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Opening-up the Arctic Through International Science: The Case of Svalbard, Norway

Mayline Strouk

While the Arctic is commonly referred to as a remote and harsh edge of the world, it is also a region of international science. The case of the Svalbard archipelago shows that scientists from forty-eight countries on every continent of the globe have conducted research projects in this high-latitude territory. Eleven non-Arctic countries even have a research station. Such international organisation of science around Svalbard redefines what we consider as the Arctic. Norway mitigated the “Arcticness” of Svalbard by making the archipelago more accessible in many respects. Together with many non-Arctic countries, it has organised logistics to enable scientists from all around the world to travel and work in Svalbard.

Introduction: “A melting pot of nations and collaborations”¹

The canteen of Ny-Ålesund resonates with voices speaking Norwegian and English but also Italian, French, Chinese, German, and Japanese. At 79° North, ten nations share a Norwegian village for scientific purposes. Every day, scientists from the whole world gather in the *Servicebygget* building where they can find the canteen, meeting rooms, a library and a lounge equipped with a TV. On its busiest days, in summer, the village can host hundreds of scientists. Once a week, scientists can gather around a bar and share beers and hot dogs while discussing ecology, glaciology or biology – if they feel like talking about work on a Friday night. Ny-Ålesund is a village dedicated to international research and composed of research stations belonging to ten countries: Norway, Germany, the Netherlands, France, Italy, the United Kingdom, Japan, South Korea, China and India. Most of these nations are non-Arctic, and lots of scientists from other non-Arctic countries are welcome to use the Norwegian facilities. The Svalbard archipelago, where the village is located, hosts other international research facilities, such as the University of Svalbard (UNIS) in its capital, Longyearbyen, the Polish Hornsund station, the Russian Barentsburg station or the Czech Joseph Svoboda research station. Far from the common idea of an isolated and hostile territory, the Svalbard archipelago is an attractive Arctic area. In 2014, visits to Svalbard related to scientific research represented nearly 61,000 days of presence (Aksnes & Rørstad, 2019). Yes, Svalbard is 60% covered by glaciers, the average temperature over the year is -5.1°C, and there are more polar bears than the 3000 inhabitants of the archipelago. But this “Arcticness” of Svalbard, which makes

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it attractive to scientists wishing to study a typical Arctic ecosystem, is being mitigated by its sovereign country, Norway, to make it even more appealing. Thus, Svalbard is an Arctic archipelago where living conditions are particularly demanding, and an attractive territory to scientists from all around the world who can enjoy modern scientific facilities, an international airport, security against polar bears and many other features which makes it a “luxury fieldwork” location among researchers.

Scientific research in the Arctic has a strong international dimension. It is not limited to the eight states whose territory lies beyond the Arctic Circle, but many states, sometimes from far away, participate in or even initiate research programmes in the High North, and are involved in scientific cooperation organisations. Thirteen non-Arctic states manage a research station in the Arctic. Most of them are in Svalbard (one of the two Chinese research stations is in Iceland, Germany runs a research station together with Russia, and Switzerland has a research base in Greenland). Members of the International Arctic Science Committee (IASC) include Austria, China, Czech Republic, France, Germany, India, Italy, Japan, Korea, The Netherlands, Poland, Portugal, Spain, Switzerland and the United Kingdom among their members. Asian countries have their scientific cooperation organisations, the Pacific Arctic Group (PAG) and the Asian Forum for Polar Sciences (AFoPS). By definition, scientific research in Arctic takes the form of a network of researchers, states and organisations from all around the globe involved in understanding a particular environment undergoing rapid and irreversible changes that impact the whole world. The definition of the Arctic as being limited to the territories beyond the Arctic Circle needs to broaden when considering the region as an ecosystem integrated into a global system that attracts international scientific interest. In addition to these purely scientific considerations, science in the Arctic is also an activity with a political scope since it is a way for states geographically and culturally distant from the region to gain a foothold there (Strouk, 2020a). Many non-Arctic states have gained status in regional governance through their scientific activity, obtaining Observer State status in the Arctic Council (Chater, 2016; Strouk, 2020a). For China, Germany and eleven other states, their scientific commitment in the Arctic has contributed to building their legitimacy to attend Arctic-wide events and giving them a voice among stakeholders. Often, their Arctic foothold consists of a scientific station, rarely opened year-round and hosting at most a few dozen scientists at a time. Thus, through science, the Arctic seems to have no boundaries.

