

THE ARCTIC JOURNAL OF CAPTAIN HENRY WEMYSS FEILDEN, R.A., THE NATURALIST IN H.M.S. *ALERT*, 1875–1876. Edited by TREVOR H. LEVERE. London: The Hakluyt Society, 2019. ISBN 978-0-35637-8. xxxi + 400 p., maps, colour and b&w illus., references, appendices. Hardbound. Cdn\$203.32.

Following its intensive, expensive, and largely fruitless search for Sir John Franklin's missing expedition over a period of seven years (1848–55), the British Admiralty, not surprisingly, showed no interest in exploration of the Arctic for over a decade thereafter. A campaign by former naval officer, Sherard Osborn, to persuade the Lordships of the Admiralty that Great Britain should again engage in Arctic exploration was unsuccessful (Osborn, 1865; 1868). The arguments of Clements Markham, Secretary of the Royal Geographical Society, also failed to change their Lordships' minds (Markham, 1873). But, as Trevor Levere has documented in his introduction to Captain Feilden's journal (p. 2), the arguments of Sir Roderick Murchison, President of the Royal Geographical Society, with the support of the Royal Society and the Linnaean Society were more successful. In October 1874 the then President of the Royal Geographical Society, Sir Henry Rawlinson, wrote to Prime Minister Benjamin Disraeli asking him to give his blessing to an Arctic expedition, having already obtained the support of the hydrographer of the Navy, Captain Sir Frederick Evans. Disraeli gave his approval.

There can be little doubt that the decision to mount the British Arctic Expedition of 1875–76 was influenced by the recent activities of other nations over the previous few years. In 1868, the Swede A.E. Nordenskiöld had led an expedition to northern Svalbard on board *Sofia* and had reached a record high latitude of 81°42' N (Torell and Nordenskiöld, 1869), followed by a more ambitious attempt at reaching the North Pole from Svalbard in 1872–73 (Nordenskiöld, 1873). Earlier, in 1868, Karl Koldewey led a German expedition on board the ship *Grönland* to explore the northeast coast of Greenland (Koldewey and Petermann, 1871). This was followed in 1869–70 by a more ambitious (and more successful) German expedition led by Koldewey on board the ships *Germania* and *Hansa*, again to the northeast coast of Greenland (Koldewey 1874). Then in 1872, an Austro-Hungarian expedition led by Karl Weyprecht and Julius Payer on board *Tegetthoff* pushed north along the west coast of Novaya Zemlya. When the ship became beset in the ice, and the ice-drift carried it to the shores of previously undiscovered Franz Josef Land, Payer explored a major part of that archipelago (Payer, 1876). Finally, in 1871–73, an American expedition led by C.F. Hall on board *Polaris* successfully pushed north through the entire length of what would later be named Nares Strait, and even into the Lincoln Sea, i.e. the Arctic Ocean, attaining a record high latitude of 82°11' N (Davis, 1876; Bessels, 2016). As Trevor Levere has pointed out (Levere, 1993, p. 263), this foreign competition “was undoubtedly a factor in piquing British pride” and

undoubtedly played a role in the decision to mount the British Arctic Expedition of 1875–76.

The man selected to lead the expedition was Captain George Strong Nares, the youngest serving officer to have earlier participated in the search for Franklin where he served as Mate on board HMS *Resolute* under Henry Kellett in 1852–5 and gained the personal experience of man-hauled sledging (Nares, 1855). When the decision was made to appoint him leader of the British Arctic Expedition, he was commanding HMS *Challenger* on its round-the-world voyage of scientific research, which even reached the sub-Antarctic (Linklater, 1972). A telegram to inform him of his new appointment reached him in Hong Kong along with orders to return to Britain.

Since it was intended that the focus of the new expedition would be on scientific research as much as on geographical exploration, the Royal Society organized a comprehensive “Greenland Manual” edited by geologist T. Rupert Jones for the guidance of the expedition's naturalists (Jones, 1875).

Two ships were assigned to the expedition: HMS *Alert* was a steam sloop (a sailing vessel with an auxiliary steam engine) of 751 tons displacement and with an engine of 100 hp. The *Discovery* (formerly the whaling and sealing vessel *Bloodhound*) was a vessel of 566 tons with an engine of 96 hp (Fleming, 2001). *Alert* was commanded by Nares himself, while *Discovery* was under the command of Captain Henry Stephenson. A naturalist was appointed to each of the ships, Feilden holding that position on board *Alert*, while the naturalist on board *Discovery* was Henry C. Hart. Unfortunately, Dr. Edward L. Moss the surgeon on board *Alert* (Appleton and Barr, 2008) had been led to believe that he was also that ship's naturalist, inevitably leading to friction between the two men. In several places in his journal, Feilden evidently made some quite negative remarks about Moss but later, perhaps troubled by his conscience, he heavily redacted them. In one instance he even cut out, with a razor or knife, a fairly lengthy paragraph, which, from the context, must have dealt negatively with Moss (reproduced on p. 151).

