

River District, decided to cut his losses and withdraw from the Upper Yukon basin.

The Fort Selkirk post journals are extremely valuable historical documents, providing considerable detail about the furs being harvested, the game being hunted, and the movements and distribution of the various Indian bands. Rather atypically (for Company journals), they reveal a degree of mutual high regard, even warm affection, expressed by both Stewart and Campbell. The editors and the Yukon Heritage Branch are to be commended for making these journals available in published form.

But one cannot help feeling that the considerable potential of these documents has not been fully realized. For one thing, the editors provide no clear indication that Fort Selkirk was one of the most remote posts in the Company's territories and certainly the most difficult of access. The route from Fort Simpson (headquarters of the Mackenzie River District and hence the immediate supply base for Fort Selkirk) stretched for about 1800 km. For some 1000 km of that distance, one had to travel upstream via the Liard and Frances Rivers to Frances Lake, a route strewn with rapids, including those of the notorious Whirlpool Canyon. From Frances Lake, a brutal portage of 130 km led across to the headwaters of the Pelly.

The editors might also have added greatly to the volume had they provided more information (via footnotes or endnotes) on the travels of both Campbell and Stewart when they were absent from the post. Thus, in the entry for 10 April 1850, we learn of Stewart's departure for Fort Simpson in the following terms: "He started with as gay & buoyant a heart as if only going a short distance on foot to a dinner party." Then on 13 November 1850, Stewart records his return with the bald statement: "Late last evening I arrived... & found all well at the Fort." Hidden between these two entries is the story of a quite remarkable journey. On reaching Pelly Banks, Stewart found that the post had been burned and looted by the Chilkats early in the winter. Mr. Pambrun and one servant were barely alive; two others and some Indians had died of starvation. As a result, Stewart was unable to replenish his supplies and had to rely on hunting on the brutal overland trek to Fort Halkett on the Liard. From there, he was able to travel downstream to Fort Simpson by boat. The return trip was less eventful, but as arduous as ever by that route. Surely a major trip of this type (totalling some 3600 km) deserves at least a bare outline in a footnote.

Unfortunately, the introduction focuses more on the authorship of the different parts of the journals and their provenance than on the background of the enterprise or the establishment, operation, and abandonment of the post. The footnotes and endnotes are more informative, but both they and the introduction contain some surprising errors. Thus, the officer in charge of the Mackenzie River District is identified in a note on p. 1 as "Chief Trader Murdock McPhearson," and later as "McPearson." The gentleman in question was Murdoch McPherson.

On p. viii, we are informed that Stewart "left no writings of his time at Fort Selkirk or any period of his life with the Hudson's Bay Company." In fact, his journal of his expedition down the Back River with James Anderson in 1855 (a Company initiative) plus ancillary documents, including his report to George Simpson, may be found in the Provincial Archives of Alberta at MS 74.1/137.

On p. ix, the editors state (correctly) that Stewart was born in Quebec City, but then, only two paragraphs later, they state that he was born in Upper Canada! But perhaps the most bizarre misinterpretation comes in a footnote on p. 13, supposedly clarifying the word "weavies," which identifies them as belonging to the family of weaver birds! In fact, "weavies" is either a mistranscription or a slight variant on the word "wavies," the common name throughout the North for the snow goose (*Chen caerulescens*).

Strangely lacking from this volume is even the scantiest of bibliographies or a list of further reading. The failure even to mention, for example, Clifford Wilson's excellent biography of Campbell, entitled *Campbell of the Yukon* (Toronto, Macmillan of Canada, 1970), is incomprehensible.

In short, on the one hand this edited version of the Fort Selkirk journals kept during the brief life of that Hudson's Bay Company post represents a valuable addition to the fur trade literature and to the history of the Yukon. On the other hand, it can only be regretted that the editors did not take fuller advantage of their opportunity by providing a more informative introduction and more detailed notes.

William Barr
Research Associate
The Arctic Institute of North America
University of Calgary
2500 University Drive N.W.
Calgary, Alberta, Canada
T2N 1N4

IN THE LAND OF WHITE DEATH. By VALERIAN ALBANOV. Translated by ALISON ANDERSON and WILLIAM BARR, introduction by DAVID ROBERTS. New York: Random House Modern Library, 2000. 205 p., 3 maps, 2 illus., index. Hardbound. US\$21.95, Cdn\$32.95.

Early in his ordeal on the ice of the Arctic Ocean north of the Franz Josef Archipelago, Valerian Albanov broods about all that has gone wrong on his expedition, all the sufferings that he and his companions have endured in the past, are enduring in the present, and will endure in the future—if they are fortunate enough to survive. He dreams that if he does survive, he will go south to the shores of the Caspian Sea and "gorge on apricots, oranges, and grapes" (p. 45). Then he thinks what many explorers have thought when they found themselves at the mercy of natural forces in the wild places of the world: "One should not poke one's nose into places where Nature does not want the presence of man" (p. 45).