Svalbard plays a particular role in this opening-up of the Arctic region through science, since it is through Svalbard that these many non-Arctic countries have launched and sustained their scientific activity, although this activity is also widely spread across all the territories located beyond the Arctic Circle. These countries often have a research station in Svalbard, students and researchers studying at its university or doing fieldwork around its capital, which is accessible every day of the year thanks to its international airport. This openness of Svalbard to international science is no mere coincidence, but a process of construction of the territory by and for science. First by and for Norway, then by and for non-Arctic states. Science has contributed to the opening up of Svalbard and the positioning of this High-Arctic territory as international territory. Above all, it is through a Norwegian policy of “making” the archipelago accessible, in other words of limiting its own Arctic characteristics, that it has achieved its international attractiveness. The case of Svalbard redefines the Arctic imaginary as its attractiveness relies on both its Arctic dimension and its ability to mitigate its “Arcticness”.

The making of a territory by and for international science

First of all, it is necessary to look back at the history of research in Svalbard. In 1920, following the end of World War I, Norway was granted sovereignty over the Arctic archipelago of Svalbard by treaty, in exchange for which the eight other signatory states (such as the USSR and the United States) would have the right to exploit its resources freely. From then on, Norway's challenge was to maintain and assert its sovereignty over the archipelago and for long deployed its presence through mining activity (Pedersen, 2009; Pedersen, 2017). The country exploited several coal mines, notably in Longyearbyen and Ny-Ålesund, while the USSR also demonstrated motivations, primarily economic, on the archipelago, where it also operated several mines. From the 1960s onwards, however, mining activity was no longer as fruitful in Svalbard. Not only international demand and resource availability began to decline, but several accidents hampered Norway's continued coal mining. In particular, in 1962, a fatal accident in the Ny-Ålesund mine led the Norwegian authorities to close the village. After two years of neglect, the then Director of the Norwegian Polar Institute (NPI) proposed to the authorities to install the new European Space Research Organisation (ESRO) satellite there. Then in 1968, the NPI decided to set up its scientific station in the village, occupied by a few scientists during the year. Reviving Ny-Ålesund not only allowed Norway to increase its capacity to study its own Arctic environment, but also to maintain a presence in an archipelago where its sovereignty remained limited (Paglia, 2019; Strouk, 2020b).

Gradually, during the 1970s and 1980s, Norwegian scientific presence strengthened around Ny-Ålesund station, and the former mining village offered a favourable setting for research, between its already constructed buildings (albeit in poor condition) and its regional environment rich in biodiversity. An airstrip linking the village to Longyearbyen was built and gradually the NPI increased the infrastructure of Ny-Ålesund, for example by building a new 800 m² station in the 1990s. As tensions with the Soviets increased in the late 1980s (Tamnes, 1992, cited by Paglia, 2019: 3), Norway began to promote Ny-Ålesund not only as a research village for domestic scientists but also for foreign research institutes. By highlighting the presence of a scientific infrastructure in such a remote location in the High Arctic already managed by Norwegian organisations, the country gradually attracted new nations and turned the village into an international platform for Arctic research. However countries far away from the Arctic had already seen the potential for polar research in Svalbard. In 1963, French geographer Jean Corbel built a small field base 5km from the abandoned mining village of Ny-Ålesund. The base was abandoned after his death and then taken over by a French team of researchers in the late 1970s. Today, the French Polar Institute (IPEV) still operates the Corbel base. Before France and Norway, Poland was the first to open a research station in Svalbard, in Hornsund, in 1957 during the International Geophysical Year (IGY). It was used occasionally for Polish research programmes and then abandoned in the early 1970s before being reactivated permanently a few years later. Since then, Poland has also set up two seasonal bases near Longyearbyen, which opened in 1984 and 1995. Finally, Russia, which also set up two seasonal bases near Longyearbyen, opened a research centre there in 1962. Thus, when Norway saw the potential of Ny-Ålesund to become not just a Norwegian but an international Arctic research centre, it was in the context of an already progressive internationalisation of the scientific presence in Svalbard. The Archipelago proximity to Europe and the treaty, which facilitates access and exploitation, have undoubtedly contributed to this attractiveness. But from the 1990s onwards, Norway organised this internationalisation of research in Svalbard. It offered to lend a research station to other countries in its village of Ny-Ålesund, where it manages the logistical aspects (food supplies, security...) and access to state-of-the-art research infrastructure, such as the costly Zeppelin Observatory, built in 1990. In 1972, the

