China's strategy in the Arctic: threatening or opportunistic?

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ABSTRACT. In a context of rapid climatic change in the Arctic, the fast melting of permafrost, the decline of glaciers and the melting of sea ice created perceived strategic and economic opportunities for the littoral states. The attention of states beyond the region was also attracted. For example China, without direct access to the Arctic, displays an interest in Arctic research, natural resources, and shipping potential. However, its diplomatic, economic, political and scientific efforts in this region arouse negative reactions among western media. They often draw up a portrait of an ambitious and arrogant China, ready to push aside the sovereignty of the Arctic countries to defend its own interests in the Arctic. From this perspective, it seems relevant to analyse China's activities in the region and to try to assess Beijing's strategy, which seems more driven by opportunism than by a long-term desire to challenge the littoral states' sovereignty.

Introduction

Could the first transit through the northeast passage in August 2013 of the *Yongsheng*, a Chinese cargo vessel of the government-owned shipping company COSCO, be an indicator of Beijing's Arctic ambitions? Because of climate change, there is increased media interest in the Arctic regarding sovereignty issues, its supposed wealth of natural resources and the possible opening of new sea routes (Holmes 2008; Grupta 2009: 174–177; Lasserre 2010a). Eight different countries are concerned with the Arctic region, five of which directly border the Arctic Ocean: Canada, Russia, the United States, Norway, and Denmark (via Greenland). These constitute the Arctic 5 an informal grouping of the Arctic Council (AC) littoral states, which does not consider Iceland, in the northern part of the North Atlantic, as a bordering country to the Arctic Ocean (a position refuted by Reykjavik and indeed also by simple geography).

In neighbouring countries seeking natural resources and commercial profit that might be derived from a new sea route, the melting of Arctic sea ice is fostering much debate and scenarios regarding economic and strategic opportunities. Although the Arctic is believed to hold about 30% of the world's natural gas reserves and 13% of oil to be discovered (USGS 2008), oil companies' interest diminished in the latter months of 2014 due to global price drops and the growing awareness of how difficult it is to work in such harsh conditions. The Arctic sea routes, shorter but not necessarily faster, could offer significant improvements compared to alternative routes via the Suez or Panama canals (Li 2009; Lasserre 2010b; Peresipkin and Iakovlev 2006).

However, interest in the Arctic is not limited to countries in the region. Countries outside of the immediate Arctic region are also sensing geostrategic issues, and are sometimes seen as coveting an interest in the Arctic. Many of these non-Arctic States have been admitted to the AC the regional organisation founded in 1996 that promotes political cooperation, as observers. They include France, Germany, Italy, the Netherlands, Poland, Spain, the United Kingdom, Japan, South Korea, Singapore, India and China. Japan, although not bordering the Arctic, had declared as early as 2009 that it felt concerned with the problems and massive changes happening in the region, especially with respect to the development of maritime transportation and fishing activities (*Toronto Sun* 3 September 2010). During the AC summit of November 2014, in Reykjavik, Singapore also displayed interest in maritime transportation in the Arctic.

China, also deprived of direct geographical access to the Arctic, has adopted a very diplomatic and careful approach towards this region (Ministry of Foreign Affairs of the PRC 2010). While its presence in the Arctic is increasingly being asserted, strong debates are emerging from the public, academia and media, as to what China's rightful place should be in the region. For this reason, many Chinese researchers describe their country as a 'near Arctic' state (Rainwater 2012; IISS 2014), as if attempting to legitimise the country's growing interest in the region.

In just a few years, and despite very little research experience in this area, Beijing has been able to successfully implement and conduct a wide independent scientific research programme with results being widely published. At the same time, China has made considerable efforts to forge political and economic links with smaller Arctic countries and convince Russia and Canada to include the Arctic issue in their diplomatic discussions

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agenda (Ministry of Foreign Affairs of the PRC 2011a). Chinese mining companies are active or hold shares in mining projects in Greenland and Canada, and Chinese oil companies are courting their Russian counterparts.

Since 2009, China's efforts have provoked negative reactions from Western media and analysts: China is often portrayed as an ambitious and arrogant country that would not hesitate to shake up the established legal order or the sovereignty of Arctic region countries for the sole purpose of defending its own interests in the Arctic (see, for instance, *The Edmonton Journal* 18 November 2007; *The New York Times* 18 September 2012; for an analysis, see Wright DC 2011, 2011b, 2013; Wright TC, 2013; Beck 2014; Peng and Wegge 2014), highlighting scientific papers that do not necessarily reflect the Chinese government's official position, or asserting that 'Beijing wants a share of Arctic resources by whatever means available' (Peng and Wegge 2014, based on a single declaration from an unknown Chinese official).

With this in mind, it seems relevant to assess China's presence in the Arctic and analyse its policy regarding this region filled with natural resources and potential sea routes. There is much speculation regarding what is coveted by local and international world powers concerned about their energy security and, ultimately, the future of their economic development. The aim of this article is to offer a glimpse of China's activities in the Arctic and identify Beijing's strategy in this polar region.

China's longstanding scientific interest in polar regions

China's political interest in the Arctic seems to be relatively recent but goes back to the 1980s with science programmes. The report of the Stockholm International Peace and Research Institute (SIPRI) *China prepares for an ice-free Arctic* was one of the first research publications to draw international attention to the increasing presence of China. The report analyses Chinese activities in the Arctic, as well as the evolution of Beijing's official line regarding energy and trade issues of the region (Jakobson 2010). Since then, China has been the object of many articles, mass media reports and academic publications analysing Beijing's aspirations to become one of the main actors in the Arctic and actively participate in resource management, and in the debate regarding the governance of this geographical area (Alexeeva and Lasserre 2015).

