

THE QUIET LAND: THE ANTARCTIC DIARIES OF FRANK DEBENHAM. Edited by JUNE DEBENHAM BACK, with Foreword by SIR VIVIAN FUCHS. Huntingdon, UK: Bluntisham Books, 1992. 207 p., drawings and photos. Hardbound. £24.95; US\$50.00.

History has rarely accorded as much attention to a single expedition as that given to the British Antarctic (Terra Nova) Expedition of 1910-13 led by Captain R.F. Scott. Frank Debenham, an Australian, was taken on by Scott as junior geologist. His diaries have been lovingly edited by his daughter June Back, who has supplemented them with extracts from letters and explanatory details. The diary entries were intermittent and not written for publication, but they retain all the freshness and enthusiasm of a young man embarking on the greatest adventure of his life. While the fate of Scott and the Southern Party has held centre stage for 80 years, very substantial scientific results were obtained by field parties exploring the coasts of Victoria Land.

Debenham, or Deb, as he was known, was a member of the four-man Western Party during the first summer and the second Western Party during the second summer. He was a master of plane-table surveying as well as an astute geologist. The diary contains many drawings and sketch maps. The sketch maps are clear but of uncertain scale and orientation, so I found it easiest to follow the party's sledging routes by using the full array of modern large-scale topographic and satellite image maps. Both parties made the exciting discovery of mummified seals far inland in the so-called dry valleys. Deb was always perceptive in his understanding of natural phenomena. He found a headless fish on top of the McMurdo Ice Shelf and later used the finding to formulate a theory on how the ice shelf was formed. Half a century on, a New Zealand glaciologist claimed to have "proved" the theory wrong, but later had to eat his words. Deb had it right.

He was a romantic as well as a scientist, and this is reflected in his writings: "This morning the clouds hung like candle snuffers over Mount Discovery." Instead of camps I, II, and III, they had Camp Labyrinth, Honeycomb Camp, Mushroom Camp, Alcove Camp and many other imaginative names. For the reviewer — an Antarctic traveller from another age — the narrative carries an astonishing yet unspoken acceptance of high levels of risk as an occupational hazard. Clothing was grossly inadequate, bad falls were common, and they frequently dropped (unroped) into crevasses. Snow blindness and frostbite — virtually unknown today — were commonplace. Nowadays we speak of the "myth" of hardship in the Antarctic; but hardship was no myth in 1912.

Followers of the story will know that Scott believed, as did his 19th-century forebears searching for a Northwest Passage, that naval discipline was the best way to hold the expedition together. Although they were crammed into one hut during the winter, the officers and scientists were in the "wardroom," whereas "the men" occupied the "mess deck." Deb abided by the convention: with few exceptions, "the men" are described by their surnames.

Inevitably, readers will be interested in Deb's assessment of his companions. Scott is "Captain Scott" or "the Owner," whereas Dr. Wilson and the scientists are addressed by their first names. After the autumn journey in 1911, a telling diary entry reads: "If the Owner will consult the senior men I think [the southern journey] can be done but if he keeps them in the dark as they were on this depôt trip things are likely to go wrong." And again, "Birdie [Bowers] thinks [Amundsen] has no chance of getting to the Pole. I must say I think he has, if anything, got a better chance than we have." Scott says in a lecture: "I don't know whether it is possible for men to last out [75 days on the plateau], I almost doubt it."

In a letter from Deb to his mother:

I must tell you what I think of [Scott]. I am afraid I am very disappointed in him, tho' my faith dies very hard. There's no doubt he can be very nice and the interest he takes in our scientific work is immense, he is also a fine sledger himself and as organiser is splendid. But there I'm afraid one must stop. His temper is very uncertain and leads him to absurd lengths even in simple arguments. In crises he acts very peculiarly. In one, where Atkinson was lost for 6 hours in a blizzard,

I thought he acted splendidly but in all others I have been quite disgusted with him. What he does is often enough the right thing I expect, but he loses all control of his tongue and makes us all feel wild. . . . But the marvellous part of it is that the Owner is the single exception to a general sense of comradeship and jollity amongst all of us. We all get on simply splendidly. We are a really jolly party, such as I never dreamt 25 men could be, living as we do. . . .

Dr Wilson — good old Bill — is easily the best man we have in every way and I think I have never met a man I admired more. Thoroughly sane, quiet, self-controlled, he is the very antithesis to the Owner. . . .

