

**UNIS**

**Written exam SH-201 The History of Svalbard**  
**The University Centre in Svalbard, Monday 6 February 2012**

*The exam is a 3 hour written test. It consists of two parts: Part I is a multiple choice test of factual knowledge. **Note: This sheet with answers to part I shall be handed in.** Part II (see below) is an essay part where you write extensively about one of two alternative subjects. No aids except dictionary are permitted. You may answer in English, Norwegian, Swedish or Danish.*

*Part I counts approximately  $\frac{1}{3}$  and part II counts  $\frac{2}{3}$  of the grade at the evaluation, but adjustment may take place. Both parts must be passed in order to pass the whole exam.*

**Part I: Multiple choice test. Make only one cross for each question.**

1.	In what year was Bjørnøya discovered by Willem Barentsz?	<input type="checkbox"/> 1569	<input checked="" type="checkbox"/> 1596	<input type="checkbox"/> 1603
2.	When did land-based whaling end on Svalbard?	<input type="checkbox"/> ca. 1630	<input checked="" type="checkbox"/> ca. 1680	<input type="checkbox"/> ca. 1720
3.	Which geographical region did most Russian hunters and trappers come from?	<input type="checkbox"/> Pechora	<input type="checkbox"/> Murmansk	<input checked="" type="checkbox"/> White Sea
4.	When did Norwegian hunters and trappers start going to Svalbard regularly?	<input type="checkbox"/> ca. 1700	<input type="checkbox"/> the 1750s	<input checked="" type="checkbox"/> the 1820s
5.	From when dates the first map to show the whole Svalbard archipelago?	<input type="checkbox"/> 1598	<input checked="" type="checkbox"/> 1714	<input type="checkbox"/> 1872
6.	A famous scientific expedition visited Svalbard in 1838–39. Which name is it known under?	<input checked="" type="checkbox"/> Recherche	<input type="checkbox"/> Chichagov	<input type="checkbox"/> Fram
7.	Svalbard was for a long time a no man's land. In 1871, who took an initiative to annex the islands?	<input type="checkbox"/> Norway	<input checked="" type="checkbox"/> Sweden	<input type="checkbox"/> Russia
8.	When did Norway formally take over sovereignty?	<input type="checkbox"/> 1916	<input type="checkbox"/> 1920	<input checked="" type="checkbox"/> 1925
9.	When was the Sysselmann (Governor of Svalbard) established?	<input type="checkbox"/> 1920	<input checked="" type="checkbox"/> 1925	<input type="checkbox"/> 1945
10.	When did the so-called «Svalbard crisis» arise, when the Soviets demanded a revision of the Svalbard Treaty?	<input type="checkbox"/> 1941	<input type="checkbox"/> 1943	<input checked="" type="checkbox"/> 1944
11.	When were the five large nature protection areas on Svalbard established?	<input checked="" type="checkbox"/> 1973	<input type="checkbox"/> 1989	<input type="checkbox"/> 2002
12.	When was the coal company Store Norske taken over by the Norwegian state?	<input type="checkbox"/> 1965	<input checked="" type="checkbox"/> 1976	<input type="checkbox"/> 1989

**Part II: Choose and answer one of the following questions:**

**A. The industrialization of Svalbard**

*Describe the process that lead to the industrialization of Svalbard. Which consequences did industrialization have for the discussion about Svalbard's political and legal status? What significance did it have for the development of local communities on the islands?*

Even the whalers of the 17th century were aware that coal and other minerals were to be found on Svalbard, but did not exploit these resources. Hunters and trappers may sometimes have used local coal too, and the “gentleman tourist” James Lamont dug bunker coal in Kongsfjorden and Adventfjorden for his ship “Diana” in 1869. Commercial production, however, came later, spurred by rapid industrialization in Europe.

