at that time) did what was necessary to achieve their objectives, namely to explore locally and record what was offered (e.g., meteorology, aurora, glaciology). They worked hard, but also had time to play and relax. A 115foot-deep shaft was dug by hand in compacted snow for study of annual layering and accumulation rate (p. 122). Dog-sledging was a means of transport to research areas. A number of poetic examples arise in the author's descriptions of events and surroundings. In discussions of plate tectonics, a subject not yet fully developed by geologists in 1957-58, Dewart describes the process very well, using current knowledge of this branch of geophysics. He adds that plate tectonics conveniently explains many seemingly unconnected phenomena that previously were little understood, like volcanism, distribution of earthquake epicenters, "and those geometrically striking volcanic island arcs that seem to hang like glowing necklaces around the margins of the Pacific Ocean." Dewart's philosophical thoughts and comments are interspersed throughout the book, revealing his views of events on earth.

Winter at Wilkes Station finally ends, and a ship arrives to relieve the station occupants and take them home. But to Dewart, the voyage is an opportunity to see much of the world that lies between Antarctica and his home base in California. Travel in Australia and Africa is included in his wanderlust. Valuable insights of the author, which illustrate his feelings and thoughts about the various cultures he encountered, are seemingly part of a young person's process of maturing and experiencing as much as possible at this early age. His philosophy about humankind has very thoughtful messages for all inhabitants on Earth, namely the "participants in an 'expedition' [which all of us are] precariously encamped on a tiny patch of livable ground in a vast, largely inhospitable universe. We must learn to live with ourselves as a community and with our limited sphere of beneficial natural surroundings. This basic lesson, about ourselves, is the most important thing that we bring back from our journey to the Ice Age" (p. 311).

I recommend the book to anyone interested in adventure, especially in a polar subject, as it describes in detail what is involved in field research and working with a diverse group of individuals. A single map of Antarctica on the last page provides sufficient geography for the reader, and a 21-page glossary defines many polar terms related to the narrative.

John Splettstoesser P.O. Box 515 Waconia, Minnesota, U.S.A. 55387 spletts@usfamily.net NIMROD: ERNEST SHACKLETON AND THE EXTRAORDINARY STORY OF THE 1907–09 BRITISH ANTARCTIC EXPEDITION. By BEAU RIFFENBURGH. London: Bloomsbury Publishing, 2004. ISBN 0-7475-7254-2. xxiv + 358 p., maps, b&w illus., notes, bib., index. Hardbound. £17.99.

In recent years the name Sir Ernest Shackleton has become almost universally known, at least in the English-speaking world, as a result of the several books, television documentaries and docu-dramas dealing with his Antarctic expedition on board Endurance, the Imperial Trans-Antarctic Expedition of 1914–17. It is ironic that in terms of Shackleton's goal, the first crossing of Antarctica, that expedition was a total failure, in that Shackleton did not even achieve a landing on the continent. The dramatic events of the expedition that have so caught the public imagination—from Endurance's drift in the ice of the Weddell Sea to the rescue of his crew from Elephant Island—all represent a spectacular recovery from a total disaster. Even more ironic is the fact that Shackleton's earlier expedition, the British Antarctic expedition of 1907-09, which is the subject of this book, and for which Shackleton earned his knighthood, was vastly more successful but till now has remained almost totally unknown to the general public. Significantly, the only previous narrative dealing specifically with this expedition is Shackleton's own account (Shackleton, 1909).

The roots of the expedition are to be found in the events of Captain Robert Scott's Discovery expedition, the British National Antarctic Expedition of 1901-04, on which Shackleton served as Third Lieutenant. Scott selected Shackleton to participate (along with Scott and Dr. Edward Wilson) in the main sledge trip of the expedition, which aimed to reach the South Pole from Discovery's winter quarters at Hut Point, McMurdo Sound. The trio advanced south across the Ross Ice Shelf to 82°17' S before dwindling supplies forced them to turn back. On the return journey, all three were showing signs of scurvy, but Shackleton worse than the others, and he was also suffering from shortness of breath and a persistent cough. He made a rapid recovery, but to his dismay, Scott insisted that he be invalided home on board the relief ship, Morning, although Discovery was to remain for another year, and further achievements would be made by the expedition.

