

Chapter 17 describes the return of the party in 1998, when they again searched in vain for graves in northern Novaya Zemlya. The book ends with the author's solitary recollections of that fieldwork while on another expedition, to Vaygach Island, in August 2000. Zeeberg and two companions had ranged the tundra of that island searching for geological evidence of the ice sheet that had covered the islands during the last Ice Age. Then the party separated, and he had to wait 10 days alone for the helicopter to return.

As said above, much historical information is packed into this book. This information is not always necessary, and it makes some parts difficult for a more general public to read. The chapters based on the diaries of JaapJan Zeeberg and Pieter Floore compensate for the difficult parts of the book. Some of them are fascinating and very original, and they show the unexpected things that can happen on expeditions into the Russian North.

In spite of my remarks about its historical parts, I recommend this book to anyone who is interested in accounts of expeditions into Arctic regions.

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WESLEY EARL DUNKLE. By CHARLES CALDWELL HAWLEY. Boulder: University Press of Colorado, 2003. ISBN 0-87081-723-X. 274 p., b&w illus., notes, glossary, index. Hardbound. US\$34.95.

This is a fascinating account of the exploits of one of the most knowledgeable and energetic pioneers involved in the "growing up" of Alaska's gold and copper mining industries. Perhaps the use of the word "pioneer" is misplaced, since Dunkle came to Alaska 12 years after the original gold strikes at Nome in 1899 had started the gold rush. He was, however, one of the key people who recognized the need to put the industry on a sound financial and engineering footing.

Dunkle's formal training in mining engineering, economics, and chemistry at Yale was impressive and, combined with his natural pragmatism and ability to innovate, was certainly a major factor in his success. Following graduation, he worked briefly in mines in Nevada, but was already on his way to Alaska. The mining community in Alaska was still relatively small, and he soon became a well-respected scout evaluating prospects. This led him to be involved in prospecting for copper in what would eventually become the Kennecott mine in the Wrangell Mountains. He spent much time investigating the geologic origins of the copper deposits and was intimately involved in discoveries that led to the Kennecott's world-class Jumbo copper deposit.

Dunkle's abilities as a mining engineer in its broadest sense were recognized quickly, and he became a familiar figure in the New York offices of Guggenheim and other mining magnates, where his advice and expertise were called upon for many enterprises both in Alaska and in other parts of the world. In particular, his work in both South America and Africa greatly broadened his experience.

Dunkle also seemed to have had a knack for getting caught up in adventurous situations. A good example occurred early in his Alaskan career, when he went to assess a potential mineral deposit on the Alaska Peninsula. On his way back to his home base at the Kennecott mine, traveling on the SS *Dora*, he suddenly found himself in the ash raining down from the biggest volcanic eruption in the 20th century, the eruption at Katmai in 1912. He may have been the only geologist to see this eruption firsthand, even though it was from near Kodiak Island.

The Katmai adventure was due to fortuitous timing, but some of Dunkle's exploits were of his own making. It seems that his drive to get things done, see tasks completed, or simply get where he wanted to be pushed him into feats of notable endurance. Some of his Alaskan treks of 100 miles or more on foot, and often alone, boggle the mind. One in particular speaks to both his character and his determination. In 1923, Dunkle was with a reconnaissance party on the north side of the Alaska Range but needed to keep an appointment in Anchorage. To do this, he intended to catch the train at the McKinley station, but realizing that time was very short, he decided instead to try an unknown route up the Muldrow glacier, across Anderson Pass, and down the Chulitna River to Colorado Station. This successful adventure is told in very matter-of-fact language, but conjures up images of a sequence of hair-raising incidents.

In 1928, Dunkle turned his attention to flying as a way to both explore for mines and service them. He used his usual combination of pragmatism and adventure to demonstrate the value of light aircraft. There are many flying stories in this book, not the least of which involves Dunkle's setting off to fly a newly purchased Travel Air from New York to Alaska with only 34 hours of flight time under his belt! Several crashes and quite a while later, he and the plane arrived in Alaska.

One non-flying aviation story may surprise many Alaskan readers. Dunkle's enthusiasm for aviation and flair for engineering led him to be a major force behind the building of a canal to connect the Spenard float pond to Lake Hood, making today's Anchorage float plane base.

Stories of the many trials and tribulations of mining in Alaska thread their way through this book; anyone who knows Alaska will have no trouble recognizing the locations. The Golden Zone Mine near the Chulitna River receives special attention, which is not too surprising, since it is now the author's property. To the many, including me, who have worked out of the mine, the Golden Zone story is absorbing, as are the other mine development stories. All of them bring home the large-scale gamble that

lies behind almost every successful (and unsuccessful) mining venture.