In the past few years, a new enthusiasm has emerged for what might be called “ordeal by Nature” books, which are almost a genre in themselves. *The Perfect Storm* (Junger, 1997) and *Into Thin Air* (Krakauer, 1997) perhaps started the fad, but since their publication, a steady stream of such books has followed: books about Shackleton, Scott, Stefansson, Greely, the men on the whaler *Essex*, and others. Albanov’s narrative of his experiences, *In the Land of White Death*, appeared first in Russia in 1917, then in France in 1928, and has now been published by the Modern Library in its first English translation. It is the most authentic and powerful first-person account of an ordeal by nature to appear in recent times.

Albanov was the navigation officer on the *Saint Anna*, which sailed from Murmansk in the late summer of 1912 with a mainly inexperienced crew of 23 men and one woman, intending to navigate through the Northeast Passage between Murmansk and Vladivostok to explore for hunting grounds. By early autumn, the ship was locked in sea ice, and during that winter and the following summer and fall it remained locked in ice, drifting some 2400 miles, while its crew suffered from cold, malnutrition, and scurvy. Albanov’s account begins abruptly *in medias res* (as David Roberts comments in his excellent introduction (p. xvii), the book is “as lean and taut as a good thriller”). Wasting no time with preliminaries, Albanov plunges into his story at the moment he and 13 other men left the ship to set out over the ice, equipped with crude sledges and kayaks they had cobbled together, hoping somehow to reach land on their own. (Three of the men soon returned to the ship, leaving eleven to continue the trek.) Albanov is remarkably honest about why he made this daring decision: he had come to loathe the captain of the ship, and he openly condemns him in the book as dangerously incompetent and arrogant.

What followed were almost three months of terror on the ice and in the treacherous leads and polynyas of Arctic waters, which culminated in their reaching land, suffering new forms of torment, and finally being rescued by a vessel searching for another expedition. Of the 11 men on the trek, only Albanov and a single companion survived. Most of those accompanying Albanov who did not survive disappeared when they became separated from him, and the *Saint Anna* with its remaining crew was never found. There is a haunting sense in the book that those who did not survive were simply absorbed and obliterated by the Arctic environment. I am reminded of Caspar Friedrich’s painting “The Wreck of the Hope,” which shows a nightmare Arctic seascape dominated by great slabs of ice in the foreground; dwarfed by those slabs, almost out of sight, the stern of a ship is disappearing into the ocean beneath the ice, sucked down by terrible forces of nature.

Others have suffered longer ordeals on pack and floe—George Tyson’s seven-month drift after the collapse of the *Polaris* Expedition in 1871 comes to mind—but none has written an account as powerful and honest as Albanov’s. He makes real the details of their suffering. They were lost

in space and had little control over their movements. Early in their trek, they struggled south over hummocky ice, dragging their sledges and kayaks, but after four days they realized that the ice was drifting north and they had actually lost distance. Later, Albanov’s chronometer was broken; he was often unable to make celestial sightings; and their only chart was a map torn out of a copy of Nansen’s *Farthest North* (1897). His instincts rightly told him that the Franz Josef Archipelago lay to the east, but the wind and currents pushed them remorselessly to the south and west. They suffered sustained and bitter cold, ferocious storms, near-starvation, scurvy, and constant fear. Albanov vividly describes the “lethal silence” (p. 75) that sometimes surrounded them, the painful snow-blindness that often so clouded their vision that they had to stop moving, the terror of being attacked while in their frail kayaks by huge walrus, the filth of their bodies and clothes swarming with lice, and—not the least of their problems—their rages at each other, especially his rage at most of the other men, whom he considered to be mindless and irresponsible.

What was perhaps the peak of terror for Albanov came when they were hit by a vicious storm and, waiting it out, bundled themselves up in their sleeping bags, two to a bag:

Our awakening was terrifying. There was a dreadful cracking sound and suddenly we found ourselves in the water. Our double sleeping bag filled with water and began to drag us toward the bottom. We struggled desperately to get out of this sheath, which, to our downfall, we had bound up far too well; the lower ends of the fur had been tucked in tightly, and the whole thing was frozen and stiff as a board. We were like two unwanted kittens thrown together in a sack to be drowned. (p. 139)

They managed to get out of their bag and come to the surface, but they survived only by good luck: one of their kayaks was floating nearby.

Although Albanov waxes lyrical in occasional purple passages, most of his writing is almost stark—somehow suitable both to the harsh environment that had surrounded him and to the numbing state of shock he must have been in during much of the experience. The aura of the book, created by the combination of the style, the story, and his outspoken honesty in telling it, gives it a sense of authenticity that is often missing in books attempting to recreate past ordeals from the comfortable perspective of the present.

