HISTORICAL/BIOGRAPHICAL ESSAY

Norway and past International Polar Years—a historical account

Stian Bones

Norwegian Polar Institute, Polar Environmental Centre, NO-9296 Tromsø, Norway.

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Correspondence
Norwegian Polar Institute, Polar Environmental Centre, NO-9296 Tromsø, Norway. E-mail: bones@npolar.no

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Surveying Norway's role in past International Polar Years (IPYs), this essay by historian Stian Bones contributes to a broader understanding of Norway as a "polar nation". He describes the strengths of Norway's scientific traditions in the polar regions, and examines the varying motivations driving Norwegian involvement in the first three IPYs: 1882–83, 1932–33 and 1957–58 (also known as the International Geophysical Year).

—The editor

The first International Polar Year (IPY) lasted from 1 August 1882 to 31 August 1883. Twelve nations participated in this groundbreaking international cooperative project, establishing 14 research stations: 12 in the Arctic and two in the Southern Hemisphere (the Danish research vessel the *Dijmphna* can be counted as an additional station).

The roots of this huge scientific endeavour are to be found in 1875, when the Austro-Hungarian Polar Expedition (1872–74) returned home after having, among other achievements, officially discovered Franz Josef Land (Payer 1876). International cooperation and coordination was the only way to solve the great scientific problems in the field of meteorology and geophysics, according to the expedition's co-commander Lt Carl Weyprecht. Weyprecht, a renowned polar scientist and explorer, claimed that too much money and effort were spent on mapping, naming and conquering the frozen territories in the names of different nations. Science suffered from this. In his talk to the Royal Geographical Society in London, he said,

> Decisive scientific results can only be attained through a series of synchronous expeditions, whose task it would be to distribute themselves over the Arctic regions and to obtain one year's series of observations made according to the same method. (Quoted in Baker 1982: 276)

In the following years—and with help from Count Hans Wilczek—Weyprecht developed his ambitious plan further. By the spring of 1877 he was ready to present it before the International Meteorological Congress. Unfortunately, because of the war in south-eastern Europe, the Congress was not able to assemble in Rome until the spring of 1879.

Serving the International Meteorological Congress was a permanent committee, or secretariat, which prepared the cases to be considered by the Congress and followed up the resolutions that were passed. Among those seated in the permanent committee was the leading Norwegian geophysicist Henrik Mohn, director of the Norwegian Meteorological Institute (Det Norske Meteorologiske Institutt), who had agreed to prepare a recommendation for the Congress regarding Weyprecht's proposal (Steen 1881) (Fig. 1). The committee supported Weyprecht's initiative and it was recommended to all governments. The Congress appointed an International Meteorological Commission to follow up the idea. The Commission sent out invitations to the First International Polar Conference in Hamburg, to be held on 1–5 October 1879. Representatives from Denmark, France, the Netherlands, Norway, Russia, Sweden, Austria–Hungary and Germany were present. The Conference dealt with a wide range of details concerning the plans for an IPY, and it also constituted a permanent International Polar Commission, with the German polar explorer and scientist Georg von Neumayer as its president. The representatives of various countries attending the International Polar Conference now had to investigate whether there was sufficient economic support in the participating nations for an IPY from 1 September 1881 to 31 August 1882. At the Second International Polar Conference in Bern, only three or