What is China's scientific production regarding the Arctic?

China's Arctic research official programme started in 1989 with the creation of the Polar Research Institute of China in Shanghai (Polar Research Institute of China 2007). According to the principal Chinese database, *Wanfang Data* [wanfang shuju], initial research on the Arctic was conducted in the late 1980s. In 1988, the Chinese Academy of Sciences also launched *Beiji yanjiu*, or the *Chinese Journal of Polar Research,* a new quarterly journal dedicated entirely to issues regarding the Arctic and the Antarctic.

Since the late 1980s, different Chinese journals have published hundreds of articles on the Arctic written by Chinese researchers in all fields of specialisation. Most of them deal essentially with topics related to exact sciences, problems linked to global warming in the Arctic, the impact of global warming on temperature variations and rainfall in China, etc. (for example, Yan 2005). We researched the *Wanfang Data* and identified 2126 different entries including the word 'Arctic' in the title, of which 1835 articles were published by about twenty Chinese journals between 1988 and 2014. The other entries are academic works, masters and doctorates defended during the same time period (182) and conference proceedings (109). Most of these publications (30% of all) are dedicated to a broad range of climatic and geophysical issues (for example Gong and Wang 2003; Wu and others 2007), while others deal with issues regarding biodiversity (15%), industry and energy resources (8%), politics and law (7%), environment (7%), transportation (5%), economics (4%) and health (1%). Finally, an important number of articles are devoted to topics related to history, culture, art and languages spoken in the different regions and countries of the Arctic area (9%).

Since 2007, the number of publications that deal with issues specific to social sciences has increased including questions regarding sovereignty in the Arctic, analysis of the circumpolar countries' Arctic policy, the place of the Arctic in China's future economic and geostrategic development, etc. (Lu 2010; Shi 2010). We found 157 documents (135 articles, 22 master's theses and 2 conference proceedings) published between 2006 and 2014, most having been published between 2010 and 2014, dealing with the place of the Arctic in international relations (46%), geopolitical or economic issues (8%) and the legal aspects of the matter (46%), with most regarding questions of international law (83%). To our knowledge, the questions were raised for the first time in 2006 in an article (Yu 2006) on Canada's Arctic strategy. In 2007, Wang looked into political rivalries and sovereignty issues in the Arctic. In 2008, Liu analysed Russia's strategy in the Arctic and Ren and Li again brought up questions of sovereignty. Since 2009, many articles on political issues in the Arctic or underlying China's interests in the area have been published.

China's interest in the Arctic is the focal point of academic discussions where it is tackled with much less restraint and caution (Li 2009a, 2009b; Zhang and Li 2010; Liu and Dong 2010; Liu and others. 2010; Cheng 2011; Lu 2011). Some Chinese scientists have asked the government to change its neutral position by becoming more involved in the process of delimiting sovereignty areas in the Arctic and dividing the resources, maybe even promoting the idea that Arctic resources should be considered as part of the heritage of humanity (Li 2009;

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Jia 2010; Dutton 2012; Chen 2012). This position has been taken up by the press (Chang 2010; Zhu 2011; see the analysis by Wright 2011b), but it has never been specified on which legal basis this policy might be pursued. Jia Yu (2010), researcher at the Institute for Ocean Development Strategy of the State Oceanic Administration (SOA), or Cheng Baozhi (2011), from the Shanghai Institute of International Studies (SIIS), uphold that the extension of continental shelves beyond the limits of exclusive economic zones should be limited, and the maritime space beyond these limits should fall within the heritage of humanity. Through these semi-official publications, Beijing seems to challenge *sotto voce* the notion of extended continental shelf as applied in the Arctic.

Those opinions, sometimes very different from Beijing's official position, are not only published by conventional academic journals, but also by official Chinese periodicals that never publish content or opinions not authorised beforehand. The existence of such publications within the general trend of rising nationalism in China is difficult to interpret. It could be a sign of Beijing's will to convince the population of the importance of Arctic issues for the country's socioeconomic future and the necessity for China to become a more active player in this area of the world, or its will to let the population express this nationalism in order to divert the attention of public opinion without intentionally intervening (as hinted by Godement 2012). However, it would be wrong to think that all Chinese scientific articles promote actively China's interests in the Arctic. Liu and Yang (2010) or Mei and Wang (2010) take a very moderate line. It would be hard to see in the Chinese government's position a challenge to international law. Beyond the official recognition of sovereign rights of costal states when the country was admitted as an observer on the AC, China does not seem to entertain revisionist ideas regarding the Arctic when one analyses its standpoints and official statements (Gayazova 2013).

Deployment of field research tools

China's interest in the Arctic is reflected not only in academic publications, but also in the field. In 1992, before the possibility of opening the Arctic routes was abundantly discussed, Beijing organised its first five-year scientific research program in the Arctic Ocean in collaboration with the German universities of Kiel and Bremen. This project was followed by the admission of China into international organisations with missions to lead cooperative Arctic research, such as the International Arctic Science Committee (IASC) or the Pacific Arctic Group (PAG) (Xu 2012).

