

more, he describes the traditional conflict between the navy officers, with their nautical and geographical background, and the scholarly, biological approach of Steller.

After the Russians discovered the coast of Alaska, their return voyage turned into a disaster, caused by bad weather, lack of food and drinking water, and the outbreak of scurvy among officers and crew. Although the two ships crossed paths several times on the return voyage, they never made contact. Frost describes the miserable journey in the unknown archipelago before *St. Peter* ended its voyage as a wreck on Bering Island, only about 120 miles east of Kamchatka. This section of the book also suffers from a lack of detailed maps. Although commander Vitus Bering and many of his crew died here on the uninhabited island, most recovered thanks to Steller's treatments with green plants rich in vitamins and fresh meat from sea otters, as well as his general care, encouragement, and organization. The atmosphere charged with the animosity between Bering and Steller, which culminated while *St. Peter* was anchored near Kayak Island, changed to one of respect and admiration for Steller from the crew and officers, including Bering, before his death on Bering Island.

Frost has provided a thorough depiction of the 1741 voyage, drawing upon both the old reports and present knowledge. I have read the book with great interest, and though I knew quite a bit about Vitus Bering, I have learned much more. While the conference proceedings volume mentioned above draws upon various specialists and will appeal primarily to a similar audience, Frost's book will also be appreciated by people interested in geographic exploration or Arctic research and by those with a more general interest in history, human relations, and logistical problems.

REFERENCES

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IMPROBABLE EDEN: THE DRY VALLEYS OF ANTARCTICA. Essay by BILL GREEN; Photography by CRAIG POTTON. Nelson, New Zealand, Craig Potton Publishing, 2003. ISBN 1-877333-07-7. 128 p., color illus. Hardbound. NZ\$59.95.

This colorful book on the Dry Valleys—"a wilderness of stone surrounded by a wilderness of ice" (p. 10)—gives a striking view of one of the more beautiful parts of our planet. The area was first seen during Scott's expedition of 1901–04,

and since the beginning of the International Geophysical Year (1957–58), numerous visitors have been to this remarkable place on the west side of McMurdo Sound. Why are the Dry Valleys considered to be so important? The ecosystem there contains geological and biological features that date back not only thousands, but millions of years. The synergy of its location (a relatively short helicopter ride from the U.S. McMurdo Station and New Zealand's Scott Base) and a variety of compelling research projects has resulted in a large number of scientific discoveries. A few examples are endolithic algae living within interstices of rocks; mummified seals that crawled inland from the sea thousands of years ago to meet death upvalley; ice-covered lakes that are stratified by temperature and salinity (one of the lakes—Don Juan Pond—is so saline that it doesn't freeze in winter); and glacier-carved valleys once inundated by the sea. Concomitant studies show a complicated glaciated history, which produced a terrain so analogous to Mars and the Moon that astronauts have trained there. The Dry Valleys are part of the Transantarctic Mountains, which form a barrier to the ice sheet flowing slowly from East Antarctica toward the Ross Sea. That feature in itself has proved to be of tremendous value in the mining of thousands of meteorites found on the ice surface west of the Dry Valleys. Although several other "oases" of this sort (large areas free of snow and ice) exist in Antarctica (e.g., Bunger Hills, Larsemann Hills), no other has produced such a wealth of scientific return as the Dry Valleys of Victoria Land.

Because of the pristine nature of the area, strict controls are placed on all visitors, scientists and tourists alike. (Tourists make annual visits to Taylor Valley under the guidance of New Zealand and U.S. authorities, which manage their presence there so they do not interfere with science programs.) One of the valleys (Barwick) has been declared off-limits to everyone in an attempt to isolate the valley as an environmental baseline—an example of what they all may have looked like prior to discovery. Barwick provides a means of comparison with the other valleys, where considerable presence for science has occurred.

This book, however, is not about science, although a few comments related to science have found their way into parts of the text. The author (Bill Green), a chemistry professor from Miami University in Ohio, conducted research on geochemical processes in the ice-covered lakes in the Valleys during nine seasons, beginning in 1968. Some of the content, excerpted from his field journals and diaries, reflects the magic that he experienced while working there. The main text, p. 8–35, describes the uniqueness of the Dry Valleys and their charm, and the remainder of the book, starting with p. 37, consists of color photos of Taylor Valley, Wright Valley, and Victoria Valley, three of the more prominent features of the carved topography. The photos, accompanied by short captions, were taken by Craig Potton from New Zealand, a leading wilderness landscape photographer, as well as the publisher of the book. A map, or perhaps a satellite image of the area, shows the main features, bounded by about 77.25° to 78° S latitude and 160° to 164° E longitude. The

book's dimensions (25.5 × 31 cm) illustrate to full advantage the remarkable photo record of this part of Victoria Land. Errors are few and of no consequence, involving proper geographic names. The map (p. 13) labels "Dais" as "The Dias," consistently misspelled on three pages in the text. "Upper Wright Glacier" on the map is called "Wright Upper Glacier" on p. 93 (the latter is correct), and Mt. Cerberus is mistakenly spelled "Cerebus" on p. 113 and 128. On p. 21, the author has the wrong year that Scott wintered at Hut Point Peninsula (1911 instead of 1901), which could be a simple typo. Wintering actually occurred on the expedition ship, not in the hut.