The scientific exploration of Svalbard increased in the second half of the 19<sup>th</sup> Century, and in particular Swedish scientists were active. Many of them were geologists and mineralogists and they soon discovered that Spitsbergen was rich in mineral resources, not least coal. As Europe was gradually industrializing in this period the demand for industry minerals and energy resources grew. Thus, the Arctic islands proved a potential area for exploitation. Finnish-Swedish A.E. Nordenskiöld founded the first industrial company, “AB Isfjorden”, in

1872, planning to exploit a phosphorite deposit at Kapp Thordsen for fertilizer. Production never started, however. Later, in 1899 the sealing captain Søren Zakariassen mined around a ton of coal at Bohemanneset and Heerodden in Isfjorden, some of which was sold locally, and the rest in Tromsø. He also initiated a number of small coal companies in Norway that sent prospecting expeditions to Svalbard and claimed coal fields in the first years of the 20th century. One of these fields, on the north side of Adventfjorden, was bought by a British company, The Spitsbergen Coal & Trading Co., which carried out the first year-round production in 1905–08. The operation then closed down due to lack of resources, labour conflicts, technical and financial problems.

In the decade before World War I a number of individuals and companies were active at Svalbard, prospecting for minerals and claiming areas. Since this was still a no man's land, property rights could not be confirmed or conflicts resolved by state authorities. There were examples of so-called claim jumping, where a once claimed area simply would be taken over by a rivaling company without compensation or permission. One of the most expansive companies, the Northern Exploration Co. (GB), at some point claimed to "own" 10,000 km<sup>2</sup> of Svalbard and had a stock capital of 1 million pounds, but never produced any substantial amount either of coal, iron or marble. Before 1914 only the Arctic Coal Co. (US) was able to start a sizeable production. In 1906 they established a mine in Longyeardalen that eventually employed 2–300 people in winter time and had a production capacity of around 50,000 tons of coal per year. In 1915 the mine was closed due to the problems of the war.

Labour conflicts and unrest were frequent in the mining camps Advent City and Longyear City before WWI. Reasons to strike or protest were plentiful – the working and living conditions were harsh, the settlements were isolated during the winter, there were culture conflicts between workers and management and so on. It is also a factor that the labour movement was beginning to organize in these years and many of the trade unions had politically radical elements with a readiness to conflict. Some of the conflicts that could not be resolved locally were brought before courts on the Norwegian mainland, but these courts had no jurisdiction over Svalbard. At least in the Norwegian press the working conditions in the Spitsbergen coal mines received a lot of attention.

Thus, both the land claims and the labour conflicts made the administration question acute during the first decade of the 20<sup>th</sup> Century. Some sort of jurisdiction, law and order seemed to be required. Additionally, the islands' status as no man's land – *terra nullius* – represented an uncertainty with regard to industrial investments. These elements form the basis on which the Norwegian government in 1908 took an initiative to invite an international conference that might solve the administration question. Although Norway surely had other motives, more connected to national interests than to altruism, it was the situation caused by the early industrialization that presented the opportunity to bring up the question of Svalbard's political and legal status. The initiative was therefore well received by states that had interests on the archipelago. In 1910 and 1912 preparatory conferences were held in Kristiania (Oslo), and in 1914 the full international conference was called. The outbreak of the war halted a further diplomatic process, however, and no agreement was reached.

During WWI most of the international industrial actors stopped operations and quit Svalbard, whereas new Norwegian coal companies were formed and expanded their mining activities. By the end of the war they were completely dominating coal mining on Spitsbergen and Bjørnøya. This development was one of the arguments that were put forward by the Norwegian government when it presented its claim for sovereignty over Svalbard at the peace conference in Paris in 1919. Norway's economic interests vested in coal mining certainly had bearing on the consideration by the Spitsbergen Commission, and probably was of some importance when it was decided to grant Norway sovereignty. On the other, the industrial interests of other nations ought to be safe-guarded, and therefore non-discriminatory provisions were written into the Svalbard Treaty to ensure the continued possibility for all parties to engage in the exploitation of mineral resources. The principles were laid down in the treaty, and the detailed regulation came later in the Mining Code.