The acquisition of a polar class 5 icebreaker in Ukraine in 1994, christened *Xuelong* or *Snow Dragon*, allowed the Chinese to develop an independent polar research programme and lead several scientific expeditions to the Arctic and the Antarctic. Research coordinated by the national agency, the Chinese Arctic and Antarctic Administration (CAA) grew to reach a very large scale. A second icebreaker was under construction by the end of 2014 and is set to be completed by 2016. Besides its 31 expeditions to the Antarctic, China prepared and led six expeditions to the Arctic (1999, 2003, 2008, 2010, 2012 and 2014) and founded its first station, *Yellow River*, in Ny-Ålesund in the archipelago of Svalbard (Norway) (2004), completing a polar station network that also includes four stations in the Antarctic (Great Wall, established in 1985; Zhongshan, established in 1989; Kunlun since 2009 and Taishan since 2014). In China, it is research in Antarctica and not in the Arctic that receives most of the polar research budget (almost 80%, Brady 2012), mainly because according to the Antarctic Treaty (1959), Beijing does not need any authorisation to develop bases and research programmes in Antarctica (Keyuan 1993; Brady 2010). It would be inaccurate to surmise that from the establishment of polar programmes in 1981, Chinese research agencies have considered the Antarctic as a step towards the Arctic. Nothing in the literature could lead to such a conclusion. China's research programme in the Arctic is dedicated primarily to the study of interactions between the Arctic icy ocean, maritime ices and the atmosphere to gain a better understanding of the influence of abnormal climatic changes in the North Pole on China's climate (Wang 1988; Chen and others 2003). The expeditions of the research icebreaker *Xuelong*, which take place almost exclusively in the Eurasian portion of the Arctic, rarely in the Chukchi Sea or Beaufort Sea, never in or around the Canadian Arctic archipelago or Greenland, seem to confirm the accentuated interest in Arctic oceanographic research linked to climatic mechanisms affecting northeast Asia.

In 2012, the Chinese government announced the construction of a second icebreaker, which should allow scientists to broaden their polar research. The new ship should be commissioned in 2016 (*China Daily* (Beijing) 6 January 2014). It will feature a range of specialised equipment that will help researchers study the oceanic environment and quickly integrate the data collected during polar expeditions (*People's Daily* (Beijing) 22 June 2011). Furthermore, in June 2013, the Chinese government announced in Shanghai the establishment of an Arctic research centre in partnership with Scandinavian countries, the China-Nordic Arctic Research Centre (*Barents Observer* (Kirkenes) 7 June 2013).

Such research tools translate an actual scientific interest, but also give Beijing the possibility of greater presence in the field, structuring a true research diplomacy in the Antarctic where China is considerably more active than in the Arctic (Alexeeva and Lasserre 2012a, 2012b; Hong 2014). Some analysts would say that China is only one step away from taking the Arctic scientific policy and reducing it to a mere political instrument (Teeple 2010; Rainwater 2012; Brady 2013; Hong 2014). They highlight the fact that research results are poor, considering the funds invested and that China's oil and gas interests are located in the Siberian sector of the Arctic. Drawing

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such a parallel might be tempting, but we should refrain from any hasty interpretation of China's scientific Arctic programs. On the one hand, the Polar Research Institute seriously considered a campaign project in the Canadian Arctic in 2013 (Lasserre and others 2013), abandoned later on. On the other hand, while oil and gas cooperation projects are all located in the Russian Arctic, except one off the Icelandic coast, China's mining projects are all in the Canadian and Greenlandic Arctic.

An aggressive Chinese diplomacy in the Arctic?

Silence on China's official position

Despite the growing interest of China in the Arctic, particularly in science, but also increasingly at the diplomatic and economic levels, no formal strategy guiding the actions and statements of the Chinese government about this region and its potential (energy, maritime, economic, scientific, military, etc.) has been published thus far. Beijing strongly denies the existence of such a strategy and highlights the foremost scientific nature of its interest in the Arctic (Spears 2011), although it acknowledges readily that it nurtures interests in the region (Alexeeva and Lasserre 2015, 2012a, 2012b). In November 2009, Hu Zhengyue, the Assistant Minister of Foreign Affairs, said that 'China has no Arctic policy' during a conference held at Svalbard (quoted by Jakobson 2010), even though China's interest in the Arctic is clear.

The statements of officials are conservative and deal mainly with climate change and environmental questions (*Xinhua* (Beijing) 31 January 2012). Changes in atmospheric circulation from the Arctic seem to be the main cause of significant weather changes observed in China in recent years, including decreased precipitation in northern China. Thus, the Arctic region is directly linked to the security of the socio-economic development of China, and the reason underlying the interest of the Chinese government in gaining a better understanding of climate mechanisms in this region (Qin and Chen 2011; Zhang, Y. and Ren, Q. 2012. China defends Arctic research, Xinhua, http://news.xinhuanet.com/english/china/2012-01/31/c_122637030.htm., a. April 18, 2012). However, the PRC officials also emphasise that most Arctic issues are 'regional' and not just 'national' (Gayazova 2013). Therefore, by simple virtue of their geographical location, the northeast Asian states and the EU would have a legitimate right to participate in the debates on Arctic affairs, to play an active role in the regional cooperation initiatives.

As for the issues of sovereignty in the Arctic and the exploitation of natural resources in the region, reports from Beijing are rare and remain vague. For a long time now, the Chinese government has cast doubt about its interest in these Arctic resources: 'Since there is no reliable information on oil and gas reserves in the Arctic, China is interested only in climate changes in this region. Before formulating any policy on this issue, we must first gather information on the mineral and petroleum potential [of the Arctic]' stated Xu Shijie, director of the policy division of the Chinese Arctic and Antarctic Administration in 2012 (Xu 2012), leaving doubts as to how China would react if large fields would be discovered.

