WAR NORTH OF 80: THE LAST GERMAN ARCTIC WEATHER STATION OF WORLD WAR II. By WILHELM DEGE. Translated from the German and edited by WILLIAM BARR. Calgary: University of Calgary Press, 2003. ISBN 1-55238-110-2. xxxv + 361 p., maps, b&w illus., bib., index. Hardbound. Cdn\$49.95.

The story of the Arctic weather stations established by the Kriegsmarine (Navy), the Luftwaffe, and the Abwehr (counter-intelligence) is a fascinating one indeed. These stations were vital for German naval and air operations, because once World War II broke out, Germany no longer had access to data from weather stations under Allied control.

This book is a translation by William Barr of *Wettertrupp Haudegen* by Dr. Wilhelm Dege, published in 1954 by F.A. Brockhaus, Wiesbaden. Dege was the leader of the last and most successful of the Arctic weather stations, one that operated for nearly a year starting in September 1944. The 11 men at Station Haudegen on Nordaustlandet (North-East Land), the most remote and northerly of the main islands in Svalbard, were the last German "combatants" to surrender at the end of World War II, nearly four months after the cessation of hostilities.

Dege, who had made three research trips to Spitsbergen (in 1935, 1936, and 1938), was the logical person to lead an expedition to remote Nordaustlandet. As well as reporting weather conditions (observations were scheduled every three hours) and sending a hydrogen-filled radiosonde balloon aloft every afternoon to obtain data on upper-air wind directions and velocities, Dege was keen to carry out an extensive scientific program.

The English edition has 19 chapters, expanded from 17 in the original German edition, and Barr has enhanced its value in several other ways. First, there is a glossary to explain German naval ranks. Second, a 27-page Introduction includes summaries of all German World War II weather stations—operations that took place in Svalbard, Greenland, and Franz Josef Land—accompanied by maps showing the location of each weather station or weather ship. Third, an 11-page section of endnotes is included to explain abbreviations or items in the text that require further clarification.

Chapter 1 deals with preparations, specialized training, and selection of personnel, stores, and equipment for a stay of up to two years. The urgency of the mission was understood and supported at the highest levels in the Navy, despite the deteriorating military situation. From his previous experience in Spitsbergen, Dege had selected Rijpfjorden, northern Nordaustlandet, as the station site. This fiord was far removed from western Spitsbergen, where several Norwegian and Russian coal-mining communities had existed and where attempts to establish weather stations had been made.

Chapter 2 describes in detail the trip north. The voyage was made aboard the ship *K.J. Busch*, starting on August 5, 1944, with stops en route to take on additional supplies. By August 27, *Busch* was at anchor in Ramsfjorden, near Tromsø, northern Norway, where she was joined by a U-boat as escort to Svalbard. *U-307* was to carry significant freight plus half

the personnel—a safety measure designed to ensure that the station would be built even if one ship were lost en route. A route via eastern Nordaustlandet was chosen to avoid Allied naval ships patrolling off western Spitsbergen.

Chapter 3, "Running the gauntlet to Svalbard," starts with departure from Hammerfest on September 10. The crews maintained a high alert, as *Busch* and *U-307* were crossing the main Allied convoy route from Iceland to Murmansk. All went well, and no pack ice was encountered. Late on September 13, the vessels reached Rijpfjorden, where a suitable site for the base was found at Wordiebukta (Wordie Bay; 80°04′ N, 22°24′ E).

Chapter 4 describes the construction of the base, called Haudegen. On September 14, a jetty was built (by the wintering party plus *Busch*'s crew—totaling 26), preparatory to unloading 1800 separate items (including 1220 cases of provisions) weighing 80 000 kg from *Busch*. On shore, Dr. Rieche, deputy leader, was in charge of moving everything to the station site. With the help of *U-307*'s 30-man crew, *Busch* was unloaded in two days.