United Kingdom initiated a small seasonal base in Ny-Ålesund and opened a permanent station in 1991. In 1990, the Netherlands opened their station in the village. In 1991, Germany opened a station, as did Japan, followed in 1992 by France. The German and French stations merged in 2003 to form the AWIPEV infrastructure. In 1997, Italy founded its *Dirigibile Italia* station, in 2002 South Korea, in 2004 China, and 2008 India. Thus, in the space of just twenty years, ten or so states, often far removed from Arctic issues, have decided to open their research stations. Not only does this mean that they now have a presence in the region, but that they can regularly send scientists there and conduct research programmes. In a way, through science, they are integrating themselves into Arctic issues, affirming their involvement in the study of a fragile ecosystem that is undergoing rapid change. What is more, in Svalbard, these changes are particularly abrupt.

Today, states other than Norway have conducted more than half of the research projects in Svalbard. The following figure compares the research days recorded by NIFU in 2019 (Aksnes & Rørstad, 2019) with the research projects recorded in the *Research in Svalbard* database in 2020. Norway is the leading country for scientific research, with 46.9% of the projects registered in RiS and 41.5% of the research days registered in 2018. But other countries represent nearly 55% of the research conducted in Svalbard. Non-Arctic countries like Poland, Germany, the United Kingdom and China have a significant share of the research projects conducted in the archipelago. In general, many non-Arctic states are involved in science in Svalbard. Forty-eight states in all, spread across all continents. Countries such as Cuba, Lithuania and Malaysia have conducted one or more research programmes in the archipelago. It may seem insignificant, but one should have in mind Svalbard is one of the closest inhabited territories to the North Pole.

