After what surely was a life-changing experience, many FIDS personnel simply returned to their previous lives. The recruiters used to stress that FIDS was not a career opportunity. However, it changed the lives of some for ever. The late R.M. (Fritz) Koerner, who was recruited by FIDS the same year as Bod Shaw but worked on a different base, went back to university and then served on AINA's Devon Island Expedition and the British Trans-Arctic Expedition before becoming Canada's leading glaciologist. Bod Shaw became the Senior Meteorological Observer at the McGill Sub Arctic Research Laboratory in Schefferville, Québec-Labrador. He was one of a number of FIDS people who worked at the Laboratory over the years, training Canadian students, many of whom went on to conduct polar work of their own. His sea ice experience helped make him a pioneer of the Lab's productive lake ice research program. After the Lab, Bod Shaw taught at a rural school in Britain where weather observing and snow observations were an important part of the curriculum.

This attractive book will please a wide age range of readers, both those with polar experience and those whose polar experience is through reading.

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STEFANSSON, DR. ANDERSON AND THE CANADIAN ARCTIC EXPEDITION, 1913–1918: A STORY OF EXPLORATION, SCIENCE AND SOVEREIGNTY. By STUART E. JENNESS. Gatineau, Quebec: Canadian Museum of Civilization, 2011. ISBN 978-0-660-19971-9. Mercury Series, History Paper 56. xxiv + 415 p., maps, b&w illus., appendices, references, index. Softbound. Cdn$39.95.

After the return of the Canadian Arctic Expedition of 1913–18, the Canadian government initially planned to publish the expedition's scientific results in 10 (later increased to 17) volumes, which would include a total of 78 individual reports. What ultimately appeared were 13 volumes comprising 64 individual reports. Strikingly absent from the final total is Volume I, which was to have contained Part A, *Narrative of the Northern Party 1913–1918*, by the overall expedition leader Vilhjalmur Stefansson, and Part B, *Narrative of the Southern Party, 1913–1916*, by Rudolph M. Anderson. In terms of the Northern Party's activities, this striking absence of the official general accounts of the expedition is explained by author Stuart Jenness (son of the expedition's anthropologist, Diamond Jenness) as follows: "Unfortunately Stefansson was busy enriching his reputation and his pocket at the time by publishing and lecturing across the U.S. and Canada about the 'friendly' Arctic" (p. 312). The absence of an account of the Southern Party's activities was due to the fact that its leader, Dr. Rudolph Anderson, was too busy with his duties as general secretary of the editorial committees for the series and (from 1920) as the chief of the Biology Division of the Geological Survey of Canada.

Stefansson's book, *The Friendly Arctic* (1921), being a popular account, scarcely filled this lacuna, especially since Anderson and W.L. McKinlay (the expedition's meteorologist) found "many errors of fact in Stefansson's book and disagreed violently one hundred percent with both the book's title and its central theme…" (p. 312). But now, for the first time, Stuart Jenness has effectively filled this conspicuous gap in the expedition's series of reports. His book presents in considerable, interesting detail not only the complex and intricate activities of both parties, but also the story of the loss of the expedition ship, *Karluk*, with subsequent substantial loss of life, and the details of the bitter and protracted feud between the two leaders of the expedition, Vilhjalmur Stefansson and Rudolph Anderson.

Stefansson originally conceived the expedition as a small endeavour aimed at possibly discovering new land to the north and northwest of the Canadian Arctic Archipelago and at locating the boundary of the continental shelf. He initially obtained a promise of financial support from the National Geographic Society, with a promise of matching funding from the American Museum of National History. Stefansson then approached the Canadian Prime Minister, Robert Borden, who undertook to underwrite the entire expedition if Stefansson became a Canadian (i.e., British) citizen, and if a cadre of scientists reporting to the Geological Survey of Canada were added to the expedition. This is the origin of the two parties: the Northern Party to pursue Stefansson's initial aims, and the Southern Party to map the Arctic coast from Cape Parry east to Kent Peninsula and make a wide range of scientific observations and collections. The Northern Party was to report to the Department of the Naval Service, and the Southern Party to the Geological Survey of Canada.

Under the command of Captain Bob Bartlett, the expedition's main vessel, *Karluk*, sailed from Victoria, British Columbia, on 17 June 1913. After calling at Nome and Teller, Alaska, she headed north through Bering Strait and round Point Barrow but became beset in the ice and drifted, first east then west, only a relatively short distance offshore. On 19 September Stefansson headed ashore by dog sled to hunt caribou, accompanied by ethnographer Jenness, photographer Hubert Wilkins, his secretary Burt McConnell, and two Iñupiat.