China's government had neither recognised nor denied sovereign rights claimed by the Arctic states founded on the United Nations Convention on the Law of the Sea (UNCLOS 1982, which became effective in 1994). China ratified UNCLOS in 1996 and officially therefore supports it, although in the light of Chinese policy in the south China Sea, an abundant literature, beyond the scope of this paper, tackles the issue of how China understands the provisions of the convention. This convention institutes exclusive economic zones (EEZ) in which coast states have sovereign rights over the wealth of the water column, the sea bed and oceanic subsoil, and on 200 marine miles (320 km) from the coasts. Sovereign rights are also established over the subsoil resources on the extended continental shelf, over the limit of the 200 marine miles, but only if it is a natural geological extension of the physical continental shelf (Steinberg and others 2010; Bartenstein 2010). All the Arctic states claim the extension of their area of jurisdiction (Steinberg and others 2010; Bartenstein 2010), leading to potential disputes between Russia, Denmark, Canada and the United States when the claims of the latter two will be known**.** Denmark published its claim over the central Arctic on 14 December 2014. Again, China is taking refuge behind a cautious wait-and-see policy formulated so as to maintain much speculation as to its real intentions: 'China takes note of the exclusive economic zones and extended continental shelves of the countries bordering the Arctic, particularly because these continental shelves have yet to be defined. China considers [. . .] the indeterminate nature of the legal positions of the maritime areas of the Arctic region . . . ', stated Hu Zhengyue, Assistant Minister of Foreign Affairs, in 2009 in Svalbard (Jakobson 2010).

These disputes have been analysed by many Chinese authors, who generally conclude that the international community should follow the UNCLOS recommendations, although some say that extended continental shelves claimed by the countries bordering the Arctic should remain open to all (Zhao 2009; Liu and others 2010). They should remain part of what the UNCLOS calls the 'Zone'. Rear-Admiral Yin Zhuo is often cited since he has stated that 'the Arctic belongs to all nations of the world and no state is sovereign' (quoted by Chang 2010). We do not know what maritime areas the rear-admiral was referring to, or whether his radical remarks, certainly relayed by the China News Service, are endorsed by the government.

However, this position, if it were to become the official policy of China, is surprising because it could harm Chinese interests in the south and east China seas. It would be difficult for Beijing, which for years has been seeking to have its maritime claims recognised, to justify the extension of Chinese maritime areas, but deny this right to the Arctic states. Similarly, several Canadian analysts fear that China is challenging the

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sovereignty claimed by Canada over the northwest passage. But, if Beijing denies the status of the internal waters claimed by Ottawa over the passage, it will be difficult for China to defend a very similar claim on the Qiongzhou Strait (Lalonde and Lasserre 2013; Alexeeva and Lasserre 2015). In fact, in March 2013, during a meeting between Canadian researchers (including F. Lasserre), representatives of the Canadian Embassy, Chinese researchers and officials from the Polar Research Institute of China (PRIC), the official Chinese scientific leaders stressed that China intends, in the medium term, to seek permission to transit through the northwest passage for its research icebreaker, thus implicitly recognising the Canadian position. In addition, the Chinese government abode by Canadian regulatory procedures during the journey of the icebreaker *Xuelong* in Tuktoyaktuk (Canada) in 1999 (Pelletier and Lasserre 2015), and Russian procedures during the transit of the northeast passage in 2012 (Gayazova 2013).

It was only in May 2013, following the admission of China as an observer to the AC, that Beijing dispelled any ambiguity when Hong Lei, spokesperson of Chinese Ministry of Foreign Affairs, asserted that 'China recognizes the sovereignty, sovereign rights and jurisdiction of Arctic countries in the Arctic region' (Ministry of Foreign Affairs 2013). However, this recognition was mandatory to become an observer since the adoption of Nuuk criteria in 2011 by the member states and the permanent participants of the AC, which includes the recognition of 'the sovereignty, sovereign rights and jurisdiction' of Arctic States (Nuuk Declaration 2011; SAO Report 2011).

Active Chinese diplomacy directed at the European Arctic

Parallel with Chinese scientific activities, the Chinese government has also developed numerous political and economic partnerships with Arctic countries such as Denmark, Iceland, Sweden and Finland (Pascal 2010). In the wake of the financial crisis that hit Iceland in 2008 and banking on the financial concerns of a hard-pressed government, China now occupies an important place in Iceland's economic life. Beijing financial support is considered invaluable by the current President of Iceland, Ólafur Ragnar Grimsson, who has visited China five times since 2007 and promotes Iceland as a potential logistics centre in the Arctic (*Financial Times* (London) 2 September 2011).

During the official visit of Chinese Premier Wen Jiabao to Reykjavik in April 2012, China signed six cooperative agreements with Iceland in the fields of energy and science and technology (*Nouvel Observateur* 2012), thus confirming the partnership drafted in 2010. In April 2013, Iceland and China signed a free trade agreement. At the same time, Iceland confirmed its support of the candidacy of China as a permanent observer in the AC *China Daily* (Beijing) 29 June 2012, support that contributed to China's accession to this observer status in May 2013. Analysts have repeatedly stated that China has the largest embassy in Reykjavik (*Financial Times* (London) 16 January 2008; Jakobson 2010; Beck 2014), which is correct in terms of building size, but certainly not with respect to the number of nationals in the staff: on December 31, 2014, the Chinese Embassy had seven Chinese employees, the same number as Mexico, Germany and France. However, the Indian and Japanese embassies each had 8, Singapore 11; Russia, 13, and the United States, 14 (Ministry of Foreign Affairs of Iceland, 2014). Therefore, one cannot affirm that the Chinese delegation dominates the Icelandic diplomatic landscape.