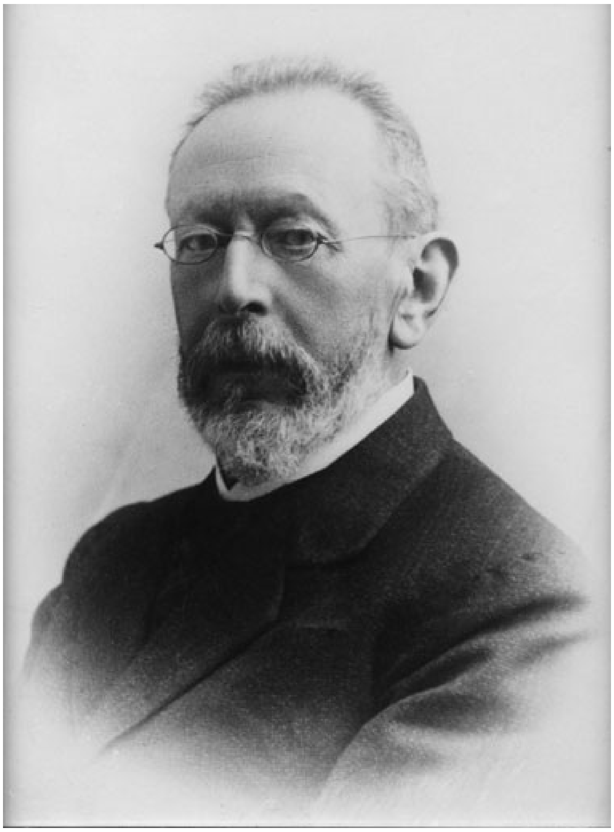

Fig. 1 Professor Henrik Mohn (1834–1916). (Courtesy of the Norwegian Polar Institute Picture Library.)

four countries were able to confirm sufficient economic backing from their governments, and it was decided that the IPY had to be postponed until 1882–83.

The whole idea seemed to be hanging on a thread. In January 1881 there were still only five countries that were able to confirm economic support for their polar stations, namely Russia, Austria–Hungary, Sweden, Denmark and Norway. In spite of this, the president of the International Meteorological Commission, Professor Heinrich Wild of St Petersburg, pushed forward a resolution saying that the IPY was to be arranged even if only five countries could take part. Norway was the only country that resisted this decision. Professor Mohn said that the Norwegian Parliament had given its grant on the premise of a minimum of eight participating countries. The best he could do, Mohn said, was to delay the deadline for Norway's final decision until 1 May 1881. During the winter of 1881 it seemed that plans for the IPY had come to a standstill, a situation that was not improved with the death of Carl Weyprecht on 29 March. But his idea proved to be blessed with good fortune, and on 14 May 1881 Professor Wild announced that at least eight stations would be carrying out simultaneous observations during the IPY.

Fig. 2 The Norwegian polar station in Bossekop. Some of the meteorological instruments and the magnetic hut can be seen. The Breverud farm was rented for 800 kroner per year. (Photo by Sophus Tromholt, courtesy of the University of Bergen Library.)

Norway's involvement in the first IPY, 1882–83

During the first IPY, Norway established her station in Bossekop, in the northern district of Alta, with an auxiliary station in Kautokeino (Fig. 2). The site was pointed out by Henrik Mohn, who also procured most of the necessary scientific equipment. Some of the instruments were even designed on the basis of Mohn's drawings (Engelbrethsen 1895).

But why Bossekop? Mohn had considered three geographical alternatives within the auroral zone, all possibly well suited for studies of terrestrial magnetism, meteorology and the northern lights, and all well north of the Arctic Circle: Hammerfest, Tromsø and Bossekop. Two factors favoured Bossekop. First, the percentage of cloud cover was less in the Bossekop area compared with the other two possible sites. Second, Bossekop had been the base for similar studies before (Steen 1881; Tromholt 1885).

The most important research expedition in this part of the Arctic had been the great French expedition with *La Recherche*, which explored northern Norway, the White Sea, Spitsbergen and Bjørnøya (Bear Island) from 1838 to 1840. (For Norwegian studies of the *La Recherche* expedition, see Drivenes 1992 and Knutsen & Posti 2002.) During the winter of 1838–39, the *La Recherche* expedition established a station in Bossekop, with the main task of studying terrestrial magnetism and the aurora borealis. Five members of the expedition were stationed in Bossekop, namely the French physicists Bravais and Lottin, the Swedish physicists Lilliehöök and Siljeström, and the French illustrator Bevalet. The scientific observations made by this expedition were carried out by the small scientific society at the Kåfjord Copper

Mine, near Bossekop, for another four years, which completed a five-year observation series. Later, the scientific society extended the observations for another five years.