In conclusion, then, we may say that industrialization had a profound effect on the discussion about Svalbard's political and legal status. The practical and judicial problems that arose in connection with early coal mining were instrumental in triggering the diplomatic process that ended with the Svalbard Treaty of 9 February 1920, and the industrial development during WWI strengthened Norway's position to claim sovereignty. Finally, the international presence in mineral exploration and exploitation on Svalbard before WWI resulted in a treaty that provided equal access to resources on a non-discriminatory basis.

There is no doubt that industrial activity is the very reason why permanent settlements were built and developed. Coal mining required a year-round presence and consequently housing and adequate infrastructure needed to be constructed. The first example is Advent City, which was erected in 1904–05 by the Spitsbergen Coal & Trading Co. on the northern side of Adventfjorden. Although never intended to be developed into a full-fledged local community, it still included a dozen buildings and housed 30–70 winterers in 1905–07, but was thereafter closed down. Longyear City, established by the Arctic Coal Co. in 1906, did become a permanent settlement, but its transformation into a real family community did not happen until the 1970s. During and after WWI a number of mining settlements were built, for example Ny-Ålesund and Sveagruva in 1917, Barentsburg and Grumant in 1920. All of these were designed solely for the purpose of producing coal. When, for various reasons, coal production stopped, the settlements were closed down, temporarily or permanently. Ny-Ålesund was turned into a research station in the 1960s, thanks to the existing infrastructure that coal mining had left behind. Longyearbyen is the only example among Svalbard settlements where a diversification and a kind of organic growth has taken place, but it can be argued that this development would not have taken place without the industrial base that coal mining provided. Still, the coal activity plays an important role in Longyearbyen's economy and social life.

## B. Research and exploration

*Discuss the concepts research and exploration on the background of Svalbard's history of science. Give examples of expeditions from different periods of this history that illustrate the differences and similarities. What defines a scientific expedition?*

The concepts "research" and "exploration" are often used indiscriminately about scientific or science related activities in the past. Though we might like to think of research as systematic, scientific studies and exploration rather as the process of discovering new territories, it is important to interpret the two concepts in their contemporary context. What we may regard today as a pure discovery expedition might have been viewed in the past as advanced science.

The scientific profile of Svalbard research has changed over time. Initially, geographical exploration and mapping was top priority. From the mid-19<sup>th</sup> century geology and geophysics were at the forefront. Resource geology became important around the turn of the century, and also had political implications in the struggle for sovereignty over Svalbard. Since the 1970s environmental research, not least biology, has expanded. Today, environment and climate related research dominate Svalbard science.

The (scientific) exploration of Svalbard may be divided into different phases, for example:

1. 1596–1720: First discovery, geographical exploration, mapping
2. 1720–1850: Development of natural science, North Pole expeditions
3. 1850–1900: First "golden age" of Svalbard science; Swedish hegemony
4. 1900–1945: Geology and land claims; Norwegian hegemony; economic crisis
5. 1945–today: International research platform, "big science", environmental research

A few examples of expeditions and activities from these phases may illustrate how the boundaries between exploration and research often are blurred.

Friederich Martens visited Svalbard in 1671 as a ship's surgeon on board a whaler. Although his primary mission was another, he published an account of the voyage which also contains the first scientific observations of i.a. marine biology, botany and climate.

The main purpose of the Russian Chichagov expedition in 1764–66 was exploration of a possible sea route across the Polar Sea, but it also included a scientific program drafted by the famous scientist Mikhail Lomonosov. In this it is similar to the British Royal Navy expedition in 1773 headed by John Phipps, which set out to set a farthest north record, but also carried out scientific observations and experiments along the way.