Thereafter the ice drift carried *Karluk* west and northwest, until she was ultimately crushed north of Herald Island (Ostrov Geral'da). Before she sank, a relatively comfortable camp was established on the ice, from which Bob Bartlett organized the retreat south to Wrangel Island (Ostrov Vrangelya). Unfortunately, seven men did not even reach the relative safety of Wrangel Island. From there, Bartlett and an Inuk succeeded in crossing Long Strait to the

Siberian mainland and ultimately reached St. Michael and Nome, where through Bartlett's efforts, a rescue operation was mounted. The survivors on Wrangel Island were saved, although unfortunately there had been two further deaths on the island in the interim.

In the meantime the expedition's other two vessels, *Alaska* and *Mary Sachs*, with the Southern Party under Rudolph Anderson onboard, had become beset off Collinson Point, near Camden Bay on Alaska's North Slope, and the party was forced to winter there. On reaching Collinson Point, Stefansson tried to insist that Anderson provide him with one of the vessels, provisions, and equipment, so he could continue his search for new land in the Arctic Ocean despite the loss of *Karluk*. This demand greatly exacerbated the already strained relations between the two men and alienated all the scientists of the Southern Party. With what he had managed to requisition from the Southern Party, additional provisions that he obtained on the North Slope, a vessel (*North Star*) that he bought, and two men whom he recruited (Storker Storkerson and Ole Andreasen), Stefansson was able to proceed with his original plans.

On 22 March 1914, accompanied by Storkerson and Andreasen, Stefansson set off north from Martin Point on the North Slope with one sled, six dogs, food for a month, two rifles, and 160 rounds of ammunition. Sounding the depth on 22 April, they were unable to find bottom with 4500 feet of wire, which indicated that they were beyond the edge of the continental shelf. Swinging east, the party reached Norway Island, off the west coast of Banks Island, on 25 June. Stefansson had thereby proved his hypotheses that one could survive by hunting anywhere in the Arctic, and that there was no land in the section of the Arctic Ocean that they had traversed.

Over the three following seasons, building on the efforts of a complex system of support parties, Stefansson mounted two more forays out across the ice of the Arctic Ocean, but starting from points farther north. In the spring of 1915, he was again able to locate the edge of the continental shelf, but in 1917 he was forced to turn back when the two men accompanying him became ill with scurvy. His other achievement during those field seasons was to discover and explore some of the last islands to be discovered in the Canadian Arctic, namely Brock Island, Borden Island (later found to be two islands, Borden and Mackenzie King), Lougheed Island, and Meighen Island.

Stefansson mounted the last of these journeys in 1917, despite having received direct orders from the Department of Naval Service to terminate his expedition in 1916. He was even planning a further operation in the summer of 1918, namely a foray north from Prudhoe Bay in order to establish a drifting station that he hoped would result in a trans-Arctic drift. This plan was foiled, however, when he became seriously ill with typhoid, which developed into pneumonia and pleurisy and forced him to go south. Thus ended Stefansson's involvement in the Canadian Arctic Expedition.

Meanwhile the Southern Party under Dr. Anderson was doing its best to fulfill its mandate despite uncooperative ice conditions and Stefansson's interference. That mandate was "to map the geology and geography of a hundred-mile-wide band of coast between Cape Parry and Bathurst Inlet" (p. 219), as well as to pursue archeological and anthropological studies of the Copper Inuit, plus biological studies of mammals, birds, plants, insects, and marine life. In 1913, completion of this ambitious programme was thrown into jeopardy when the party's vessels became beset at Collinson Point, and one might have thought that their first winter would be wasted since they were so far from their field area. But in the spring of 1914, O'Neill and Cox completed geological and topographic surveys of the Firth River and Diamond Jenness spent two months excavating a Thule site at Barter Island, while over the winter and spring Anderson made extensive collections of birds and mammals at Collinson Point, which were also relevant to the planned field area. And in June, Chipman, Cox, and O'Neill carried out detailed surveys of the major channels of the Mackenzie Delta.

In August 1914, the Southern Party under Anderson finally reached its field area onboard *Alaska* and *Mary Sachs* and established its base at Bernard Harbour. Over the following two years, the scientists of the Southern Party completed detailed geological and topographic surveys of the coast west to Darnley Bay and east to and including Bathurst Inlet. Meanwhile, Diamond Jenness completed extensive ethnographic studies in the Bernard Harbour area, southwestern Victoria Island, Coronation Gulf, and Bathurst Inlet. On 13 July 1916, the entire party left Bernard Harbour onboard *Alaska*, bound for Herschel Island, Nome, and finally Seattle, which they reached on 11 September 1916.