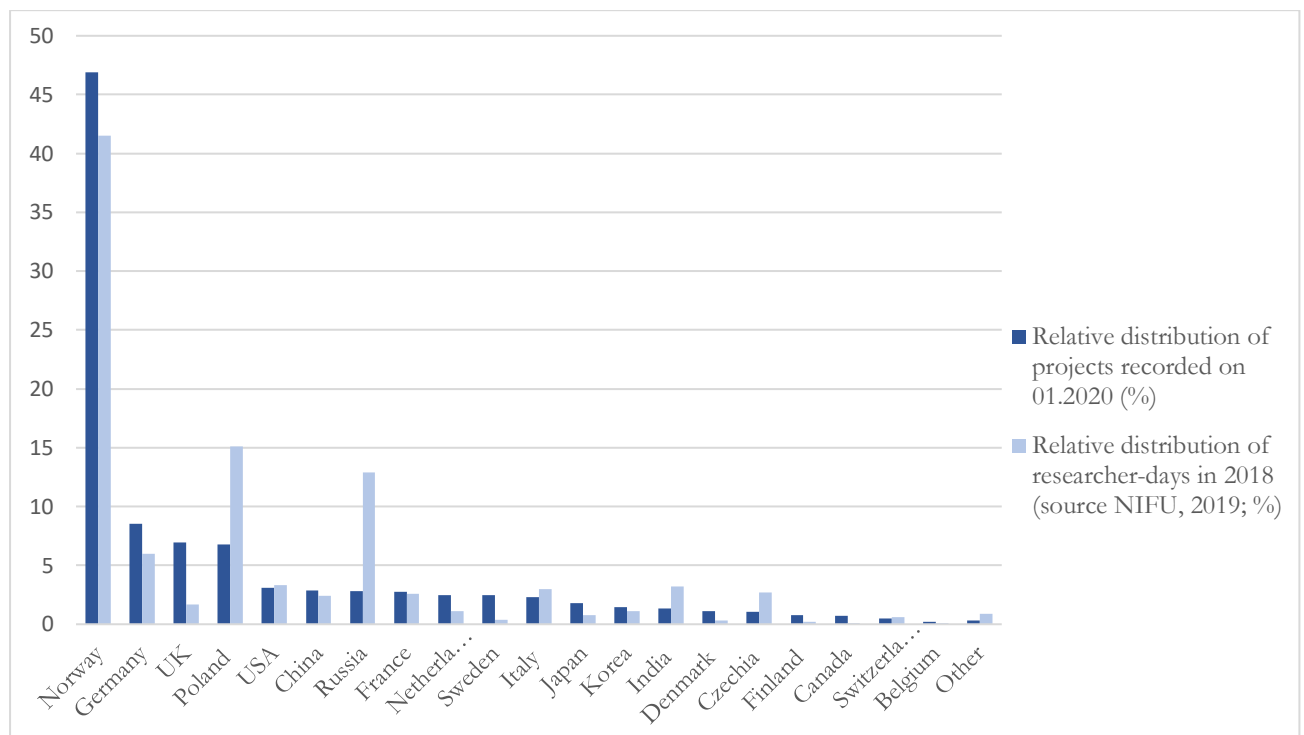


Figure 1. The top 20 nations involved in scientific research in Svalbard in Svalbard

The Norwegian policy of internationalising research in Svalbard was jointly supported from 1993 onwards by the University of Svalbard establishment in Longyearbyen. The establishment of a university in the capital city allowed for further diversification of the archipelago's economy towards education and for the creation of jobs and the attraction of new residents (teachers and

students who would stay in Svalbard for several months or even years) (Misund *et al.*, 2017). Until lately, almost three-quarters of the university's students were from countries other than Norway, and many from non-Arctic states. But since around 2019, the Norwegian outlook towards internationalising science in Svalbard has changed. The country is now seeking to reassert the Norwegian identity of research in the archipelago. The government initiated a 50% Norwegian student quota at UNIS and introduced a change in the management of Ny-Ålesund in 2019. While the Norwegian semi-private company Kings Bay was responsible for the science village management, the Norwegian Polar Institute is now in charge. A Norwegian strategy was released in the same year and states, among other things, that only projects in the natural sciences (i.e., not social sciences) are allowed in Ny-Ålesund (Norwegian Government, 2019). The internationalisation of science in Svalbard, driven by Norway and supported by a group of non-Arctic states eager to insert themselves into the Arctic, is thus at a turning point, towards a gradual 're-Norwegianisation' of research. Nonetheless, Svalbard retains its status as a High Arctic territory accessible to international science.

The making of accessibility in the High-Arctic

The attractiveness of Svalbard for international science, although it is the result of a complex historical process, is today mainly due to a 'making' of its accessibility. This accessibility is manifold, and to account for it, the rest of this paper will rely on a series of interviews conducted in March 2020 with Norwegian researchers met in Tromsø and French scientists who have carried out fieldwork in Svalbard. First of all, it is a question of geographical accessibility, as the archipelago is North of Europe, but above all can be easily reached by plane. Longyearbyen International Airport has daily flights to the Norwegian airports of Tromsø and Oslo and has a connection to Ny-Ålesund. Meaning that it only takes a few hours to reach your research area in Svalbard from almost anywhere in the world. It makes the journey much faster and cheaper than doing research elsewhere in the Arctic. To do fieldwork in Greenland, for example, would require several days or even weeks of travel if you need to get away from the capital Nuuk.

"It is much more difficult in Greenland, much more isolated. In Svalbard, you have all the infrastructures with the *Sysselmann* [governor]. There is a helicopter nearby or whatever if you have an emergency. In Greenland, it's not like that, there's no one...because it's also too long distance." (J., Norwegian researcher, 03.2020)

The other Arctic fieldworks are much more complicated logistically. Once the boat has left, you can't come back to land, you have to organise the shipment of equipment a long time in advance. It's much easier to organise the logistics of going to Svalbard (N., French researcher, 03.2020)

The great advantage of Spitsbergen is that it is very high up in the Arctic and very accessible. You can get there in a day from Paris, you can be there in a day and the next day you can start your research. (D.M., French researcher, 02.2020)

There are several reasons why Svalbard is attractive. It is the most accessible part of the Arctic anywhere; you can get there easily. You can fly from Paris to Svalbard in one day. You can't do that for Greenland and Alaska. (P., Norwegian researcher, 03.2020)