The humiliation (as Shackleton saw it) of being invalided home stung him into mounting his own expedition. With a loan guaranteed by industrialist William Beardmore, Shackleton bought the old Newfoundland sealing ship *Nimrod* and began assembling his expedition team. But he now found himself hobbled by an unexpected constraint. Scott, who was himself contemplating a further expedition (which, of course, would not materialize until 1911), extracted a promise from Shackleton that he would not locate his base in McMurdo Sound, which Scott selfishly and presumptuously claimed as his own particular fiefdom.

Riffenburgh correctly characterizes this restriction (p. 110) as "absurd" and "preposterous."

Having been inspected by King Edward VII in the Solent during Cowes Week, *Nimrod* sailed from Torquay on 7 August 1907, bound for Lyttelton, New Zealand. Shackleton traveled there independently, calling en route at Sydney and Melbourne. In Australia, very fortuitously, he managed to recruit geologist Tanatt William Edgeworth David. While there, Shackleton also recruited physicist Douglas Mawson. These two men would contribute enormously to the scientific achievements of the expedition.

Nimrod sailed from Lyttelton on 1 January 1908, crammed full of equipment, provisions, and men, as well as an Arrol-Johnston motor-car specially adapted for operation in low temperatures, nine Siberian huskies, and 15 Manchurian ponies. Contrary to Fridtjof Nansen's explicit advice, Shackleton planned to rely mainly on the ponies for transport.

On 23 January, reaching the front of the "Great Barrier," now known as the Ross Ice Shelf, the ship swung east: Shackleton hoped to establish his base on King Edward VII Land or on the Ice Shelf nearby. But heavy pack ice prevented the ship from reaching King Edward VII Land, and despite his promise to Scott, Shackleton was forced to head back west to Ross Island and McMurdo Sound. In some quarters in Britain, he was strongly condemned for thus going back on his word. With access to Hut Point barred by fast ice, Shackleton was forced to establish his base at Cape Royds, some 40 m farther north on Ross Island. Here a comfortable, well-designed base hut was established, and then *Nimrod* departed.

While waiting for the sea ice to form to provide access to the Ross Ice Shelf, Shackleton decided, apparently almost on the spur of the moment, to attempt the first ascent of the active volcano, Mt. Erebus, towering behind the base camp. An ill-equipped party of six, with no previous mountaineering experience, set off on 5 March. They did reach the summit, but at great cost to one member: Philip Brocklehurst suffered severe frostbite, and one of his big toes later had to be amputated.

The 15 expedition members spent a comfortable winter at Cape Royds, carrying out meteorological and other scientific observations and making preparations for three main spring sledge trips. One of these began on 29 October 1908, when the South Pole party, consisting of Shackleton, Frank Wild, Jameson Adams, and Eric Marshall, each leading a pony pulling a sledge, set off south across the Ross Ice Shelf, parallel to the Transantarctic Mountains that towered to their right. By 26 November they were passing the spot where Scott's party had had to turn back.

Ascending the Great Glacier (now the Beardmore Glacier), the men quickly discovered that it was severely crevassed, and falling into crevasses to be saved only by the traces attaching them to the sledge became almost a routine occurrence. As they climbed steadily to a height of more than 10000 feet, the gradient gradually eased; they were the first men to reach the plateau-like surface of the

interior of the Antarctic Ice Sheet. By 6 January 1909, at 88° 07′ S, fighting blizzards and temperatures down to -40°, they realized that with their remaining rations the Pole was unattainable; as a secondary goal, Shackleton settled for the "magic" figure of 100 miles from the Pole (although even to attain that goal he switched from calculating in statute miles, which he had been using until then, to the longer geographical or nautical miles).

Leaving their last camp standing on 9 January, the four men made a final dash and at 9 a.m. decided they had attained this "second-best" goal. At 88° 23' S, 162°E, only 97 geographical miles from the South Pole, they stopped, raised the Union Jack, took some photos, and started back north. With the food remaining, they undoubtedly could have reached the Pole, but would inevitably have died in attempting to return to their last depot. As it was, they barely managed to stagger back to each depot in turn. Had it not been for strong south winds on the Ross Ice Shelf that allowed them to rig a sail on the sledge, thus increasing their speed, they would have succumbed. Marshall collapsed with cramps and dysentery, and while Adams stayed with him, Shackleton and Wild made a last, desperate forced march of 33 miles to Hut Point, reaching it on 28 February 1909. When Nimrod returned on 1 March, Shackleton immediately set off with a party to rescue Marshall and Adams.