Chapter 5, the "Circumnavigation of Nordaustlandet," describes an unusual trip for the High Arctic. On September 17, leaving Rieche to oversee construction, Dege departed aboard *U-307*. His primary goal was to establish two satellite camps, at Duvefjorden (east) and Wahlenbergfjorden (south). Both were accessible from Wordiebukta, in case Haudegen should be attacked. A secondary goal was to reconnoitre the coasts of Nordaustlandet for trapper huts. As huts could serve Allied sled patrols, the intent was to destroy them. Another goal was to obtain soundings, as the waters around Nordaustlandet were poorly charted. After shelling two dilapidated huts in the northwest, U-307 headed for Wahlenbergfjorden, where Dege established a depot. Materials for another satellite camp were cached at the head of Duvefjorden, less than 20 km from Haudegen. The group returned to the base camp on 22 September. The most important scientific work accomplished on this circumnavigation was the double row of soundings in three major fiords.

Chapters 6 through 9 detail the establishment of the wintering quarters. By September 26, the radio station was ready to operate. Both *U-307* and *Busch* departed on September 27, and the 11-man wintering crew settled into their routine of observations. They stacked wooden provision boxes in a double row around three sides of the hut, and roofed over the intervening corridor with tarpaulins and reindeer skins. They also constructed a sauna and a hut for making hydrogen for the radiosonde balloons. Driftwood was collected assiduously to supplement coal brought by *Busch*, and a supply of reindeer meat was laid in to stretch the provisions from Germany and Norway. In this regard, Rijpfjorden was an excellent choice for a base, as reindeer were abundant. Dege also describes visits to the depot at Duvefjorden and encounters with bears and reindeer.

Chapter 10 outlines the expedition's official work. A graph of mean daily temperatures shows a low of -33.6°C in late January 1945 and a high of +9.6°C in mid-July. Difficulties with filling the radiosonde balloons with hydrogen at low

temperatures and following their flights with a theodolite are explained. It was cold and unpleasant work!

Chapter 11, "The night of 126 days," describes activities at Station Haudegen between October 18, 1944, when the sun disappeared, and March 1, 1945, when it reappeared. Dege gave a course of lectures and encouraged use of the expedition library, and a 30 km long trapline for catching foxes was set out. Christmas festivities provided a welcome break from routine work.

By March 3, Nordenskiöldbukta, the large bay outside of Rijpfjorden, was suddenly free of ice (Chapter 12). However, the mild weather did not persist, and bitter cold accompanied by severe storms characterized much of March and April. Outside work during this period included gathering of driftwood and camouflaging the entire base. The security of the station area was ensured with a network of electrically detonated mines. On March 3, also, a message was received from Naval High Command, Norway, enquiring about the state of supplies and the members' health, as a second wintering was being contemplated. This option was agreeable to all. Dege compiled a list of Haudegen's requirements. He noted, for example, that bread and dried potatoes were not needed. (In this connection, when I visited Haudegen in August 1966 with the Stockholm University Svalbard Expedition, the loaves of rye bread tasted excellent, though they had been canned at least 22 years earlier.) The planning work for another wintering continued throughout this period, but in late April another message was received: preparations were to cease.

Chapter 13 describes two captured polar bear cubs. The main story continues in Chapter 14, entitled "Spring journeys." After learning of Germany's unconditional surrender on May 7, 1945, the crew at Haudegen detonated the string of mines protecting the base. On May 8, transmission of weather reports "in clear" commenced, and Haudegen became part of the global weather network as "Station X02." On May 15, Dege initiated a series of scientific trips from the base. The first was a four-day trek to the northwest. Next Dege and companions made a ski traverse of the ice-free corridor between Rijpfjorden and Wahlenbergfjorden to visit the satellite camp, 45 km away. The depot left in September 1944 had been ravaged by bears, but the provisions and equipment were largely intact. On this trip Dege made observations of the huge outlet glacier, Etonbreen. The group returned via the western ice cap, Vestfonna.

Chapter 15 is the story of the expedition's last major trek, to the Duvefjorden satellite camp and beyond, between June 15 and 26. Once again bears had been at the depot, and the tent, poles, groundsheets, cooking pot, and primus were all missing. This trip, too, was successful in terms of geomorphological observations, but the deteriorating sea-ice conditions forced Dege to return.