The French lead, but multinational Recherche expedition to Svalbard in 1838 and 1839, was a multidisciplinary research initiative that focused on science. Still, it had been supported by the French Navy and had an exploratory character as well.

When “modern” natural sciences came to Svalbard in the second half of the 19<sup>th</sup> Century, scientific investigations went hand in hand with geographical exploration and record chasing. The best example is perhaps the Swede (and Finn) A.E. Nordenskiöld, who on two of his scientific expeditions to Svalbard tried to set a farthest north record: with the steamer “Sofia” in 1868 and with sledges in 1873.

In the early 20<sup>th</sup> Century many of the geological expeditions were partly scientific, partly commercial in character. Exploration of possible geological resources that might be exploited was a strong driving force. The work of the Norwegian geologist Adolf Hoel is a good example, as is the Scot naturalist William S. Bruce, who co-founded the Scottish Spitsbergen Syndicate. Indeed, even in our days it may be hard to tell the difference between geological exploration for commercial purposes and “pure” geological research. The distinction between marine biology and resource mapping may also seem difficult to draw at times.

A particular case in point may be the polar flights by, among others, S.A. Andree (1897), Roald Amundsen (1925, 1926), Richard Byrd (1926) and Umberto Nobile (1928). These expeditions were no doubt perceived by the contemporary public as exploratory, record breaking events – which they indeed were. On the other hand, as long as large parts of the North Pole region were still unknown territory in this period, polar expeditions of this kind did have a scientific merit, or at least a potential. Characteristically, Roald Amundsen titled his autobiography “My life as a polar researcher”.

In order to define an expedition as *scientific* we will expect to see a clear research purpose or scientific motive of some kind. Usually there will be a program or a plan in advance for observation, data collection and description and during the expedition there is a systematic approach to gathering data or performing experiments. Although not a prerequisite, the expedition would normally be headed by one or more trained scientists. We must, however, take into account what was said initially about the contemporary context. What was regarded as science in the 17<sup>th</sup> Century was something very different from modern research. A first time geographical exploration of an area will necessarily have a scientific value of sorts, and even repeating it later might be valuable – for verification of the initial observations. Thus, in many cases geographical exploration precedes the more systematic, scientific research, and there are many examples in Svalbard’s history of reconnaissance expeditions that have laid the foundation for later “pure” scientific research. In this context it would be reasonable to speak of them as scientific expeditions too.

As we have shown above, the exploration of the Arctic had elements of scientific research from early on. Nevertheless, the scientific profile became more evident after 1850. Polar research as a specific term probably originated in Germany in the 19<sup>th</sup> century – “Polarforschung” became a scientific discipline. Today, however, we realize that polar research is not defined as a particular discipline, but is a geographical definition: research that is dedicated to polar areas of the world. Typically, it is field based, multidisciplinary, international and very expensive. It is also typical that polar research is motivated by more than scientific curiosity – individual and national prestige, economic and political interests are also important.

Karl Weyprecht and Georg von Neumayer’s initiative in the 1870s to organize the first International Polar Year (1882–83) was a turning point in making polar research more focussed on science, less on heroic exploration and discovery. On Svalbard the Swedes manned the IPY station at Kapp Thordsen, with great success. This was doubtlessly a scientific expedition by intent and implementation. From this time on it is somewhat easier to

distinguish between research and exploration in Svalbard's history of science, although the two types of activity did not separate completely.

To conclude, exploration of unknown territories always precedes the more systematic research of phenomena. On Svalbard scientific objectives were integrated into expeditions of exploration at an early stage, but not until the 19<sup>th</sup> Century did the first expeditions that were primarily motivated by science and a research agenda take place. Heroic exploration and record breaking, using Svalbard as a point of departure for expeditions towards the North Pole, continued until the 1920s, often under a thin veil of science. Also, exploration for commercial purposes has gone hand in hand with basic research on Svalbard ever since the late 19<sup>th</sup> Century, and the activities may be difficult to separate.