The evolution seen from France is that Svalbard is really a science spotlight because it is a zone with really easy access where the effects of climate change are drastic, multiplied and amplified. (D.T., French researcher, 03.2020)

Svalbard is not an Arctic territory like any other. Its accessibility makes it a unique place for scientists in the Arctic, where it's 'easy' to do research. For researchers who have experimented

with other regions of the High North, the archipelago offers completely different working conditions. Not only is it much easier to get there than elsewhere in the Arctic, but the infrastructure available is also unique. Researchers have access to beds, meals, security, research equipment, laboratories, boats or snowmobiles to get around. Several researchers we have met describe the luxurious nature of research in Svalbard.

Your life in Svalbard is your life in Tromsø or in Paris. Everything you can dream and imagine is there that is very easy. (...) Everything is there, and that makes it very easy and unique to do your research. If you have to do it in Kerguelen, or the north of Svalbard, or Greenland, or in Canada, you have to fill a ship, plan everything, have everything with you. There is nothing, no infrastructure. But it is a fully functioning town. (P., Norwegian researcher, 03.2020)

The infrastructure in Ny-Ålesund for research is fantastic. (...) In Ny-Ålesund I have my bed, food, I don't need to think about the practical things, I can go out and do my studies. The setup is so nice in a way I can focus on my science. (P., Norwegian researcher, 03.2020)

What is so nice is that in Svalbard, I am coming to a table which is already decorated with everything I need. The infrastructure, the laboratory, the bed, the food, the boat...everything is perfect. I feel very efficient, I come in, and I do my studies and then I leave with a lot of data. (G., Norwegian researcher, 03.2020)

It's very unique, I don't think there's anywhere else in the world that has such large variation of instrumentation within all spheres in one small location as Ny-Ålesund. There's nowhere else in the world. (C., Norwegian researcher, 03.2020)

It's so much easier. Norway accommodated for them to come there and run all the logistics. It's extremely easy to run activities in Ny-Ålesund because everything is taken care of. You can just rent a building and send your researchers up there. (C., Norwegian researcher, 03.2020)

And the Norwegian system means that there is really everything in Svalbard to be able to carry out your research, whether it's in terms of lab operations, getting around...you have access to all the equipment on site to carry out operations, i.e., the boat, the rooms, etc. (C. French researcher, 03.2020)

Even more, some dare to compare Svalbard conditions to a hotel. In general, Svalbard stands out as a place so accessible and easy to live in that it is almost unthinkable that it exists. The Svalbard archipelago remains a territory of extreme conditions, but several spots have been established, Longyearbyen and Ny-Ålesund, to limit its Arcticness while making it a promotional tool for research. Like Las Vegas, Longyearbyen and Ny-Ålesund are havens of comfort amid hostile Arctic environments.

All the logistics are really well organized, it's like being in a three-star hotel. (T., Norwegian researcher, 03.2020)

[Svalbard] has changed a lot, from very primitive in the tents we have been to at the beginning, there were just small groups of people. And then, to very civilized, in Ny-Ålesund, it's almost hotel standards. It's really a contrast. (R., Norwegian researcher, 03.2020)

Longyearbyen is (...) like a hamburger stand on the moon. In principle, it has nothing to do there. All the things you can buy there, all the food, the fruits, everything is brought there. It's artificial, artificial, artificial. (...) It's like Las Vegas or something. In the middle of the desert, you have a big city. (P., Norwegian researcher, 03.2020)

Conclusion

Svalbard is an Arctic territory with extreme conditions and often appears to be a remote, even unknown territory. But through scientific activity, it has become part of global networks and is an international scientific hub. Science was initially a means for Norway to mark its presence in a territory where its sovereignty was challenged, and then became associated with the desire of many non-Arctic countries to gain a foothold in the region. Beyond the political stakes, for scientists, Svalbard is above all a place where rapid and irreversible changes are taking place, which must be studied and understood. The archipelago's geographical accessibility, reinforced by Norwegian logistics, is a considerable asset for scientific research. In the end, the case of Svalbard invites us to think of the Arctic region as a space deeply connected to the rest of the world.

Notes

1. As stated by a Norwegian scientist interviewed in 03.2020, talking about his experience at Ny-Ålesund research station.

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