Nares's sailing orders specified that he should head north up Smith Sound, his primary objective being “to attain the highest north latitude and, if possible, to reach the North Pole, and from winter quarters to explore the adjacent coasts within the reach of traveling parties ...” (Nares, 1878, vol.I:xi). There are clear echoes in these orders of the frustrations which had been experienced during the searches for Franklin's expedition., during which only one written document was ever found long after the British Navy had abandoned the search. Nares was instructed to build cairns at conspicuous points, preferably not more than 60 miles apart, with messages as to his progress and intentions (Nares, 1878). Furthermore, *Discovery* should not proceed beyond 82° N, and *Alert* should not winter beyond 200 miles north of *Discovery*'s winter quarters so that, if *Alert*'s crew were forced to abandon ship, they could fall back on the latter. Six months of *Alert*'s provisions should be left with *Discovery* in case of that possibility (Nares 1878).

Alert and *Discovery* put to sea from Portsmouth on 29 May 1875 and were joined at Spithead by *Valorous*, a paddle-steamer laden with coal and provisions. They encountered some foul weather and rough seas in mid-June and caught the first sighting of the Greenland coast, near Cape Desolation, on 29 June. On 6 July the three ships reached Disco where coal and supplies were transferred from *Valorous* to *Alert* and *Discovery*. Feilden made a couple of trips ashore to study the geology, vegetation, and birds. After calling at Ritenbenk, *Alert* and *Discovery* ran north through the Vaigat to Proven then Upernivik and were only slightly delayed by ice in Melville Bay, arriving off Cape York by 25 July. On the 27th they reached the Carey Islands where a cairn was built and a depot of provisions and a message left. The two ships reached Cape Alexander on the 28th, then brief landings were made near Littleton Island and at the site where some of the crew of Hall's *Polaris* had wintered after their sinking ship had been beached (Davis, 1876; Bessels, 2016). Crossing Smith Sound to Brevoort Island, just off Pim Island, the ships were delayed by ice for several days. Having rounded Cape Sabine, both ships reached Victoria Head by 7 August where *Alert* became nipped by ice and its rudder was temporarily hoisted out of harm's way. Rounding Cape Frazer on 19 August, the ships ran steadily north along Kennedy Channel; by the 24th they were passing the mouth of Lady Franklin Bay, and on 25 August reached Discovery Bay, which was selected as *Discovery*'s wintering site. Next day *Alert* pushed on northwards along Robeson Channel. On 1 September it rounded Cape Union, thereby reaching the Lincoln Sea. On 3 September just past Cape Rawson, and at the present site of Canadian Forces Station Alert, the ship reached a series of massive grounded ice floes, or "floebergs" as they became known, which left sufficient depths of water on their landward side to provide a secure, sheltered anchorage for the ship. This became *Alert*'s winter quarters, the stranded ice floes sheltering them from ice pressures throughout the winter.

By 19 September new ice was forming, and by the 21st it was bearing a man's weight. Right from the start, Feilden made a habit of taking a daily walk on shore, usually to Cape Sheridan for up to four hours, making observations on the vegetation, landforms, driftwood, etc, even after the sun set for the winter on 11 October. On 24 November he noted that he did not feel cold while walking at a temperature of -46°F (-43.3°C). From 29 November onwards, he and others confined their walking to a circuit of half a mile on the sea ice, which they had marked with empty meat cans (Markham, 1878). Crew members were obliged to spend two hours exercising every day, in some cases tobogganing on a convenient nearby hill. From 10 January 1876 Feilden resumed his walks on shore, especially on moonlit nights, although it was not until 2 March that the sun was seen again for the first time.

On 1 November, a school was started for almost the entire crew in the evenings, the instructors being the officers including Feilden, and the main subjects taught

were reading, writing, history, arithmetic, and navigation (Markham, 1878). Then on the evening of 11 November, the first of a series of weekly Thursday Popular Entertainments were held. These involved a lecture by one of the officers followed by songs and readings. Handbills of the program were produced on a shipboard printing press and in every case reproduced by Levere. These "Thursday Pops" continued until 24 February. Amateur theatrical performances were also held on a couple of occasions in lieu of the Thursday Pops, and here too Levere has included a reproduction of the printed handbill in full—five pages long in the case of the performance on 18 November.