The new Norwegian polar station established for the first IPY was to be managed by Aksel S. Steen, assistant director of the Norwegian Meteorological Institute. As had been the case for the expeditions, the main task for the Norwegian scientists was to make observations of terrestrial magnetism and meteorology, and to study the northern lights. Steen, a climatologist, had to build up his knowledge of terrestrial magnetism before he could begin. By 1882, the leader of the Norwegian team was well prepared for the task ahead of him. Because of the postponement of the IPY there was plenty of time for planning. Steen and his companions took the opportunity to investigate the area around the farm called Breverud beforehand, deciding where the different buildings should be placed. Some of the observatories that were built in Bossekop were, in fact, prefabricated. To avoid interference with the instruments in the magnetic hut, it was important not to use any iron nails in the construction of the facilities—only wooden nails, and some copper and brass (Tromholt 1885).

In July 1882 all five of the Norwegians who would man the Bossekop station were settled there: Aksel Steen, Carl Krafft, Jens Schroeter, Ivar Hesselberg and Olaf Hagen. Steen took care of the absolute magnetic observations (Barr 1985). Krafft handled the auroral observations and the measurements of relative and absolute humidity; he was also the station photographer. Along with Steen, Schroeter was in charge of the astronomical observations; he also saw to it that the chronometers were correct. Hesselberg led the oceanographic studies and was in charge of the periodical magnetic and hourly meteorological observations. Hagen was the man-of-all-work, attending to the instruments, making repairs and doing all kinds of practical jobs.

Life at the station was necessarily well ordered. The day was divided into four six-hour shifts, except on so-called "term days", when the instruments had to be observed virtually the whole day through. On term days, which fell on the 1st and 15th of every month, observations were made every five minutes. However, during one hour on each term day, the magnetic observations had to be carried out every 20 seconds. Sophus Tromholt, a Danish auroral scientist who paid a visit to the station in 1882, later remarked:

> What an endlessness of numbers! At each of the hourly observations, more than one hundred ciphers are noted; thus one normal day represents approximately 2500 ciphers, one term day about 6000. (Tromholt 1885: 55; translated by the author)

Fig. 3 Sophus Tromholt's auroral observatory in Kautokeino 1882–83. In the middle of the picture you can see the Mohn theodolite, which was used in triangulating the position of the aurora. (Photo by Sophus Tromholt, courtesy of the University of Bergen Library.)

During the first IPY, two official stations were established at the Northern Cap: the Norwegian station at Bossekop and the Finnish station in Sodankylä. Tromholt, who was setting up his own auroral observatory, took advantage of the geographical distribution of these stations: a base in Kautokeino, situated about 100 km east of Bossekop, would make an ideal site for triangulation of the aurora, with the aim of fixing its height (Fig. 3). On his own initiative, Tromholt set up a network of more than 100 observation posts in Norway and other countries, recording regular observations of the aurora. Tromholt was convinced that there was a connection between the variations of sunspots and the appearance of aurora. Time has proved him right. He is also well known in Norway for his ethnographic observations and the many beautiful pictures he took during his stay in Kautokeino (Fig. 4).

Norway's contribution to the second IPY, 1932–33

Like the first, the second IPY was a major international programme in geophysics. Norway could depend on a relatively strong scientific culture in certain geophysical disciplines. A great deal of Norwegian effort had been put into disciplines like meteorology, oceanography and auroral research, with these areas of science becoming the strongholds of Norwegian polar research.

One of the founding fathers for this geophysical tradition was Henrik Mohn, who, as described earlier, played a role in bringing the proposal for the first IPY to fruition. Mohn was a driving force in many other projects related to Norwegian polar research. Together with the Norwegian marine biologist Georg Ossian Sars, Mohn led the second research project in Norwegian polar history. This

Fig. 4 A portrait of two Saami: Brita Olsdatter Nango and her child. (Photo by Sophus Tromholt, courtesy of the University of Bergen Library.)