Chapter 16 is entitled "The Lost Detachment," because requests repeatedly came from Norway for the station's coordinates. At Haudegen, Dege busied himself with scientific work and coordinated a detailed inventory of all stores and provisions. Finally, on August 25, came the long-awaited

message re evacuation: the ship *Blåsel* would arrive on September 3.

Chapter 17 continues the story. In the evening of September 3, a boat described as a "diminutive cockleshell" approached Wordiebukta. The 11 Germans officially surrendered to Skipper Ludwig Albertsen of Tromsø, after coffee and schnapps in Station Haudegen. Packing continued for three days. Following orders, the Haudegen crew left provisions and clothing in the hut for emergency use. Meteorological observations were discontinued on September 5. Chapter 18 documents the departure from Rijpfjorden on September 6, and again the crowded ship headed eastward around Nordaustlandet, arriving in Tromsø on September 13, 1945.

Chapter 19, "Winding up the Expedition," is the last phase of Dege's story, from jail in Tromsø to jail in Oslo. Eventually he was assigned to write a series of reports about Haudegen at the Norwegian Meteorological Institute. Then, suddenly, it was time to finish, and by December 1, 1945, Dege was home. The rest of this chapter is devoted to accounts of the other naval weather stations, none of which had fared as well as Haudegen.

Following the main text are five appendices. Appendix I, entitled "Hostilities in Svalbard," summarizes both Allied and German military actions in Svalbard, which included, in June 1943, the German battleships *Tirpitz* and *Scharnhorst*. Appendix II, which details the deployment of automatic weather stations in the Arctic by the Kriegsmarine and the Luftwaffe, includes a special map to show the locations of land-based stations and weather buoys. For North American readers, the fact that one land-based automatic station was established by U-boat in northernmost Labrador is of special interest. Appendix III, "Life after Haudegen," is written by Dr. Eckart Dege, Wilhelm Dege's son. It follows what happened to the 11 Haudegen participants in the post-war years. Five of them lived in the DDR, but they held annual reunions to remember their year in Svalbard. Eckart Dege also contributed Appendix IV, "Wettertrupp Haudegen: Forty years later." It is the story of an expedition mounted by Oslo's Forsvarsmuseet (the Norwegian Defence Museum) between August 7 and 19, 1985, to revisit the site of Station Haudegen, using the Norwegian Coast Guard frigate K/V Senja and a ship-based helicopter. The sensation of this visit was the discovery, with the aid of old photographs and information from the surviving veterans (Wilhelm Dege had died in 1979), of a hidden metal box containing the station logbook, Dege's scientific notes and diary, and other papers—all intact after 40 years! Two other hidden caches were also unearthed. Appendix V, again by Eckart Dege, lists place names used during Operation Haudegen.

As to drawbacks, I found the pages crowded because of the small type size. The quality of the photographs varies. I would have liked more of Schneider's sketches; the original German edition included several of his excellent landscapes. Maps 1 and 5 use the name Spitsbergen for the main island, but Map 2 gives the name as it was in the 1940s (Vest-Spitsbergen) with no explanation. Maps 4 and 8 should have "Svalbard" where "Spitsbergen" is written, and the title to Map 4 became

partly obscured in printing. On Map 5, arrows along *U-307*'s route would have helped, and some names are extremely small. Map 7, enlarged from an official Norwegian map, has numerous illegible and incomplete names.

All in all, however, this is an engrossing and most worth-while book about an extraordinary High Arctic expedition. War North of 80 tells as complete a story as is likely to emerge about the German Arctic weather stations, especially about the last and most successful, Haudegen (1944–45). This book is a must for historians concerned with World War II, as well as for those interested in polar exploration and geomorphology.