On 3 April the two major man-hauling sledging parties from *Alert* set off, one led by Albert Markham, which would follow the coast northwestwards to Cape Joseph Henry and then head due north in an attempt at the North Pole while the other, led by Pelham Aldrich, would head west and southwest along the northwest coast of Ellesmere Island. On 16 April a two-sledge party led by Lewis Beaumont and Richard Coppinger arrived from *Discovery*, then on the 20th they set off again, eastward-bound, to explore the north coast of Greenland.

Feilden was not involved in the expedition's major man-hauling sledging trips but he did make several quite extensive trips by dog-sledge; thus between 24 and 30 April, along with William May and several men (one of whom drove the dogs), he traveled southeast and south past Cape Union to Lincoln Bay and then back overland to the ship. On 11 May he set off northwestwards with George Egerton and several men, bound for the United States Range. They had hoped to climb Mt. Cheops, but it turned out to be much farther than they had estimated and had to turn back. They were back at the ship by 24 May, having covered 140 miles (excluding minor side-trips). Along with Captain Nares and William May, Feilden set off northward on his third dog-sledge trip on 25 May. They reached and crossed Feilden Peninsula to within sight of James Ross Bay and climbed Mt. Julius (Nares, 1878). They were back at the ship by 7 June.

The following day brought a very unpleasant surprise: Alfred Parr, one of Markham's party returned with the news of an outbreak of scurvy among that party. Out of 15 men only five, apart from Markham and Parr, were fit to haul the sledges. A relief party, led by Nares, set off northwards immediately. With their assistance Markham and the rest of his party returned on 14 June to report that one man had even died of scurvy. Moreover, Markham and his men had encountered an endless chaos of pressure ridges and reached only $83^{\circ}20'30''\text{N}$; although this was a record high latitude by a small margin.

During a short sledging trip to the north on 23 June, Feilden met Aldrich's party returning from the west. Its members too were suffering severely from scurvy but despite this had reached Alert Point, having discovered and mapped about 400 km of the northwest coast of Ellesmere Island. On the basis of this scurvy outbreak (there were also cases of scurvy on board *Alert*), Nares decided to abandon

any plan of remaining for a further winter and to return to Britain in the fall.

By 23 July there were extensive leads visible outside the floebergs, and after some ice had been blasted to eliminate several barriers, *Alert* was able to get under way, southward bound, on 30 July. Some close ice brought the ship to a halt for a few days but on 11 August it rejoined *Discovery* at Discovery Bay. At this point Nares and his men learned that Beaumont's sledging party had also suffered severely from scurvy.

Both ships started south on 20 August, reaching Disco on 25 September and continuing south three days later. On 27 October *Alert* reached Valentia in southwest Ireland where Feilden landed along with Nares, Moss, and Pullen. They reached Dublin on 28 October and London (by ferry and train) on the 29th. Later that day Feilden was back home in Woolwich.

Henry Feilden was a remarkably devoted field researcher. In his official report to the Admiralty, as cited by Levere in his introduction (p. 24), Nares wrote that “no(t) one moment has been lost by this indefatigable collector and observer.” A striking feature of Feilden's journal is the extremely strong emphasis on his wide-ranging scientific observations on almost every aspect of the natural environment, often made on a microscopic scale. One thinks of his microscopic study of parasitic worms in the feces of an Arctic hare (*Lepus arcticus*) he was dissecting on 19 February 1876 (p. 198). In great detail he discusses vegetation, terrestrial mammals, avifauna, geomorphology (especially the raised beaches of northern Ellesmere Island caused by glacio-isostatic uplift), and bedrock geology including fossils. Particularly striking is his detailed reporting on the return of the migratory bird species in spring when he collected large numbers of adult and young birds and their eggs. His almost obsessive search for a nest or eggs of the Red Knot (*Calidris canutus*), whereby he had to be satisfied with a report by one of his colleagues of seeing some young birds, is the epitome of the focus and dedication of a field scientist in action. In short, Feilden's journal will be particularly appealing to almost any Arctic scientist. Significantly, Feilden contributed the appendices on mammalia, ornithology, and ethnology and co-authored the appendix on geology in Nares's account of the expedition (Nares, 1878). The emphasis on scientific aspects with the plethora of Latin names of species throughout the journal may make it less appealing to the average non-scientific reader.