Fig. 5 Like Fridtjof Nansen, Mohn liked to paint and draw. Mohn painted this watercolour of Beerenberg, Jan Mayen, during his expedition in the Norwegian Sea in 1876–78. (Courtesy of the Norwegian Polar Institute Picture Library.)

was the *Vøring* expedition, 1876–78, which explored the Norwegian Sea and, in fact, gave that body of water its name (Bjørnsen 2003) (Fig. 5). (The first polar expedition sent from Norway had been Christopher Hansteen's expedition to Siberia, 1828–30.) It was Mohn who put Fridtjof Nansen on to the idea of drifting with the sea currents across the Arctic Ocean. Mohn strongly influenced many other Norwegian researchers, for instance, the auroral researchers Kristian Birkeland, Carl Størmer and Lars Vegard, the oceanographers Bjørn Helland-Hansen and Harald Ulrik Sverdrup, and the meteorologists Vilhelm Bjerknes, Halvor Solberg, Theodor Hesselberg and Jakob Bjerknes.

Fig. 6 Hubert Wilkins (left) and Harald Ulrik Sverdrup on board the submarine *Nautilus*, measuring temperatures deep down in the Arctic Ocean. (Photo by Hubert Wilkins, courtesy of the Norwegian Polar Institute Picture Library.)

Both of the two most central people in Norway's second IPY effort, the oceanographer Harald Ulrik Sverdrup and the meteorologist Theodor Hesselberg, were central in the geophysical research tradition. At the time, Sverdrup was at the Christian Michelsen Institute in Bergen. Sverdrup was elected one of seven members of the International Polar Commission, led by the renowned director of the Danish Meteorological Institute, Dan La Cour. In Norway, a national committee was put together to coordinate Norwegian participation (Hesselberg 1932–33). Sverdrup led this Norwegian Polar Committee assisted by Theodor Hesselberg, the director of the Norwegian Meteorological Institute. (Hesselberg held this position from 1915 to 1955. He also served as general secretary of the International Meteorological Organization from 1923 to 1929, and as its president from 1935 to 1946.) Sverdrup was very busy so much of the work of the committee fell to Hesselberg, especially in 1931, when Sverdrup shouldered responsibility for the scientific work on Sir Hubert Wilkins's *Nautilus* expedition (Fig. 6).

Carl Størmer was another Norwegian who took on a special role in the international cooperation during the second IPY. An auroral scientist, he led the international

Fig. 7 The Norwegian geologist Adolf Hoel in his office in 1924. The room is dominated by books and annexation signs from Spitsbergen, clearly showing Hoel's scientific and political leanings. (Courtesy of the Norwegian Polar Institute Picture Library.)

Fig. 8 The Norwegian station Jonsbu, Greenland, in March 1933. (Photo by John Giæver, courtesy of the Norwegian Polar Institute Picture Library.)

subcommittee preparing the research in this field. Størmer set up much of the plans for the auroral research: he prepared an international auroral atlas with illustrating photographs and descriptions of the different forms of polar lights, and he construed a new camera for photographing the phenomenon. Størmer's camera was in great demand internationally. It was Størmer who, based on investigations at Bossekop in 1910 and 1913, solved the question of the height of the northern lights through triangulation with his specially adapted camera.

In the autumn of 1930, the Norwegian Polar Committee had worked out a programme for the Norwegian participation. It suggested that geophysical stations were to be established at the top of the mountain Haldde (in the vicinity of Bossekop), on the island of Bjørnøya, at Myggbukta (East Greenland), at the top of Gaustad (in Telemark, southern Norway) and at Fanaråken (by Sognefjord, western Norway, 2064 m a.s.l.). According to the plans, several whale processing ships in the Southern Ocean would also take part. But because of the international economic depression, which also hit Norway, the plans had to be somewhat reduced. The committee decided to limit Norway's efforts to broadened activity at the stations and observatories that were already in existence. The committee also decided to invite other nations to travel to Norwegian territory to make their IPY observations.

The economizing strategy to build on the already existing stations lead the geophysicists to become even more dependent on the milieu around Adolf Hoel—a research tradition that might be described, in comparison to the "geophysical tradition", as a more practically oriented "geographical tradition", leaning heavily on disciplines such as topography and geology.