This account represents the barest outline of the activities of the Canadian Arctic Expedition. In his book, however, Jenness has detailed exhaustively all the complicated logistics not only of Stefansson's own travels, but also the intricacies of his support parties' movements, as well as those of the different components of the Southern Party. In general he is extremely critical of Stefansson, stating, for example, that "for Stefansson, public image was of vital importance, for he made his living by public lectures, writing and getting newspaper publicity. But for the dedicated scientist [Diamond] Jenness, Stefansson's actions amounted to intolerable and unscientific interference" (p. 318–319). He is also very critical of Stefansson's repeated changes of plan, usually without consultation, which resulted in a great deal of wasted time and effort for his various support parties. Furthermore he was very critical of "Stefansson's uncontrolled mishandling of government funds" and of "the many extravagant cheques that Stefansson distributed around the Arctic in rebuilding and operating his new Northern Party" (p. 323) after the loss of *Karluk*. The original estimate for the cost of the expedition had been $50 000; the final figure was $559 972, plus the scientists' salaries. Such expenditure during wartime was seen as being particularly excessive.

At the same time, Jenness does recognize Stefansson's considerable achievements: "Stefansson had pulled off

an incredible feat when he revised his original plans after the disappearance of the *Karluk*, trekked hundred of miles along the north coast of Alaska from Barrow to the Mackenzie River, and emerged with a schooner, new supplies, and all the manpower he needed to carry out his exploration programme—all within a few short months" (p. 114). And again: "The Canadian Arctic Expedition 1913 – 1918, in spite of its tragic losses of life and shocking over-expenditures, was the most successful northern accomplishment in the early years of the twentieth century… [Stefansson's] Expedition was the vision of a remarkable Arctic explorer…" (p. 336).

Jenness cannot be faulted for his thorough and accurate use of archival sources, but he appears to be less familiar with the published literature. Thus, in discussing Stefansson's citizenship (p. 16), he correctly reports that on 3 May 1913 Stefansson took the oath of allegiance to King George V, implying that he thereby became a naturalized Canadian citizen (although born in Canada, he had lost his Canadian citizenship when his father became a naturalized American while Stefansson was still a child). But as Cavell and Noakes (2009:239) have pointed out, Stefansson did not complete two other requirements for becoming a Canadian citizen; thus, since his swearing the oath of allegiance meant that he had lost his American citizenship, he had not officially become a Canadian, and in fact was stateless from 1913 until 1937.

On p. 75 – 76 Jenness reports that the Russian icebreaker *Vaygach* had been within 10 miles of Wrangel Island on 4 August, when her captain heard a radio report of the start of World War I and was ordered back south to Anadyr, which implies that the Russians left the *Karluk* survivors in the lurch. In fact, on 4 August *Vaygach* was at Cape Dezhnev, in the narrows of Bering Strait, while her sister ship *Taymyr* was visiting Nome specifically to get further details of the situation at Wrangel Island. On learning of the start of the war, *Taymyr* proceeded to Anadyr, where she contacted St. Petersburg; the two icebreakers were ordered "to proceed with our mission" (Starokadomskiy, 1976:188). Meanwhile *Vaygach* had been trying to reach Wrangel Island but had become solidly beset in Long Strait within sight of the island on 12 August. In the battle with the ice she lost one blade from her propeller and at one stage was immobilized by an ice tongue jammed in the propeller. After coaling from a collier at Kolyuchinskaya Guba, both icebreakers made several further attempts to reach Wrangel Island, but were defeated by the ice on each occasion.

On p. 44, Jenness reports the "loss of all hands" from G.W. De Long's ship, USS *Jeannette*, after their ship was crushed by the ice north of the New Siberian Islands [Novosibirskie Ostrova] in 1881. In fact, of the 33 members of her crew, 21 of them reached the Siberian mainland, although only 12 ultimately survived (De Long, 1884).

But all these errors in Jenness's text pertain to topics that are really peripheral to the main theme of the book, and they do not significantly detract from it. Jenness is to be congratulated on having produced the first complete account of all the intricacies of the Canadian Arctic Expedition 1913 – 18.

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GRØNLANDS TEKNOLOGIHISTORIE [THE HISTORY OF TECHNOLOGY IN GREENLAND]. By HANS P. STEENFOS and JØRGEN TAAGHOLT. Copenhagen: Gyldendal, 2012. 631 p., maps, illustrations, index, bib., index. In Danish. Hardbound and e-book. Price DKK350; US$62.00.

September 2012 saw the least sea ice ever recorded in the Arctic basin. Not only was the Northwest Passage open across the top of North America, but a Northeast Passage lay open across the top of Siberia as well. Earlier, satellite observations had shown that the entire surface of the inland ice in Greenland had unmistakable signs of thaw and that an ice floe twice the size of Manhattan had detached from Petermann Glacier in northwest Greenland. It is clear that the Arctic is warming rapidly. Although there are still many details to be filled in, all signs point to greater accessibility and more benign working conditions across much of the Arctic.

The History of Technology in Greenland provides a timely, nearly encyclopedic account of the development of Greenland's technological infrastructure beginning in the 18th century, through World War II and ending in the first decade of the 21st century. During this time Greenland was transformed from a hunting society into a modern industrial society that differs little from that of mainland Europe.

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