Not only is this book an excellent source of information about mining in Alaska, it is also a veritable compendium of people and places that Alaskans will recognize, some only as street names, and others who are still in the news today.

The book ends with an extensive glossary of mining terms and notes about the sources of information used throughout the book, many of which make interesting reading in their own right. I enjoyed the opportunity to read this account of Dunkle and his world, and I hope you will too.

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ESKIMO ARCHITECTURE: DWELLING AND STRUCTURE IN THE EARLY HISTORIC PERIOD. By MOLLY LEE and GREGORY A. REINHARDT. Foreword by ANDREW TOOYAK, Jr. Fairbanks: University of Alaska Press and University of Alaska Museum, 2003. 216 p., 7 maps, 167 illustrations, index, bib. Hardbound. US\$45.00.

Eskimo Architecture is a systematic overview of contact era Inuit and Yup'ik dwellings based on the painstaking interpolation of architectural details extracted from explorers' and ethnographers' photographs, illustrations, and written accounts. Lee and Reinhardt's survey relies heavily on the ethnohistoric and ethnographic literatures of the late 19th and early 20th centuries, and indeed the encyclopaedic spirit of their study harkens back to the catalogues of non-Western material culture typical of that period, before ethnography's turn away from "things." The volume that has resulted is profusely illustrated and loaded with descriptive detail. It represents a valuable reference for students of Inuit vernacular architecture, and especially for the archaeologists who routinely investigate the remains of such dwellings, and who have become increasingly interested in their sociological interpretation. Surprisingly, only piecemeal use has been made of a rich body of accumulated archaeological data that would have bridged many of the gaps encountered in the documentary record, and perhaps led the authors towards more substantial conclusions about variability in house forms.

The book is organized geographically into four chapters, with roughly equal space devoted to Greenland, the Canadian Arctic, northwest Alaska and the Mackenzie Delta, and the Yup'ik area of southwest Alaska and easternmost Siberia. Architectural forms in each area are discussed under the same functional headings: winter houses, transitional dwellings, summer dwellings, special-use

structures, and associated ritual beliefs. As the last region to be colonized by Inuit, and the first by Europeans, Greenland possessed less architectural diversity at contact than other regions. The best-documented form is the multi-family "communal" house, the emergence of which, in the early 18th century, has posed a persistent problem for ethnohistorians and archaeologists. Establishing a pattern followed in the rest of the book, Lee and Reinhardt sidestep such anthropological questions, concentrating instead on the triangulation of verbal descriptions and the visual clues in sketches, engravings, and photographs to work out the construction details of each major ethnic variant of seasonal dwelling form. Their architectural detective work provides an education in how to look at visual source material with an eye to uncovering underlying technological principles.

The chapter on the Canadian Arctic focuses on the most iconic Inuit dwelling form—the snow house, or *igluviak* (*iglu* is actually a generic term for 'house'). While simpler variants of the snow house were widely used as travel shelters, it was only around the driftwood-poor and economically tenuous shores of the Central Arctic that entire communities regularly wintered in this marvel of logistical expediency, engineering rigour, and elegant design. The Central Arctic snow house was based on a spiral of individually bevelled snow blocks forming a strong and well-insulated dome that could be varied in size, combined in modular agglomerations, and furnished with sleeping and lamp platforms, tunnel, ice block windows, benches, and storage vestibules to create everything from a doghouse to a multi-family dwelling or high-ceilinged community dance house. The warm-season complement of this flexible shelter was the skin tent or *tupiq*, which came in numerous variants of a ridge-pole, conical, or double-arch design.

Lee and Reinhardt also discuss the sod winter houses that predominated in Labrador and Southampton Island and their skin-roofed cousin, the *qarmaq*, used by many Canadian Inuit groups as a spring or autumn dwelling transitional between the *tupiq* and the *igluviak*. However, they do not explore the architectural tradition that underlies both *qarmaq* and sod *iglu* and provides a bridge between the sod house forms of North Alaska and Greenland, namely the sod, stone, and whale bone winter house that was ubiquitous in the Canadian Arctic between the 13th and 16th centuries. Archaeologists have recorded the visible foundations of over 2000 such houses, design elements of which can be discerned in many later house forms.

The sod house persisted into historic times in the Western Arctic as a multi-season dwelling associated with above-ground storage racks and ice cellars dug into the permafrost. Alaskan sod houses tended to be large and heavily built, often consisting of multiple family compartments opening onto a central space or connected by short tunnels to form labyrinthine compounds. The elaborate living arrangements reflected not merely the abundance of driftwood for building, but also the size of corporate kin