In the period from 1910 to 1940, the geologist Adolf Hoel was one of the most central polar researchers in Norway. From 1928, he led Norway's central state institution for polar research, Norges Svalbard- og Ishavsundersøkelser (NSIU; Norway's Svalbard and Arctic Ocean Research Survey). Hoel's, and the NSIU's, activities were largely an expression of Norwegian territorial expansionism (Berg 1995; Fure 1996; Barr 2003; Drivenes 2004; Skarstein 2006). Although the scientists in the geophysical tradition were seeking to establish, or link themselves to, major scientific programmes—generally international in scope—those in the geographical tradition saw themselves in a national context. The expeditions these scientists undertook were primarily summer expeditions to Spitsbergen or Greenland—both islands on which Norwegian nationalists aimed to make plain the territorial interests of their country (Fig. 7). In Hoel's view, history had clearly shown that nations that were able to display the most thoroughly collected scientific knowledge of a "new" territory were able to win most conflicts of interests with other countries (Drivenes 1994–95; Drivenes 1995).

Despite the small financial resources allocated for the Norwegian IPY activities, contact with Hoel and his circle enabled the Norwegian Polar Committee to establish four new stations in East Greenland: Jonsbu (Fig. 8), Finnsbu, Torgilsbu and Storfjord (Sverdrup 1932). These were set up as stations for hunters and sealers, but during the IPY they also served as meteorological stations. But for Adolf Hoel and Anders K. Orvin, who stood behind the operations in East Greenland, the meteorological undertakings were a side issue: the most important motive behind the establishment of these stations was, in fact, territorial expansionism. When John Giæver, stationed at Jonsbu, received the verdict from the international court in The

Hague that rejected Norway's claim to territory in Greenland, he noted forlornly in his diary: "It feels like the bottom has fallen out of our existence here. Nothing seems to matter anymore. We are in Danish land" (Giæver 1932–34; translated by the author).

The station at Myggbukta was a different story (Mikkelsen 2001). It dated back to 1920, when the international commission for weather telegraphy declared that meteorological data from Greenland were very important to improve forecasts in Europe. Ole Andreas Krogness, the director of the Geophysical Institute in Tromsø, seized on this idea. He contacted sealers bound for East Greenland and sent meteorological equipment with them. The meteorological station at Myggbukta was established in 1922. During the second IPY, the station at Myggbukta contributed meteorological observations and made observations of the aurora. (Similar meteorological stations were established at Isfjorden, Spitsbergen, in 1911, Bjørnøya in 1920 and Jan Mayen in 1921.)

The other strategy of the Norwegian Polar Committee was to invite other nations to establish stations on Norwegian territory. Taking Norway up on its offer, Sweden established a station on Spitsbergen, Austria a station on Jan Mayen, and Poland sent an expedition to Bjørnøya. Several expeditions were also sent to the Norwegian mainland, including German and British expeditions to Tromsø, where the Auroral Observatory hosted them. The research carried out by these guest scientists eventually revealed that radiowaves were reflected in the ionosphere, information that proved to be most important during World War II and afterwards. The leader of the British expedition, Sir Edward Appleton, won a Nobel Prize in physics in 1947.

Although the Norwegian budget was reduced significantly from what had been initially planned, much important research was carried out during the second IPY. Nine whale processing ships in the Southern Ocean were equipped with meteorological equipment, and the officers on board were trained to make the observations. The results were considered valuable and were published quickly, thanks to a grant of 15 000 kroner from the "Whale Fund" (Aagaard 1934; Anonymous 1935a). Meteorological data from a network of stations in the Arctic had been collected (Anonymous 1940). Research on terrestrial magnetism had been carried out at the Auroral Observatory (Tromsø), Rønvik (Bodø), Bossekop, Dombås and Fredrikstad (Anonymous 1935b). Observations of the aurora had been made in Oslo, Oscarsborg, Kongsberg, Tømte, Tromsø, Tenness, Myggbukta, Løkken verk and Darbu. Significant aerological work had also been undertaken, with Kjeller and Ås as the most important sites.