I recommend this book for anyone who appreciates the beauty of wilderness areas and the photos that illustrate their attributes, or who collects books on the polar regions. This one should not be overlooked. The 100 or so color photos alone, all on high-quality paper, make it well worth the price (NZ\$59.95 equates to about US\$42 in mid-2004).

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BRADFORD WASHBURN: A LIFE OF EXPLORATION.

By MICHAEL SFRAGA. Corvallis: Oregon State University Press, 2004. ISBN 0-87071-010-9. 260 p., maps, diagrams, b&w illus., notes, bib., index. Softbound. US\$24.95.

Henry Bradford Washburn Jr. is an historian's dream come true. Not only has he amassed an astonishing legacy of exploration, photographs, maps, and scientific investigation (easily enough to befit two men), but he is very much alive at 94 years of age and still able to recall past events. The material that Sfraga draws upon includes resources held in the Alaska and Polar Regions Archives at the University of Alaska, Fairbanks (over 9000 photographs, equipment, clothing, cameras, diaries, notes, and expedition log books); expedition accounts published in the *National Geographic Magazine* and elsewhere; and personal interviews with Washburn and Robert H. Bates, a member of Washburn's early expeditions. Many people contributed information in several research areas, as noted in the acknowledgements.

This book is a scholarly one, with large contributions from Sfraga's doctoral thesis on the history of science in Russian America. There are five chapters. In Chapter 1, we learn about the young 'Brad' and see how the seeds of his passion for exploration germinated. For instance, he found that climbing Mt. Washington in New Hampshire improved his hay fever. Both parents instilled in him the adage, "Whatever you do, try to do it well" (p. 12), and his mother encouraged an early interest in photography. By age 16, Brad had published a small scrambling guidebook for the Presidential Range (White Mountains), thanks to his wealthy Uncle Charles, who went on to pay for mountaineering vacations for Brad and his

brother in the French Alps (1926–29), where they learned mountaineering skills from the best guides. Brad's camera was always active, and he was soon writing articles in school and other journals. He attracted the attention of publisher George P. Putnam and by age 17, Bradford had his second book, *Among the Alps* (1927), published by Putnam's firm. The following year (1928), Putnam published *Bradford on Mt. Washington*. By this time, Brad had avidly listened to lectures given by members of the 1924 British Everest Expedition and the 1925 Mt. Logan expedition. With this background, he took the extraordinary leap, at age 20, of leading his own first Alaskan expedition.

Chapter 2 (Glaciers, Grosvenor and Grand Explorations), the longest chapter, starts with this phase in Washburn's career and chronicles the next decade. It is here that Sfraga fully exploits his vast knowledge about the early exploration of Alaska ("Russian America" until 1867) and intricately weaves it into Washburn's evolving expeditionary activities. These frequent historical flashbacks interrupt the smooth, chronological flow and can tax the concentration on Washburn. However, the author uses extensive quotations from Brad's field diaries, and these narratives certainly liven up the text. Of the four Alaskan expeditions (to Mounts Fairweather and Crillon), the one to Mount Crillon in 1934 was the most successful, and it was featured in Brad's first major article in *National Geographic Magazine* in March 1935 (Gilbert Grosvenor was the magazine editor). This article cemented the association between Bradford Washburn and the National Geographic Society. On 13 November 1934, Brad submitted a proposal to map a poorly charted section of the southwest Yukon (and Alaska) from the 141st meridian to the Alsek River, of which 5000 square miles remained blank. The section included all the highest peaks of Canada, dominated by Mt. Logan. Two days later, he had a cheque for \$5000! Today that would be the equivalent of over \$100 000, and it would have taken eight months to get. That expedition included many aerial flights to aid in the mapping, and it produced the first published aerial photograph of Mt. Logan taken from the south, as well as a second article in *National Geographic Magazine* (1936). Washburn, according to Sfraga, was in the wave of the second stage of exploration in Alaska/Yukon. The frequent historical 'withdrawals' the author makes are to the first stage of exploration, which covers the era of the navigators (e.g., Bering, Vancouver, Malaspina, La Perouse, etc.). A unique fast-forward time jump is from the 1935 expedition account to the 1965 expedition that mapped the Mounts Hubbard-Alverstone-Kennedy massif, during which Senator Robert Kennedy climbed the mountain named after his late brother, President John F. Kennedy. Washburn stressed that the ground party's success and safety in 1935 were ensured by the acquisition of aerial photos that he had earlier developed and printed in Carcross (Yukon). There were other pre-war expeditions to Mt. McKinley (1936), Mt. Lucania (1937), and Mt. Logan (1938). For the 1938 trip, Washburn had a new, large-format aerial camera with a Schneider lens, with which he took some breathtaking photos of Mount Logan. The 1937 summer had been a near disaster: