

The artifacts recovered from the Nelson River site are discussed under the functional categories of hunting and fishing tools, transportation, manufacturing and processing tools, personal adornment and art. Photographs and line drawings are used to illustrate the artifacts and clearly demonstrate the manner in which each tool was used.

The bones of the animals eaten by the Thule people were also analyzed and the methods for deriving information on Thule economy and hunting practices from these remains are documented. The faunal remains and the artifactual evidence allow the archaeologist to reconstruct the prehistoric economy and hunting strategies of the Thule people who lived at the Nelson River site.

In discussing how the site is dated, Arnold succeeds in clearly explaining the technique of radiocarbon dating cultural material and the use of cross-dating artifacts as an alternative dating technique. The story of Thule lifeways as reconstructed from the Nelson River site remains is fleshed out by an imaginative fictional account of a Thule hunter's thoughts as he and his family prepare to leave their winter home. In a brief epilogue to the story of Thule history, the development of Thule culture into the distinctive tribes of the Arctic is traced.

The second article follows the steps involved in preparing a museum exhibit to tell the story of the Thule culture pioneers in the western Canadian Arctic. This article is an excellent introduction to the behind-the-scenes workings of a museum and the prodigious amount of work involved in researching, designing, producing and assembling a museum exhibit. In this way, the excitement of archaeology and the rich cultural heritage of northern peoples can be shared with hundreds of museum visitors.

The papers in this volume are clearly written and well illustrated and should have a broad appeal to laypersons, students and also to professional archaeologists, particularly those involved in teaching at the introductory level. Northern high schools could also make good use of this volume in their history classes. In conclusion, I echo Red Pedersen's hope expressed in the Foreword that similar papers on the various Dene cultures of the North will soon be forthcoming.

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**REMOTE SENSING OF ICE AND SNOW.** By DOROTHY K. HALL and JAROSLAV MARTINEC. New York: Chapman and Hall, 1985. vii + 189 p., maps, figs., coloured plates, tables, refs., index. Hardbound. US\$39.95.

Owing to its immense storage of freshwater and intensive heat exchange with the atmosphere, the cryosphere, that part of the Earth covered by ice and snow, plays an important role in the Earth's hydrological and climatic cycles. However, our knowledge of this important part of the Earth is limited by the remote location and severe environment of the cryosphere. Remote sensing techniques are thus most useful for exploring and monitoring the cryosphere of the Earth by allowing fast and global observations of its ice and snow covers. This book presents a description of the utility of remote sensing for identifying, mapping and analyzing surface and subsurface properties of worldwide ice and snow features.

The book begins with two short chapters intended to provide the reader with some background on (1) the optical, thermal and electrical properties of ice and snow and (2) the sensors and observation platforms referred to later in the book. The remaining chapters provide descriptions of the science, application and observation techniques

associated with snow, lake and river ice, permafrost, glaciers and sea ice.

In general the book has achieved its objective in emphasizing "the use of remote sensing for developing an improved understanding of the physical properties of ice and snow and understanding the interrelationships of cryospheric processes with atmospheric, hydrospheric and oceanic processes." However, the scope and style of the book is lacking a coherent and balanced approach. The first two chapters are simply too short and sketchy to be reasonably useful. The two chapters on snow were written mostly from a snow forecaster's point of view, and thus are heavily biased toward that application with unjustified details. The remaining chapters, on the other hand, can be characterized as a series of short review articles that attempt to provide a somewhat comprehensive summary of recent progress in a particular field.

The book in general is well illustrated with high-quality photos and figures. Unfortunately, some of the illustrations are not well enough explained to allow the reader to fully appreciate their meaning. The overall coverage of bibliography is adequate, providing reasonably updated information on this rapidly developing field.

Some erroneous information and misleading nomenclature have been noted. The NASA GEOS-3 altimeter has been mistakenly quoted as "the NOAA GOES-3 altimeter" many times in the book. In addition, it is misstated that the primary application of radar altimeters is for ocean wave height determination; actually, radar altimeters are used primarily for measuring sea surface topography.

Apparently the authors have failed to draw the distinction between a synthetic aperture radar and an ordinary side-looking radar. The former requires measurement of both amplitude and phase of a return pulse, whereas the latter measures only the amplitude.

The techniques of impulse radars and radio echo sounding are the same, whereas the authors have never mentioned any connection between them. Actually, the term radio echo sounding appears in the chapter on glaciers without any explanation.

Because of the unbalanced scope of the book, it is difficult to recommend it to a single group of readers. The chapters on snow are certainly useful to snow forecast practitioners in providing a perspective of the utility of remotely sensed data. For the chapters on ice and permafrost, the book can be used as a reference by graduate students interested in research opportunities on the subject.

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**THE UPPER PALEOLITHIC OF THE CENTRAL RUSSIAN PLAIN.**

By OLGA SOFFER. Orlando, Florida: Academic Press, 1985. xxiv + 539 p., figs., tables, refs., index. Hardbound, US\$98.50; soft-bound, US\$49.50.

Olga Soffer has produced a most valuable and novel addition to our knowledge of the Upper Paleolithic of the Central Russian Plain (European part of the U.S.S.R.) from an economic-ecological perspective. The Central Russian Plain is well studied in the Soviet Union, and some Western specialists are well acquainted with the topic. The monograph under review, however, is not simply a descriptive source of the 29 key Upper Paleolithic sites of the Russian Plain but is analytical as well. It discusses the most recent theoretical (procedural) approaches in contemporary archaeology, such as subsistence adaptive behavior and economic strategies of non-industrial populations in