The International Geophysical Year, 1957–58

In 1957–58, when the International Geophysical Year (IGY) took place, only 12 years had passed since the end of World War II, yet there had been notable technological advances in that short period of time (International Council of Scientific Unions, International Geophysical Committee 1959). After the war, many geophysicists were eager to find out how the new technology developed during the war could be used to explore the atmosphere. It was at a private dinner party, with guests including some of the world's leading geophysicists, that a third polar year was suggested. The suggestion came from the American scientist and engineer Lloyd Berkner. He emphasized the many technological and scientific advances that had been made since the IPY in the 1930s. He also pointed out that in 1957–58 the sunspot activity would be close to its maximum, whereas in 1932–33 it had been close to its minimum. Comparing the results from these two periods would be valuable.

Constituting a scientific leap for the international research community (Sullivan 1962), the IGY of 1957–58 is generally considered the third IPY on account of the importance of polar research in the programme and its close connections with previous IPYs. The IGY lasted from 1 July 1957 to 31 December 1958, but international research efforts were prolonged for one more year: the Year of International Geophysical Cooperation. Among the most notable achievements during the IGY, both the United States and the Soviet Union sent out Earth-orbiting artificial satellites. The Soviet Union launched the first two: Sputnik I, launched on 4 October 1957, and, one month later, Sputnik II. The Americans were extremely disturbed by this. As Cold War historian Walter LaFeber has put it, " 'gaps' were suddenly discovered in everything from missile production to the teaching of arithmetic at the preschool level" (LaFeber 2002: 203). Shocked into action, the USA immediately began work on its own satellite project and, on 31 January 1958, it was able to launch its first Earth-orbiting satellite, Explorer 1, which revealed the existence of the magnetic radiation belt around the Earth, known as the Van Allen radiation belt. The scientific work carried out during the IGY also confirmed the theory of continental drift, a theory first put forward by the German Alfred Wegener in 1912. Another considerable achievement was the first estimates of the total ice mass in Antarctica.

For Norway, Antarctica was the most challenging question during the IGY. In 1939, Norway had annexed a large part of Antarctica: Dronning Maud Land. The claim for sovereignty over this area, which demanded a Norwegian presence to fend off other claims, was partly motivated by Norwegian commercial interests—whaling—and partly by Norwegian territorial expansionism. With Norwegian whale catches decreasing after World War II because of depleted stocks, whaling faded out of the picture, as did one of the motivations for the Norwegian claim for sovereignty in Antarctica.

The other motivation was science, which was also was closely tied up with politics. Since the end of the 19th century, Norwegian contributions to international polar research had secured the country admission into the exclusive club of polar nations like the UK, Sweden, Germany and Russia. Norway was particularly involved in research in Svalbard and organized annual expeditions under the NSIU, the forerunner of the Norwegian Polar Institute (NPI). One of the reasons why Norway was a force to be reckoned with in the polar regions was that neither the Arctic nor the Antarctic had been seen as strategically important by the great powers. World War II and the Cold War changed that view. As a consequence, Norway's room for manoeuvring both in the north and the south was greatly restricted. Norway had to pay close attention to what the influential nations were up to.

The founding of NPI in 1948 gave a new boost to Norwegian polar research. The internationally acknowledged scientist H. U. Sverdrup was called home from California to lead the institute (Fig. 9). One of his first steps was to organize a very successful expedition to Antarctica, the Norwegian–British–Swedish Maudheim expedition (1949–52), led by John Giæver (Friedman 2006). The Maudheim expedition carried out pioneering mapping work in Dronning Maud Land, which strengthened Norway's claim for sovereignty there.

Fig. 9 Harald Ulrik Sverdrup as director of the Norwegian Polar Institute. (Photo courtesy of the Norwegian Polar Institute Picture Library.)

After the Maudheim expedition, Norwegian authorities were more restricted with funding for polar research, and the scientists concentrated their limited resources in the Arctic. For the IGY in 1957–58, the NPI had no plans to conduct research in Antarctica. When this became known in October 1954, it led to consternation both in the USA and at the Norwegian Ministry of Foreign Affairs (Friedman 2006; Helsvig 2007). The polar regions were of great strategic importance and the West could not leave a void that could be filled by the Soviet Union. The Norwegian Minister of Foreign Affairs, Halvard Lange, successfully advocated launching a relatively large Norwegian expedition to Antarctica during the IGY.