The Chinese government has also developed many political and economic partnerships with Arctic countries, Norway (2001) and Denmark (2010) in particular. In May 2010, Denmark hosted the first delegation of Chinese traders and investors who signed contracts and letters of intent in the fields of energy, green economy, agriculture and food security, for a total estimated value in excess of $740 million US (Ministry of Foreign Affairs of the PRC 2011b).

The signed agreements focus primarily on the development of cooperation in the fields of research on Arctic navigation, exploitation of natural resources and joint scientific research, but also on the support of China's application to the Arctic Council. In fact, since 2008, China has been a candidate as a permanent observer to the council, a position that would not confer any leverage on decisions, but would give China a voice in this regional intergovernmental forum that promotes cooperation and consultation between the Arctic countries (Koivurova 2009). After failing to obtain this status in 2009, China renewed its request and was admitted in May 2013. On 15 May 2013, the Chinese Ministry of Foreign Affairs was quick to state that it recognised the sovereignty of states bordering the Arctic, simultaneously dispelling many suspicions about China's long-term intentions.

The question of the participation of China as a permanent observer seems to be a major issue for Chinese diplomacy in the Arctic, not for the purpose of changing the governance of the region, the AC takes very little binding decisions for members and observers are not entitled to vote, but simply to make the voice of Beijing heard regarding the exploitation of resources, the navigation system and the implementation of the Convention on the Law of the Sea.

Economic interests for China?

An interest in mining taking shape

China is not only interested in the AC: in Denmark, Beijing stressed the considerable mining potential of Greenland. Considerable Chinese capital was invested by Xinye Mining in London Mining, a British firm that intended to begin exploiting a very important iron mine in Isua in 2015 (London Mining 2011; *Nunatsiaq News* (Iqaluit) 19 September 2013). The firm went bankrupt in October 2014, but General Nice, one of China's largest

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coal and iron ore importers, took over the Isua mine project in January 2015.

In Canada, the Chinese company Wisco (Wuhan Iron and Steel Co.) is considering exploiting a major iron deposit at Lac Otelnuk (Nunavik) (*Les Affaires* (Montreal) 28 April 2012). In January 2010, the mining firm of Jilin Jien Nickel, one of the most important Chinese nickel producers, acquired Canadian Royalties Inc. and invested nearly $800 million in 2012 to exploit a nickel deposit located near Kangiqsujuaq, an Inuit community also in Nunavik (Investissement Québec 2011). MMG is planning to open two major zinc and copper mines near Coronation Gulf in mainland Nunavut (Izok Lake and High Lake) (*Nunatsiaq News* (Iqaluit) 4 September 2012). However, in November 2013, a one-year delay was expected before the work could begin. In 2008, Jinduicheng Molybdenum Group acquired the Canadian company, Yukon Zinc. Since 2009, Jiangxi Zhongrun Mining and Jiangxi Mining Union have been exploring copper and gold deposits in South Greenland following the acquisition of the British company, Nordic Mining (Lasserre and Têtu 2014).

In most other cases, Chinese mining interests are limited to a participation in the share capital of firms, for the most part Canadian, that develop projects often related to iron ore. In addition to the Lac Otelnuk project of Wuhan Iron and Steel, which has a 60% share of the Canadian Adriana Resources, Wisco owns 20% of American Cliffs Natural Resources, which operates a mine in Fermont in northern Quebec. Furthermore, Wisco and China Minmetals also own 25% and 5%, respectively, of the Canadian Century Iron Mines Company which is developing three projects in northern Quebec. Hebei Iron and Steel holds 20% of Canada's Alderon Iron Ore and is committed to investing $400 million in the Kami iron mine project estimated at $1.3 billion. Yunnan Chihong Zinc and Germanium, which owns 50% of a project in partnership with the Canadian company Selwyn Zinc, has invested $100 million in the project of Howard Pass Yukon (lead-zinc).

Many of these projects have been called into question because of the drop in iron ore prices in the autumn of 2014: after the bankruptcy of London Mining, this development highlights the fact that for all firms including the Chinese, the Arctic remains a very expensive area in which to exploit a mineral deposit. However, it should be noted that for these multiple projects, Chinese companies have always sought an industrial partner and advanced their interests according to the rules of the market.

The exploitation of hydrocarbons: an expensive dream?

At the heart of the widely publicised coverage of the exploration of Arctic mineral and energy resources is the question of the extent of oil and gas deposits. The media have largely reflected the idea that the region would contain huge deposits. The 2000 report of the US Geological Service (USGS 2000) has often been misquoted to make it state that the Arctic contains about 25% of oil reserves that have not yet been discovered, while the 2000 study addresses not only the Arctic, but also included boreal regions. A more specific and rigorous study published by the USGS in May 2008 estimates the Arctic hydrocarbon reserves (that is north of the Arctic circle) at some 90 billion barrels of oil, 47,261 billion cubic meters of natural gas and 44 billion barrels of gas condensate, namely 29% of the deposits of gas to be discovered and 10% oil deposits (USGS 2008; Gautier and others 2009). A significant decline since the first report of 2000! Even these revised figures from the USGS fail to win unanimous support: Paul Nadeau of the Norwegian company StatoilHydro has stated the USGS estimates are 2 to 4 times too optimistic. 'We believe that their figures are too high. This does not matter for the oil companies but could mislead governments.' (*Barents Observer* (Kirkenes) 13 August 2008). A study published in 2012 reports reserves, in the Arctic and the former Soviet Union, of around 66 billion barrels of oil, of which 43% (28.4 billion barrels) are in the Arctic, and about 60,100 billion cubic meters of natural gas, of which at least 58% would be in the Arctic (34,860 billion cubic meters of natural gas) (USGS 2012). Over time and the accumulation of more accurate data, estimates on the extent of Arctic deposits are dwindling.