Shackleton has long been praised for his decision to turn back only 97 miles from the Pole, thus saving the lives of himself and his companions. Riffenburgh has characterized this as "one of the most courageous acts ever performed by an explorer", one "that had taken a mettle, a fortitude, a strength of mind, character and spirit that set him apart from other heroes of his time," and which "elevated him to a higher pantheon of heroes than other polar explorers" (p. 232).

Even before Shackleton and his party had set off southwards, the Northern Party, consisting of Edgeworth David, Alistair Mackay, and Douglas Mawson, had set off northwards along the western shore of the Ross Sea. Their objectives were to conduct a geological survey of the Victoria Land mountains and, if possible, to locate the South Magnetic Pole. Following the coast northwards to just beyond the Drygalski Ice Tongue, the three men, manhauling, ascended the Larsen Glacier and penetrating northwestwards across the Ice Sheet, reached the South Magnetic Pole (72°15′ S; 155°16′ E, at a height of 7260 feet) on 16 January. The final stages of their retreat to a depot they had left at sea level were equally as desperate as those of Shackleton and his party. It had been arranged that Nimrod would pick them up again, but the fact that she managed to do so was the result of a pure fluke, in terms of timing and weather conditions.

The third major sledging party, the Western Party, consisting of Bertram Armytage, Philip Brocklehurst, and Raymond Priestley, was instructed to ascend the Ferrar Glacier and to study the geology, especially the fossils, of the surrounding mountains. But they were unable to

penetrate as far inland as they had hoped, because by prearrangement they were supposed to rendezvous with the Northern Party at Butter Point on New Year's Day. As it was, no fossils were found, and the party narrowly escaped death when, after returning to sea level, they found themselves adrift on an ice floe. Fortunately, they were able to regain the fast ice.

Riffenburgh's portrayal of this expedition is a very readable, well-researched, and well-crafted piece of writing, based on an impressive array of letters and diaries written by eight of the members of the expedition. From these sources the author brilliantly reveals the currents and counter-currents of interpersonal relations during the stresses of the wintering and of the sledge trips. Marshall's surprisingly vitriolic remarks about Shackleton (and others of his companions) underscore the fact that, as with so many other polar expeditions, all was not always "sweetness and light" as one might imagine from the official account.

The author goes to considerable lengths to place this expedition and others of the "heroic age" of exploration in the Antarctic and elsewhere within the context of attitudes in Britain as to the "destiny" of Britain and the British Empire. He also reveals enough of Shackleton's earlier career (especially his role in Scott's British National Antarctic Expedition) to place this expedition in perspective. Sensibly, however, given the amount of attention already paid to Shackleton's later *Endurance* expedition, he gives it only a passing mention.

The text is greatly enhanced by five simple but effective maps, showing the details of the Cape Royds area, the McMurdo Sound area, and the routes of the various sledge parties. A spread of 35 well-chosen photographs further complements the text.

Riffenburgh has produced a superb portrayal of the background, operations, and achievements of the British Antarctic Expedition, which he accurately characterizes as "Shackleton's most significant geographical accomplishments, greatest deeds and most momentous decisions" (p. xv). Members of his expedition were the first to climb Mt. Erebus and the first to reach the South Magnetic Pole; they pioneered the route up the Beardmore Glacier to the plateau of the Antarctic Ice Sheet, and they also accumulated a vast amount of solid scientific data.

As in the case of his later *Endurance* expedition, the picture of Shackleton that emerges from the *Nimrod* expedition is that of a man capable of inspiring enormous loyalty in his men, and of a leader taking great and real trouble and concern over his men's welfare. But it is also noteworthy that the author has stressed Shackleton's faith in "providence" or luck. That the expedition was so successful, despite the litany of near-disasters associated with almost every phase, would certainly make faith in his "lucky star" understandable.

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