Against this backdrop, the NPI equipped the Norway Station expedition (1956–60), under the leadership of Sigurd Helle (Figs. 10, 11). As with the Maudheim expedition, the Norway Station expedition also expended a great deal of effort in mapping Dronning Maud Land. The expedition made several scientific findings, but even more importantly it manifested Norway's role as a polar nation in the Antarctic. In 1957, the International Council of Scientific Unions organized a Special Committee on Antarctic Research (SCAR). (Two other permanent scientific committees were also created as a result of the IGY: the Scientific Committee on Oceanic Research and the Committee on Space Research.) Norway, being one of 12 countries in Antarctica during the IGY, had its own seat in this committee. Thanks to the Norway Station

Fig. 10 Expedition leader Sigurd Helle maps Dronning Maud Land, Antarctica, during the International Geophysical Year. (Photo by Sigurd Helle, courtesy of the Norwegian Polar Institute Picture Library.)

Fig. 11 Doing his part for the Norwegian research effort in Antarctica during the International Geophysical Year, Torgny Vinje makes scientific observations. (Photo by Torgny Vinje, courtesy of the Norwegian Polar Institute Picture Library.)

expedition, Norway remains a key nation in the administration of the continent.

Although the Norway Station expedition was the biggest Norwegian effort during the IGY, many other scientific contributions were made (Orvin 1960). All in all, 25 Norwegian stations or projects were involved: three in Svalbard, one on Jan Mayen, one in Antarctica, one floating station in the Norwegian Sea and the rest on the Norwegian mainland.

The IPY and Norway: the politics of science

As for the great powers, the IGY may stand as a symbol for two different political strategies or tendencies—one focusing on power-oriented manoeuvring, and one oriented towards international cooperation. It is evident that it was equally important for the USA and the Soviet Union not to let the other side get ahead in any vital field, be it in technological improvements or in strategically important areas. The IGY was very much affected by this, as manifested in the Sputnik shock (which led to the foundation of the USA's National Aeronutical and Space Administration). In this competition between the great powers, Norway had very little to say, but it was nonetheless important for Norway to fly the flag in Dronning Maud Land, just as Norway did in Svalbard.

Although the great powers showed some interest in Antarctica, the Arctic had a much higher priority. Later on in the Cold War, in 1982, the director of the NPI, Tore Gjelsvik, calculated that the Soviet Union alone had more than 40 000 people engaged in Arctic research and related activities (Magnus 1983). In comparison, the current IPY (2007–08) involves the participation of approximately 63 nations and 60 000 people in research and affiliated activities.

Today's historical research shows that international contacts forged through the IGY contributed to a lasting dialogue that helped ameliorate the antagonism of the Cold War (Evangelista 1999). In 1959, the 12 nations that were conducting research in the Antarctic during the IGY became parties to the Antarctic Treaty. Ratified in 1961, the treaty dedicated Antarctica to the pursuit of peaceful activities. It established full freedom for all to conduct their research, under the supervision of SCAR. Territorial claims were set aside, or put on ice, so to speak.

As we know, science has served various political strategies, in Norway as elsewhere. The history of Norway's involvement in the IPY shows that there has been a permanent connection between the scientific and the political spheres in Norway. Although power politics clearly was part of the picture of the second IPY, it was restrained, and the IGY—the third IPY—was largely kept in line with Carl Weyprecht's ideals.

Today, the premises for an even more distanced relation to traditional power politics should be within reach. The challenges are not the same now as they were some 50 years ago (Goldman 2007). One might argue that today's IPY is to a large extent intertwined with a broader, global environmental discourse, a "softer" discourse in which environmental change—particularly climate change—is understood to affect all nations, regardless of their political power, and that international cooperation is the only practical way forward. But at the same time there is undoubtedly a "harder" discourse going on, connected with energy and traditional geopolitics. Whether today's scientists and political leaders manage to merge these two discourses and create a lasting international cooperation in the polar regions remains to be seen. But it would be a vision in line with the history of the IPY.

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