The discovery of deposits in northern Alaska and in the Barents and Kara Seas raises the question of product delivery to consumer markets. The Arctic dimension, also at the heart of Sino-Russian relations, is addressed as part of broader discussions on strategic and energy partnership between the two countries. It appears that despite the mistrust that can colour bilateral relations, Russia intends to take advantage of China's economic interest in the Arctic as China becomes a major buyer of Russian oil and gas (*Newsru.com* (Moscow) 23 October 2013). Since the 1990s, the economies of China and Russia have become increasingly complementary. The Sino-Russian strategic partnership agreement which gave the legal framework for bilateral cooperation in a number of important fields of economic development, energy security, military enforcement, nano and space technology etc., also includes 'Arctic scientific cooperation'. As a result, China and Russia are conducting today several joint scientific research programmes to address technical and technological problems in the construction of gas and oil pipelines in Arctic and sub-Arctic conditions (Du and others 2010).

Moscow, which controls the northeast passage and would like to accelerate the exploitation of natural resources in its own Arctic zone, sees China as a potential user of the northern sea route (NSR) (Popov 2010) and a potential provider of the capital needed to implement this project. However, the exploitation of these resources in an Arctic environment requires highly advanced technological expertise and specific equipment (adapted drilling platforms) that China does not have and that Russia fails to master (Savelieva and Shiyan 2010). This was shown

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by frequent delays and cost overruns occurring before the commissioning of the Prirazlomnoye oil field in the Pechora Sea in December 2013 (ten years late), or by the indefinite postponing in August 2012 of the Shtokman gas field in the Barents Sea, for which the decline of current hydrocarbon prices does not bode a revision in the short term. For Beijing, gaining access requires investments in research, development and expertise totalling billions of dollars over several years, thus highlighting the relevance of joint-ventures (Jean-Thomas Bernard, personal communication, 25 October 2012).

Reciprocally, these technical difficulties in the exploitation of hydrocarbons and the high cost of activities in the Arctic have pushed Russia to seek partners abroad, especially in China, to facilitate the current exploitation of terrestrial deposits. Recent western sanctions arising from the conflict in Ukraine in the summer of 2014 reinforce Moscow's overture to China, but also to India and Vietnam. The Sino-Russian strategic partnership was recently reaffirmed, as Russia needs partners to finance the costly exploitation of Arctic resources. Three Chinese companies have offered to provide capital as well as the necessary workforce: China National Petroleum Corporation (CNPC), China National Offshore Oil Corporation (CNOOC) and China Petroleum and Chemical Corporation Ltd. As early as 2009, an agreement was signed first between CNPC, and secondly between Transnweft and Rosneft, the Chinese company providing long-term loans of $25 billion for the construction of the eastern Siberia-Pacific Ocean (ESPO) pipeline. A major new agreement was signed in June 2013 where CNPC acquired 20% of gas projects from Novatek. A memorandum signed in October 2013 between Sinopec and Sibneft provides for the annual supply of 100 million tons of Russian oil to China. This 10-year agreement would make China the largest buyer of Russian oil in the world. Most of the oil and gas that Russia plans to extract from Arctic deposits is intended for the Asian market and China in particular. In November 2014, Russia granted a gas exploration licence to the Chinese company CNOOC (*Barents Observer* (Kirkenes) 14 November 2014), which had already concluded a similar agreement with Iceland in March 2014 (IBT 2014).

In the face of problems acquiring drilling technology in the Arctic for Russia and even more so for China, major costs related to the development of Arctic resources and the technical embargo imposed since March 2014 by the west following the war in Ukraine, China will probably be more interested in buying oil extracted under purchase agreements or joint ventures, rather than trying to purchase operating sites by itself. Russia needs the Chinese partnership too much to forego its support, at the risk of developing a real dependence on the Chinese market and capital. As a result of this particular geopolitical situation, in October 2014, a major agreement was signed between Gazprom and CNPC for the delivery of natural gas for 400 billion US$ (Gazprom 2014; *News.ru* (Moscow) 18 June 2014). Despite the impressive cost of the contract, Russia has to finance the major part of infrastructure related to the project which requires the total investment of 70 billion US$. The PRC has agreed to provide only 25 billion US$, the rest of this sum should be secured by Russia. According to experts, in the long-term perspective, Gazprom will not gain any profit, but on the contrary, would lose 14 billion US$ (*News.ru* (Moscow) 26 May 2014). Similarly, China's financial involvement in the development of the Arctic is pictured by the decision of France's oil company Total to borrow between 10 and 15 billion American dollars in Chinese banks in order to invest in the exploration of gas at the Yamal peninsula. This strategy allows Total to overcome the sanctions imposed by the west on the cooperation with Russia in the domain of gas and oil exploration, but it also gives China a privileged access to 907 billions of cubic meters of natural gas (Samofalova, 2015)

Chinese companies are not limited to cooperation with Russia: CNOOC signed a cooperation agreement with Icelandic companies Petoro and Eykon Energy in November 2013 for the exploration of the Dreki sector on the Icelandic continental shelf. As is the case with mining activities, Chinese oil companies reveal their interest by signing partnership agreements in legal and market frameworks in areas that they target: there is no attempt at intimidation, contrary to the echoes of some media.

Furthermore, since 2011, the discovery of significant gas deposits and oil shale in China has greatly increased local hydrocarbon reserves. But these deposits are also expensive to operate and pose serious environmental issues, especially owing to the large volumes of water necessary for their operation in a very arid environment. Will these findings dampen China's interest in Arctic hydrocarbons?