In the Land of White Death and other recent books about ordeals by Nature help to correct our tendency to romanticize and sentimentalize that immense and amorphous thing we vaguely call “Nature.” In some of its more extreme forms, the Green back-to-nature movement in the Western world has become deluded, and it’s a good thing to be reminded that this thing called Nature is not entirely beneficent: it can be lethally indifferent to human self-concern and self-importance. In his great survival story “The Open Boat,” Stephen Crane describes the plight of a few shipwrecked men in an open boat on the open sea, and describes

how one of the men prays to Nature for redemption: "A high cold star on a winter's night is the word he feels she says to him. Thereafter he knows the pathos of his situation."

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Chauncey C. Loomis
Professor Emeritus, Dartmouth College
P.O. Box 58
Stockbridge, Massachusetts, U.S.A.
01262

ICE IN THE OCEAN. By PETER WADHAMS. Amsterdam: Gordon and Breach Science Publishers, 2000. 351 p., maps, colour and b&w illus., bib., index. Hardbound. US\$67.00, 10% discount when ordered at www.gbhap.com.

Peter Wadhams has produced a well-written, concise monograph on sea ice and icebergs. *Ice in the Ocean*, based on a course that Wadhams taught to final-year geography students at Cambridge, is designed to show "an unashamed bias toward phenomena rather than models" (Preface, p. xi). It covers topics ranging from sea ice to pressure ridge keels, and from ice edge properties to climate change, illustrating each with a wide variety of photographs, images, and figures. Each chapter begins with a personal vignette: for Chapter 3, Thermodynamics of Sea Ice, it is "You are in a Swedish icebreaker entering Independence Fjord, the great ice-choked fjord of Northeast Greenland..." (p. 81); for Chapter 5, Pressure Ridges, "You are in a submarine under the Arctic pack ice..." (p. 140); for Chapter 7, Icebergs, "You are in a sleeping bag in a tent on top of an Antarctic iceberg..." (p. 239). These vignettes illustrate the joys, fears, and difficulties of polar research and make the science more immediate.

The introductory chapter, Frozen Oceans, describes the geography of the polar oceanic basins, the ocean currents, and the annual cycles of sea ice extent. It then gives a brief history of polar geographic exploration. The second chapter, Formation, Growth and Decay of Sea Ice, discusses the small-scale structure of sea ice, brine pockets, and sea ice desalination. It then describes with many photographs the different stages of sea ice growth and melt, the formation of pressure ridges and very thick ice, and the growth of polynyas. The weakest part of the book is the description

of sea ice microphysics and brine drainage: primarily based on research done in the 1960s, it ignores more modern research, such as John Wettlaufer's theoretical work (1998) and Cole and Shapiro's (1998) beautiful photographs of brine channel networks.

Chapter 3, Thermodynamics of Sea Ice, reviews thermodynamic ice properties and summarizes a variety of ice growth models, ranging from Anderson's algebraic degree-day model to the somewhat dated Maykut-Untersteiner numerical model. It also discusses the interaction of ice with solar radiation and the sensitivity of the ice thickness to changes in thermal forcing. Chapter 4, Ice in Motion, gives a good term-by-term discussion of the ice momentum balance, followed by discussion of ice drift solutions and the different sea ice rheological models. The material in these two chapters provides the background that readers need to understand the equations used in numerical sea ice models.

Chapters 5, 6, and 7 discuss specific topics: pressure ridges and the ice thickness distribution, the marginal ice zone (MIZ), and icebergs. Whereas the previous two chapters review other people's work, these exceptionally well written chapters reflect Wadhams' own research. Chapter 5, Pressure Ridges and the Ice Thickness Distribution, describes different ways of measuring ice thickness, the statistical properties of the ice cover, and the importance of the ice thickness distribution. It also discusses the statistics of pressure ridge keel depths and spacing, as well as the applications of the ice thickness distributions to ice drag and bottom scour. Chapter 6, The Marginal Ice Zone, begins with a global survey of MIZ properties. It then discusses how ocean waves are attenuated as they propagate into the pack and their role in determining the floe size distribution. The discussion continues with ice edge bands, ice edge eddies, and the North Atlantic Odden feature, all well illustrated with photographs, field surveys, and satellite imagery.

Chapter 7, Icebergs, is the best monograph on icebergs I have ever seen. The chapter begins with the formation of icebergs from the giant ice shelves and continues with discussions of their sizes, shapes, and distribution. Both here and elsewhere, Wadhams presents many intriguing details. For example, he cites observations of 'rogue' icebergs as far south as the Azores (in 1921 and 1948): the southernmost was a poorly documented one at Bermuda. The chapter also describes how icebergs modify the adjacent oceanic waters and their drift and decay. It concludes with discussions of iceberg scour, the climatic role of icebergs, and icebergs as a source of fresh water.

Chapter 8, Sea Ice, Climate and the Environment, summarizes a selection of current research topics. These include sea ice and biology, oil pollution, the transport by ice of pollutants such as PCBs and radionuclides, and a thorough discussion of recent climate changes in the Arctic. Finally, the Further Reading section is a review of recent literature organized by topics such as sea ice geophysics, ice engineering, and remote sensing. If the book provides the background for a first course in sea ice, this section gives a reading list for a variety of advanced topics.