Birdie (Lieut. Bowers) comes next in seniority and he is the marvel of the party. Imagine a fat little man with a perfectly immense nose and red bristly hair, unquenchable spirits and energy, and marvellous endurance. The Owner thinks he is the hardest man ever down here. . . . He is great fun, interested in everything and a great tease and teasee. He and I have fearful arguments and rag each other mercilessly.

The expedition's second winter was dominated by speculation about the fate of the southern party: "It has been tacitly accepted that [the loss of Scott's party] must *not* intrude itself upon us, and consequently we are able to throw it off at times and behave as if it were not intruding." Deb became the expedition's official photographer; a selection of his photographs adorn the book.

A final chapter by the editor relates something of Deb's life after the expedition. He was sent to Cambridge to write up his scientific results, joined up in 1914, was wounded at Salonika and sent home to recover. Returning to Cambridge in 1919, he continued preparing his Antarctic work for publication. Then together with other polar contemporaries, he drew up a memorandum for the trustees of the Scott Memorial Fund suggesting a Scott Polar Research Institute. The institute was launched in 1920 with Deb as *de facto* (later appointed) director. Deb always hoped that as funds became available the institute would expand and take on a wider role in polar research. Little did he imagine that this expansion would go far beyond his most fervent hopes.

This book is for all devotees of the Heroic Age of Antarctic exploration. It is beautifully printed, painstakingly edited, and concludes with a bibliography of Debenham's publications.

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MESSAGES FROM EARTH: NATURE AND THE HUMAN PROSPECT IN ALASKA. By ROBERT B. WEEDEN. Fairbanks: University of Alaska Press, 1992. 189 p., maps, illus., refs., index. Softbound. US\$16.95.

Robert Weeden's *Messages from Earth* is itself a message that should be conveyed not only to inhabitants of northern climes, for whom it is primarily intended, but also to humankind in general, regardless of latitude or attitude. The author avails of 30 years of experience, insight, and scholarship, gained mostly while a professor of natural resources at the University of Alaska, to produce a thoroughly captivating book. The result is a primer on living "gently, comfortably, and sustainably" in the North. More importantly, however, Weeden stresses that such an existence is untenable unless founded and guided by an ethic towards nature. *Messages from Earth* outlines this ethic — an ethic based on ideals but couched in the realities of nature and the demands and processes of a modern society.

The tone of *Messages* is set in the introduction. There the author brings to sharp focus the inherent conflicts that have arisen worldwide between cultural evolution, with its speed and flexibility, and genetic evolution, with its vastly slower adaptive response time. Weeden points out that the most universal failing of recent cultural evolution is its inability to adjust its numerous forms to the rhythms, character, and physical limitations of regional environments, but he believes that humanity is beginning to realize that exploitative societies have "had their day" and that human survival now depends on a dramatic reorientation of thought and behavior.

All of this is prelude to Weeden's focus on Alaska. He convincingly argues for meaningful and pervasive change in human understanding and behavior if we are to create a lasting northern society. Such change will involve communities, institutions of governance, science, economy, and most important, the orientation of every person toward nature. Weeden outlines some ideas and strategies for helping people develop social institutions, economies, and patterns for thinking and doing that are congruent with the character of the North.

Messages is written in three parts. In the first the author presents a survey of Alaskan lands and waters, in which the state's industrial and economic endeavors are dynamically embedded. The intent here is to discover features of the landscape and seascape that can guide sustainable use of natural resources. I found this a succinct and yet very informative summary of the biotic and abiotic factors that have shaped and will continue to shape Alaska and other realms of the far North.

Discussions of climate, oceanic primary productivity, terrestrial biomes, and plant and animal cycles provide the reader with a working knowledge of what is Alaska. It is a place of low diversity but tremendous numbers, a place of living systems that are vast but less efficient at energy transfer than those in southern climes. It is a land of natural cycles, some spanning days, others decades. The main strategy among living things in the North is to conserve. And so strategies of opportunism, high mobility, pioneering capacity, and adaptability are rewarded by survival. While Weeden couches this discussion in terms of plants and animals, the reader cannot escape the author's intent, which is to reinforce the idea that humankind's existence in the North depends on recognizing and working within these same natural principles.

Weeden concludes this part with a chapter entitled "Messages from Earth." He urges people to look at the "nature of nature" in Alaska and try to read the messages therein when developing or exploiting resources. He points out that timber harvests in Alaska need to be planned on century-long replacement times; oil rigs need to be designed to withstand extreme wave forces in the Gulf of Alaska and Bering Sea; not as many animals can be grazed on tundra as on temperate grasslands; and structures on or near earthquake faults should be invested in sparingly. These and hundreds of similar messages from earth can serve as guidelines toward confident and sustainable northern living.