Navigation in the Arctic

In Chinese academic literature, as well as in occidental reflections on the reasons behind China's interest in the Arctic, navigation is a key element. Whether it is for the west or for the Chinese, the potential opening of shorter maritime routes between Asia and the Atlantic would be of great interest to China. Executive director of the Polar Research Institute of Shanghai Yang Huigen estimated that by 2020, between 5% and 15% of China's international trade would pass through the NSR (*The Economist* (London) 13 July 2014) (see Fig. 1).

Experiences have been carried out, mainly with transportation of raw materials exploited in the Arctic region. The first attempt to transport Russian hydrocarbons to China using the NSR was made in August 2010. The tanker *Baltica*, escorted by a Russian icebreaker, took 27 days to deliver 70 000 tons of natural gas condensate from Murmansk to Ningbo, in the northeast of China's Zhejiang province.

This first attempt was followed, in November 2010, by the signature of an agreement on long-term cooperation in Arctic navigation for the development of the NSR between Sovcomflot, a Russian maritime transport

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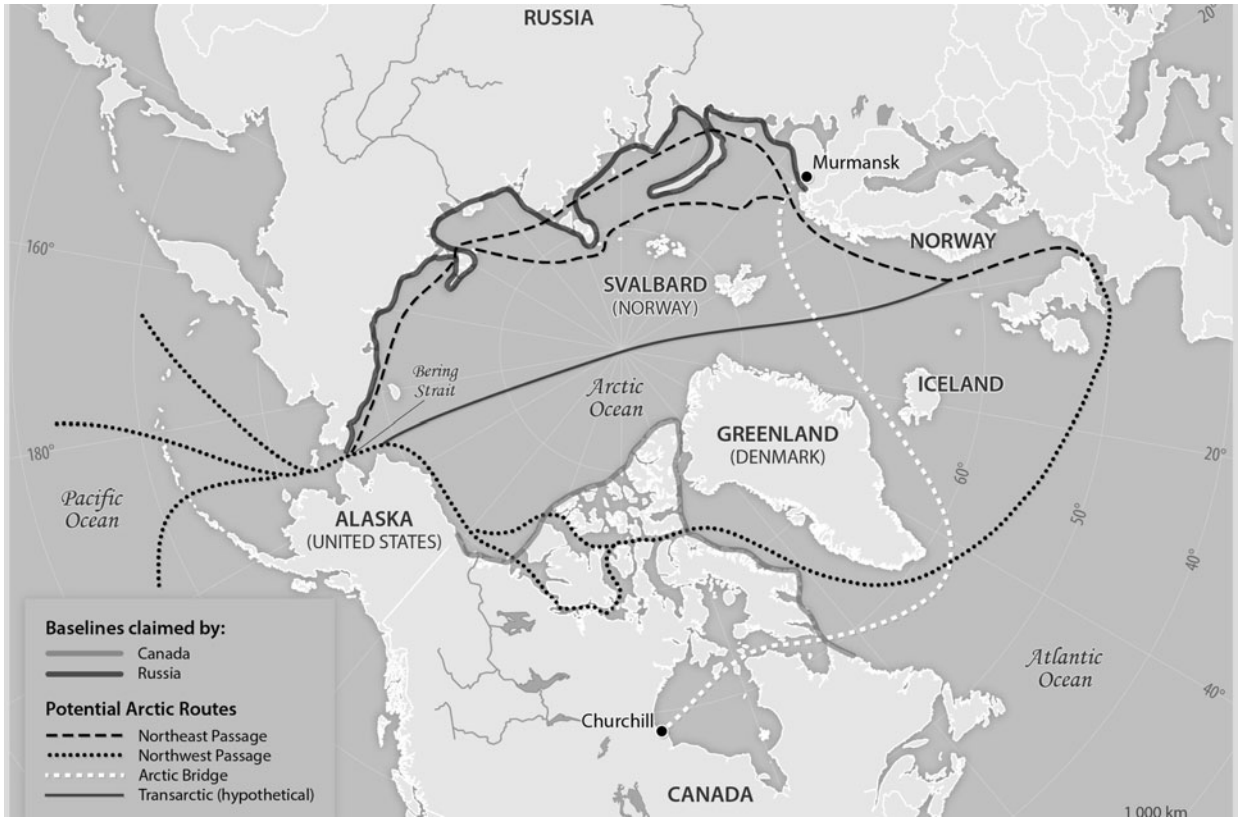


Fig. 1. Present and potential Arctic maritime routes.

company, and China National Petroleum Corporation (CNPC). This agreement, officially declared as an integral part of the strategy of energetic cooperation between China and Russia, was signed in the presence of Igor Sechin, Deputy Prime Minister of the Russian Federation and, incidentally, President of the Board of Directors of Rosneft, the second most important Russian oil producer, and Wang Qishan, Deputy Prime Minister of the State Council of PRC. This agreement underlines the fact that China does not contest the sovereignty claimed by Moscow over the internal waters of the Russian Arctic archipelagos. Consequently, it would be difficult for China to contest Canada's claim, very similar to Russia's.

In addition to the conventions already established, this agreement determines the conditions of joint use of the potential northeast passage, whether for transiting or transporting hydrocarbons from the Arctic oil and gas deposits, underlining the mutual interest in this route. Moscow sees in it the potential development of a lucrative partnership, while Beijing sees a fast route to ship the raw materials that China needs. Since 1991, Moscow has been promoting the NSR as an international sea route. In 2011 and 2012, several bulk carriers transported iron ore, loaded in Murmansk or Kirkenes (Norway), to Chinese harbours, transiting by the NSR. Several oil tankers and liquid natural gas tankers did the same between Vitino and China (NSRA 2012).