Weston Blake, Jr. Geological Survey of Canada 615 Booth St., Rm. 249 Ottawa, Ontario, Canada K1A 0E9 weblake@nrcan.gc.ca

NY HERRNHUT I NUUK 1733–2003: MISSION STATION, RÆVEFARM, EMBEDSBOLIG, MUSEUM, UNIVERSITET (NEW HERRNHUT IN NUUK 1733–2003: MISSION STATION, FOX FARM, OFFICIAL RESIDENCE, MUSEUM, UNIVERSITY). By KATHRINE KJÆRGAARD and THORKILD KJÆRGAARD. Nuuk: Ilisimatusarfik/Grønlands Universitet og forfatterne, 2003. Also available in Greenlandic (NUUMMI NOORLIIT 1733-2003). 140 p., b&w and colour illus., notes, bib., index. Softbound. DK 128.

Kathrine Kjærgaard is a theologian and Thorkild Kjærgaard is a doctor of history, and both are teaching at the Greenland University in Nuuk.

The purpose of the authors is twofold: to tell the story of the original Moravian building at New Herrnhut and, through this, to narrate the story of Nuuk's metamorphosis from an isolated outpost (almost the end of the world) to the modern university city of today. The major part of the book narrates the history of the Moravian mission in Greenland. Established in 1733, this German mission quickly became a dangerous competitor to the Danish Lutheran mission, which had worked in Greenland since 1721 and thus paved the way for further evangelism among the Inuit. The book gives a superb insight into aspects of Moravian Christianity, which, in contrast to the Church of Denmark, was a laymen's movement, with weight on sentiment, the sufferings of Christ, blood, and tears—but also music and art.

The Moravians started from scratch in Greenland, but with their self-sacrificing, dynamic energy they soon overtook the Danish mission in numbers of converts. For a long time, their station was the largest building in Greenland. The authors go through the architectural history of the original and subsequent buildings, illuminating the narrative with plans and backing it up with various prints of interior scenes and equipment lists. The Moravian brothers were skilled crafts-

men and built in an easy, recognizable style that is seen everywhere they raised their houses, be it in Greenland or, for example, in Nain, Labrador. The buildings were made in Europe, dismantled, shipped to Greenland, and reassembled there. The authors also point out that one of the chief Moravian architects, Christian David, spent some time in Greenland. Their intimate knowledge of the architecture makes this discussion an essential part of the book, and their enthusiasm is catching.

The development of the Moravian settlement is both well documented and very interesting. The founder of the movement, Count Zinzendorf, was strongly influenced by ideas of the Enlightenment, such as the passion for categorization and classification (seen, for example, in the Linnaean system). These ideas, brought to Greenland, were reflected in the division of the Moravian congregation into so-called "choirs" according to sex, age, and marital status, and in the distinguishing colours of the ribbons in the women's caps.

The authors point to several reasons for the success of the Moravian mission. One reason is its roots in the theatre-happy 18th century, which promoted drama and staging. Examples are the music, the singing from door to door on Christmas Eve (not to mention the lowering of an angel from a hatch in the ceiling precisely at midnight, to the blasting sound of a group of trumpets). The Moravians introduced instrumental music in Greenland, especially brass instruments and violins. No wonder that this more colourful presentation of Christianity was attractive. They were also active in gardening, and of course they established a school. They had a print shop, and the authors point out that the Moravians published the first book ever printed in Greenland.

Another interesting feature to which the authors draw attention is the internationalism of the Moravian mission in contrast to the provincialism of the Danish mission. The Moravians had connections to sister missions around the world, and they kept contact with the centres in Europe through regular letters and periodicals.

Interesting too is the 19th-century division of the Greenlanders into two groups: those living around the Moravian mission, and the rest, living in closer contact with the Danish mission. This division had a consequence: the Moravian Greenlanders lived a more traditional life, and it was among them that the so-called "Greenlandic soul" was to be found when the awakening of national, Romantic feelings in Greenland gave rise to collections of myths and sagas.

The authors follow the Moravians up to their departure from Greenland in the year 1900 and point out that a major reason for their departure was the Danish animosity to Germans after their defeat in the war of 1864, when a substantial part of Denmark was lost to Prussia.

The remaining part of the book describes alterations to the original Moravian building for various uses. It served as housing for teachers, missionaries, and travellers such as Knud Rasmussen, and for a long period it was home to the manager of a fox farm established in the surroundings. After World War II, it became the official residence of the first chief constable in Greenland. This chief constable promoted the