Part two of *Messages* is entitled "The Learning Process." Weeden begins this section by asking, "Are we listening? Are we learning?" The earth's aquatic and terrestrial systems present myriad messages of "permission and constraint, invitation and warning." But our viewpoint of life in northern latitudes has often been myopic. Weeden discusses at length the environmental stewardship of three activities in Alaska: placer mining, logging, and agriculture. These and other activities carry a host of lessons on how things could have and should have been done. The author's treatment of them in Alaska is in places judgmental and blameful, but he is quick to point out that progress often "rides on the back of recent guilt." Indeed, he concludes this chapter on a positive note, indicating that some or parts of the "messages" have been received. Placer mining has moved toward a more responsible future. Southeast Alaska is still gridlocked over crucial issues of forest management, but there is an emerging sense of uniqueness and value of ancient forests. And in the case of agriculture, once it was realized that Alaska cannot compete with the grain production of Kansas or the milk produced on dairy farms in Wisconsin, a more prudent philosophy of learning to walk before trying to fly was adopted.

The last two chapters of part two, "Fitting into the Country" and "Towards Enduring Societies," offer guidelines for sustainable living in the North. Here Weeden expands on, and shapes within a northern existence, ideas in Walter Firey's *Man, Mind, and Land*. Both authors conclude that the most enduring natural resource practices are at the same time profitable, socially acceptable, and ecologically supportable. At any given time many practices meet only one or two of these criteria and are inherently unsustainable. Weeden supports this model of

sustainable development with several Alaska-based examples. He considers such things as human carrying capacity of the North in relation to the cyclical nature of northern economies and he suggests ways to smooth out the curves. Weeden offers a pointed discourse on the northern traditions of indigenous peoples and the concept of bioregionalism. I found his advocacy of stronger local levels of social decision making and land stewardship to be most convincing and appropriate.

Part three of the book is entitled "Gifts." The message here is simple but, I am afraid, often overlooked. The North has bestowed numerous gifts to humankind. In the process of "gift exchange," however, we exploit what nature provides without considering to whom or in what state that gift will pass. Weeden's prevailing message is that earth care must be the primary science and concern of society.

It has been a long time since I have enjoyed reading a book as much as I did this one. Bob Weeden has that rare talent of taking the dry, often emotionless findings of science and embellishing them with feelings from the heart so that one cannot help but pause to reflect. The resulting work is pertinent to every "Earthrider," particularly those residing or interested in the North. *Messages from Earth* belongs in the classroom and on your personal bookshelf — it is a must read for everyone.

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THE AURORA WATCHER'S HANDBOOK. By NEIL DAVIS. Fairbanks: University of Alaska Press, 1992. 262 p., figs., 27 colour plates, bib., index, glossary. Softbound, US\$20.00. Hardbound, US\$35.00.

The aurora is a hallmark of the culture of the North: a companion to the outdoorsman, a source of fear to generations of children, a generator of legends. To the scientist it is a fiery signature of the electrical coupling between the sun and the earth. The auroral light draws the eyes of the geophysical community to the polar skies for answers to questions about the earth in space.

Neil Davis has spent a lifetime under the aurora, coming to know it as have only a handful of persons — observing it, analyzing it, discussing it with colleagues, writing about it. Through *The Aurora Watcher's Handbook*, Professor Davis shares a full understanding of the aurora with the curious reader.

Professor Davis is what physicists term "a good explainer." He has written the book in a smooth, how-it-works style, and his presentation is remarkably clear. The book is loaded with examples and analogues and highlighted with anecdotes. Always, plenty of simple diagrams are utilized and there are more than enough color figures to aid and entertain the reader. A carefully compiled glossary is included in the back of the book. It appears that Professor Davis expended much effort on this book, forming from his lifetime of knowledge a coherent and comprehensible picture of the aurora for the non-specialist.

The book thoroughly covers the aurora, from large aspects to small details, from the sun to the earth. The types of aurora commonly seen in the sky are catalogued, and the big picture of auroral patterns on the earth is presented. Clues to the causes of the aurora are examined, the processes giving rise to auroral-light emission from the gas of the upper atmosphere are extensively discussed, and the dynamic behavior of aurora is described and the mechanisms behind the behavior are explained. Professor Davis covers the complete chain of events from the sun to the atmosphere that act to create auroras, and he covers the essential details of every link of the chain.

The excitement of science is the pursuit of what is not known, not the study of what is already understood. Professor Davis points out very clearly some of the unanswered questions about the aurora: e.g., the elusive behavior of the electrical gases (called plasmas) in