Russia's efforts to develop the international maritime traffic along the NSR are starting to pay off. There were only 4 transits in 2010, but 34 in 2011, 46 in 2012 and 71 in 2013, a number that dropped to 31 in 2014 (NSRA 2011–2014). These numbers are indeed increasing except for the sharp fall in 2014, and powered mainly by the export of natural resources from the Arctic to end markets in Europe and Asia: there are few pure transits in these Russian statistics (Moe 2014; Humpert 2014). Besides, they are far from the Malacca (65,000 transits yearly) or the Suez Canal (18,000 transits) traffic figures. Nonetheless, Chinese commercial navigation companies do not abound in the Arctic. All the traffic is in the hands of Russian or European companies, which explains the low interest of Chinese ship owners in Arctic navigation (Lee 2012). During the fall of 2013 and summer of 2014, the authors conducted a series of interviews with 31 major Chinese ocean carriers. During these interviews, COSCO, China Shipping Development, China LNG CLSICO and Tong Li were the only carriers to claim an interest in the Arctic routes. COSCO, a giant in maritime transport, admitted that its profitability was unsure, while China Shipping Development and China LNG CLSICO were interested in the natural gas projects of the Yamal peninsula, and consequently, in destination traffic related to resources.

Despite the economic recess triggered by international sanctions and oil-price drop, Russian government has recently declared that it will continue to invest in the Arctic and is even considering to start new projects in the area. One of such projects is the construction of a new

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container terminal in Murmansk whose main purpose will be to connect Murmansk with Chukotka, Magadan and Kamchatka. According to the vice-governor of the Murmansk region, Chinese and Japanese private transportation companies have showed a very keen interest in the realisation of this project (*Rossiyskaya gazeta* (Moscow) 30 December 2014). Another possible investment is the construction of the new railway line, 'Belkomur' that will connect the White Sea, the Komi Republic and Ural in order to facilitate the export of wood to China. Although it is hard to say whether these projects will ever go beyond the discussion stage the fact that they always include China as a potential client or investor is rather revealing. The Russian government seems to link the realisation of Russian Arctic ambitions with the construction of a strong and pro-active partnership with China.

In fact, China seems more interested in Arctic routes for the additional basin of natural resources, resources that China plans to obtain by market mechanisms, rather than other transit possibilities, which do not seem to interest the ocean carriers, western or Asian (Lasserre and Pelletier 2011). From this point of view, China's strategy is opportunistic: all there is to do is to explore the possibilities of access to resources and to commercial routes, knowing that in both fields, the Arctic represents only one of the numerous possibilities. With respect to resources, Chinese companies are much more active in central Asia and Africa. Furthermore, China is investing significantly more in the development of a rail cargo service to Europe, which would also offer the advantage of bypassing Russia and certainly producing political effects in central Asia (Huang and others 2014; Hong 2014; Bennett 2014). At the end of March 2015, China's National Development and Reform Commission, the Ministry of Foreign Affairs and the Ministry of Commerce, jointly released the official long term foreign and economic policy plan 'Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road' (National Development and Reform Commission of China 2015), which calls for billions of dollars in investments in Asia along the maritime and continental routes between China and Europe; this plan includes the continuing railroad projects linking China and Europe via Russia or central Asia, that are witnessing a fast development for container traffic since 2013, as well as the stakes Chinese shipping companies take over in major ports along the Suez or the Panama routes (Lasserre and Huang 2015).

Nonetheless, in September 2012, the Chinese press announced the conclusion of an agreement between Russian authorities and COSCO to study the profitability of commercial transit routes via the Russian Arctic zone (*China Daily* 10 August 2013). On 8 August 2013, a COSCO ship, the *Yong Sheng*, not a container carrier, as often referred to in the media or in scientific literature, but a large, multipurpose cargo ship, left the Dalian harbour, in the province of Liaoning, northeastern China, to reach Europe. Is this a sign of the onset of China's commercial use of the northeast passage, or a political experiment above all, given that COSCO is a state-owned enterprise that did not show great enthusiasm for Arctic routes? Still, the *Hong Xing* transit, also announced for the summer of 2013, did not take place (NSRA 2013); the *Yongsheng* experience was not repeated in 2014; and the announced voyage of the *Xuelong*, the Chinese icebreaking research vessel, through the northeast passage (Lasserre and others 2013), eventually did not take place, as the summer 2014 Arctic campaign was concentrated instead in the Bering and Chukchi Seas.

Conclusion

Despite China's growing presence in the Arctic and the fact that research programmes have been continuing for some time, the country's alleged political will is a very recent fact. Many aspects have yet to be discovered and studied, because Beijing has yet to articulate an official doctrine on the subject. However, analysing the evolution of Beijing's Arctic policy over the last fifteen years allows us to point to the existence of a strategy progressively being implemented by China to defend its interests in that region.

On the one hand, China has conducted a wide polar research programme and implemented an actual management structure for its activities in the Arctic, thus reinforcing its presence in the region. On the other hand, after developing relationships with neighbouring countries of the Arctic Ocean and participating in international debates regarding the future of the Arctic and its role in the world's global development, China is now seen as a key player in the Arctic without even having direct geographic access to it. While many variables remain unknown in the China-Arctic equation, China appears to have reached its first goal in this international matter: making itself heard to regional governance and having options in the development of market resources via market mechanisms. Finally, there is no doubt that China is interested in the Arctic's natural resources and maritime transportation potential. The country itself is intensely active diplomatically and its companies very dynamic in the region in efforts to make China's interests materialize; conduct that is neither threatening nor different from that of any other international player.

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