinese offer for Greenland base over security: sources. Reuters. URL: https://www.reuters.com/article/us-denmark-china-greenland-base-idUSKBN1782EE [16 September, 2021].

McGwin, K. (2020). A controversial Greenland mine passes a key regulatory hurdle, and heads for

public comment. Arctic Today. URL: https://www.arctictoday.com/a-controversial-greenland-mining-project-has-passed-a-key-regulatory-hurdle-and-heads-for-public-comment/ [7 December, 2020].

Mertha, A. (2008). *China's Water Warriors*. Cornell University Press.

Mertha, A. (2009). "Fragmented authoritarianism 2.0": Political pluralization in the Chinese policy process. *The China Quarterly*, 200: 995-1012.

Reuters (2021). Greenland calls election after government breaks up. URL: https://www.reuters.com/article/greenland-election-idINKBN2AH0WJ [28 April, 2021].

Roselle, L., Miskimmon, A. and B. O'loughlin (2014). Strategic Narrative: A New Means to Understand Soft Power. *Media, Mar & Conflict*, 7(1): 70-84.

Sejersen, F. (Forthcoming). Infrastructural (re)configurations and processes of (de)securitization: the fluctuating roles and positions of airports in Greenland. In: Jacobsen, M.; Gad, U.P. and O. Wæver (eds.). *Greenland in Arctic security: (de)securitization dynamics under climatic thaw and geopolitical freeze*.

Sermitsiaq (2020). Greenland Minerals opruster. Sermitsiaq. URL: https://sermitsiaq.ag/node/225801?fbclid=IwAR3UZHo1H9VCb36bFPXbeMBYYY1LvhPDgZMntfkpoT8TZzyal46OY2mhpTU [7 December 2020].

Shen, J., Firth, M. and W.P.H. Poon (2016). Credit expansion, corporate finance and overinvestment: recent evidence from China. *Pacific-Basin Finance Journal*, 39: 16-27.

Shenghe Resources (2016). 盛和资源控股股份有限公司 2015 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2015 Annual Report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2016/2016-3/2016-03-31/2301498.PDF [7 December, 2020].

Shenghe Resources (2017). 盛和资源控股股份有限公司 2016 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2016 Annual Report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2017/2017-5/2017-05-04/3375829.PDF [7 December, 2020].

Shenghe Resources (2018). 盛和资源控股股份有限公司 2017 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2017 Annual Report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2018/2018-6/2018-06-16/4522412.PDF [7 December, 2020].

Shenghe Resources (2019). 盛和资源控股股份有限公司 2018 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2018 annual report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2019/2019-3/2019-03-29/5129531.PDF [7 December, 2020].

Shenghe Resources (2020a). 盛和资源控股股份有限公司 2019 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2019 Annual Report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2020/2020-4/2020-04-25/6122389.PDF [16 September, 2021].

Shenghe Resources (2020b). 董事长致辞 [Message from the Chairman]. URL: http://www.shengheholding.com/aboutMake [8 December, 2020].

Shenghe Resources (2021). 盛和资源控股股份有限公司 2020 年年度报告 [Shenghe Resources Holdings Co., Ltd. 2020 Annual Report]. URL: http://file.finance.sina.com.cn/211.154.219.97:9494/MRGG/CNSESH_STOCK/2021/2021-4/2021-04-23/7094094.PDF [28 April, 2021].

Simpson, John (2018). How Greenland could become China's Arctic base. BBC. Available at: https://www.bbc.com/news/world-europe-46386867 (accessed 7 December 2020).

Sina (2015). 官方发布“一带一路”正式英译：简称“B&R” [Official English translation of "One Belt One Road" officially released: "B&R" for short]. URL: http://news.sina.com.cn/c/sz/2015-09-24/doc-ifxhzevf1026412.shtml [7 December, 2020].

State Council (2016). 全国矿产资源规划 (2016-2020 年) [National Mineral Resources Plan (2016-2020)]. URL: http://www.cgs.gov.cn/tzgg/tzgg/201612/W020161206616104236819.doc [5 February 2019].

Sørensen, L.L., Kalvig, P. and D. Rosa (2018). The rare earth element potential in Greenland. *Mima Rapport*, 29 (February).

Tillman, H., Yang, J. and E.T. Nielsson (2018). The polar silk road: China’s new frontier of international cooperation. *China Quarterly of International Strategic Studies*, 4(03): 345-62.

U.S. DOS (2019a). Joint Statement on U.S.-Greenland MOU and Hyperspectral Survey. URL: https://www.state.gov/joint-statement-on-u-s-greenland-mou-and-hyperspectral-survey/ [7 December, 2020].

U.S. DOS (2019b). Looking North: Sharpening America’s Arctic Focus. URL: https://2017-2021.state.gov/looking-north-sharpening-americas-arctic-focus/index.html

[16 September, 2021].

Verrender, I. (2020). As Australia's relationship with China deteriorates beyond repair, we need to find new trade partners. Australian Broadcasting Corporation. URL: https://www.abc.net.au/news/2020-12-14/australia-has-to-look-beyond-china-as-relationship-breaks-down/12979900 [3 March, 2021].

Vuori, J.A. (2008). Illocutionary logic and strands of securitization: Applying the theory of securitization to the study of non-democratic political orders. *European journal of international relations*, 14(1): 65-99.

Wang, R. 王瑞江 (2009). 关于中国战略性矿产勘查工作若干问题的再思考 [Rethinking Several Issues Concerning China's Strategic Mineral Exploration Work]. *地质通报 [Geological Bulletin of China]*, (7): 817-20.

Winther, L. (2020). I Grønlands undergrund gemmer der sig en skat. Og den jagter både kinesere og amerikanerne. *Berlingske*, 18 January. URL: https://www.berlingske.dk/globalt/i-groenlands-undergrund-gemmer-der-sig-en-skat.-og-den-jagter-baade [8 December, 2020].

Xinhua (2017). 王毅：俄罗斯是共建“一带一路”的重要战略伙伴 [Russia is an important strategic partner for the joint construction of the “belt and road”]. URL: http://www.xinhuanet.com/world/2017-05/27/c_1121045357.htm [2 June, 2020].

Zenglein, M.J. and Holzmann, A. (2018). Evolving Made in China 2025. *Merics Papers on China*, (8).

Zeuthen, J. (2017). Part of the Master Plan? Chinese Investment in Rare Earth Mining in Greenland. *Arctic Yearbook 2017*: 1-14.

Zeuthen, J.W. (2020). Rescaling China’s rural–urban frontier: Exception as norm in the access to development. *China Information*, 34(2): 208-28.

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