Also worthy of mention is the fact that Feilden was quite a competent artist. Levere has included 17 of his watercolours in colour, the subjects ranging from details of rock strata, to icebergs, to a view of the settlement of Proven, to details of a holothurian (sea cucumber). Also scattered through the text are numerous black-and-white sketches of a wide range of features. Good examples are Feilden's sketch of a Rock Ptarmigan (*Lagopus muta*) seen from the door of his tent (p. 261) and an Arctic hare running upright on its hind legs (p. 256). Could this sketch and Feilden's description of his encounter with this rather

striking but quite common phenomenon be the first time that it was mentioned in the scientific literature?

The corollary of his emphasis on science is Feilden's striking failure to mention interesting aspects of daily life on board *Alert*, which are an important feature of most accounts of Arctic winterings. For example, the only mention of the evening classes for crew members is that it was “the most irksome thing that I have had to encounter in the Arctic” (p. 184). Similarly, he makes no mention of the fact that he played the role of the Widow Twankay in the play “Aladdin” on 23 December; this is revealed only by the fact that Levere has reproduced the handbill of the program and also a sketch of the Widow Twankay by George Egerton, which had been tipped into the journal. Feilden even omitted what must have been a particularly exciting event. On the way back south, while on shore at Shift-Rudder Bay on 10 August (p. 309), Feilden noted, “Walked to the spot where I killed a musk-ox last year, which knocked me down.” But in his journal entry for the day in question (28 August 1875) (p. 102) there is no mention of this dangerous encounter. More surprising perhaps, is that while mentioning the return of Beaumont's party to Discovery Bay on 14 August (p. 310), Feilden failed to mention that his party had also suffered a severe outbreak of scurvy and that two men had died of the disease (Nares, 1878 II).

Levere has contributed a very useful introduction to Feilden's journal in which he summarizes the background to the expedition, Feilden's own background, the instructions which Nares received, and a fairly detailed summary of the expedition's progress. A particularly useful appendix is Levere's list of scientific (Latin) names for species, along with the common English names—this in view of the fact that Feilden commonly used only the scientific names. Levere's numerous footnotes are invariably very useful.

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ANTARCTIC RESOLUTION. Edited by GIULIA FOSCARI/UNLESS. Zürich: Lars Müller Publishers, 2021. ISBN: 978-3-03778-640-6. 975 p., maps, colour and b&w illus., bib., index. Cdn\$82.00.

At 975 pages, weighing over three kilograms, and with a spine that is seven centimetres in width, this book is big, bold, and in-your-face. There is no soothing reappraisal of familiar polar adventures to be found here, no lengthy tales of heroic sacrifice and patriotism. The casual Antarctic enthusiast who hefts this tome onto his or her lap and begins reading, does so at their peril. But once the pages begin turning, the reader is in for a visual and intellectual feast. Published in time to mark the hundredth anniversary of the first sighting of the continent in 1820 (by Belgian Fabian Gottlieb von Bellingshausen on 27 January, Irishman Edward Bransfield on 30 January, or American Nathaniel Brown Palmer on 20 November depending on whose evidence you support), Italian-born editor Giulia Foscari has produced a sweeping and masterful study of the evolution of Antarctica’s architecture from the earliest, most rudimentary hut built by Carsten Borchgrevink’s team at Cape Adare on Northern Victoria Land in 1899, to the latest futuristic scientific research bases built by Brazil and China. This volume is particularly timely given that many aging bases are being abandoned (Argentina’s Belgrano I, Germany’s Filchner), dismantled (South Africa’s Sarie Marais), destroyed by fire (Brazil’s Comandante Ferraz), or closed (America’s Byrd, Russia’s Leningradskaya). These were never meant to be permanent year-round structures that lasted forever, and the rate of infrastructure loss and subsequent replacement is likely to escalate in the future.

The arresting design of the book commands attention and merits its consideration front and centre in this review. Foscari is an architect and founder of UNA-UNLESS, a non-profit organization conducting research on extreme environments. Her daring choice of colours and design elements in *Antarctic Resolution* ensures that the reader is kept transfixed throughout. Juxtaposing jarring neon orange text with evocative black and white archival images, technical architectural drawings, and detailed site plans with modern-day full-colour photographs depicting stark evidence of environmental change, Foscari’s attention to detail and thought-provoking design is apparent throughout. It may not appeal to every reader’s aesthetic sensibilities but it is riveting nonetheless. The editor has done a superb job in securing contributions from over one hundred and fifty leading polar scholars and practitioners from around the world and from a wide array of disciplines including aeronautics, anthropology, law, chemistry, glaciology, economics, architecture, history, literature, visual arts, engineering, biology, political science, and sociology. There is something here for everyone.

Few books have been written about Antarctica’s architecture. Work by Sheppard and White (2017) may be of interest from a theoretical perspective but architectural planning for the two polar regions is quite different. While