

different biophysical and sociocultural environments, microeconomic models and sociopolitical integration — all of which are corroborated by environmental-ecological data.

The introduction and conclusion are separated by six solidly based and well-illustrated chapters. Soffer focuses on five major analytical themes: (1) development and politics of the Paleolithic in the U.S.S.R., (2) environmental change during the last (Valday = Wisconsin) deglaciation and its effect on the adaptive behavior of early hunting groups, (3) chronology and radiometric dating, (4) subsistence practices and hunter-gatherer adaptations during the Valday-Early Holocene, and (5) land use, settlement system and social network analysis. In this review I am primarily concerned with issues 1 and 4.

1. Soffer divides the history of Prehistoric archaeology in the Soviet Union into three periods: Formative (1873-1928), Developmental (1928-50s) and the Period of Crisis (1950s-80s). In sum, Soffer concludes that the development of Soviet Paleolithic is similar to the development of the archaeological discipline in general and reflects socio-political attitudes in the country. Soffer correctly points out the lack of data and limited interest of Soviet Paleolithic archaeologists in the analytical aspects of research, suggesting various hypotheses about seasonal mammoth-procurement, local and regional utilization of resources, northern and southern areas of occupation, early and late settlement patterns, etc. Soviet researchers are familiar with western anthropological theories but they are very cautious in applying them. Soviet archaeologists, in general, are heavily field oriented and are very efficient and productive in collecting field data.

4. The relationship among environment, subsistence and society has been one of the constant and main concerns of the social sciences. Soffer applies various hypothetical models to explain subsistence practices of early man in the Russian Plain. She builds her models on a techno-environmental approach — i.e., the biophysical environment is a major factor influencing human adaptive strategies. Regarding the ecological-psychological approach, she states that "The emphasis on the individual as the unit of analysis of all ecologically based approaches to subsistence behavior is bound to lead to misinterpretation of the archaeological record" (p. 257). Those researchers, however, who believe in the significance of understanding the cognitive, decision-making process of man in an ecosystem as a theoretical basis, before they build a model of the real world, find it productive for interpretations of assumptions not in the archaeological record. In fact, Soffer's conclusions about seasonal mammoth-procurement strategy and its economic role (p. 194, 237, 280), utilization of abundant resources in a specific season (p. 290, 320, 340, 348), long-term storage strategy (p. 355), and rational economic behavior of early hunters and gatherers on the Russian Plain are based upon her understanding of an individual psychological behavior to maximize his/her gains and to minimize the risk.

One result of Soffer's studies is a correlation between the site and surrounding resources that addresses why and how long-distance resources were utilized. This appears to be a by-product of non-biological human adaptive strategy, namely, that people plan ahead if they are expecting to utilize certain resources at a specific time. Activities of this kind produce distinctive material residues. Although, in intra-site analysis, Soffer predicts that seasonal subsistence practices will be reflected in the archaeological record, she is aware that some of her analyses are not in harmony with the above statement: e.g., "... mammoth is the most abundant species found in faunal assemblages" (p. 204), however, "... mammoth were not the major subsistence" (p. 280) of early man. In other words, it is impossible to derive seasonality of a settlement simply by analyzing the material remains in a site; the understanding of the individual behavior of man, based on rational maximization decision-making principles, should be used to suggest an explanation for prehistoric human adaptive behavior. Thus, one may suggest that the behavioral mechanism of hunters and gatherers in their habitat (i.e., the relationships between human subsistence regimes and environmental quality and the rationale for a man to choose a certain geographical location for living) should be subjected to conceptually and quantitatively designed ecological and psychological

analysis before analytical limits with respect to anthropological subjects are determined.

In sum, despite my disagreement with Olga Soffer on several methodological issues, I found her monograph an impressive work that will be used as a reference for a long time. It is the most complete research on Soviet Paleolithic ever produced in the West.

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THE FRANKLIN ERA IN CANADIAN ARCTIC HISTORY 1845-1859. Edited by PATRICIA D. SUTHERLAND. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper No. 31. Ottawa: National Museums of Canada, 1985. 219 p., maps, illus. Softbound. Available without charge.

These papers are the result of a 1984 symposium organized by the editor of this volume, the purpose of which was to better understand the events that surrounded the disappearance of Franklin's third expedition and to examine the implications of that tragedy. In short, this volume is not only a remarkable testimony to the persistence of the desire to know Franklin's fate, but it is also an excellent demonstration of the need for multidisciplinary thinking in any problem solving. This latter point may, in fact, be a reflection of the editor's own perspective, as her archaeological research encompasses the earliest northern prehistory to the late 19th century in the High Arctic. This collection also makes another valuable contribution, and that is the directions for future research it offers to current and aspiring Franklin scholars. More importantly, the careful reader may also discern what *not* to do as the Franklin search continues, which it undoubtedly will. The mystery of it all remains simply overpowering — for the scholar, amateur and layperson alike. There is plenty of substance in this volume for all three appetites, thanks to the editor's sense of purpose and intellectual breadth.

As the abstract of the volume states, the 16 papers examine a wide range of topics, including art and literature of the period, climatic conditions at the time of the voyage, the role of private expeditions and whalers in the search, the man-hauled sledging tradition, the impact of exploration on 19th-century Inuit culture and recent archaeological and osteological studies of various sites associated with Franklin's disappearance and the prolonged search and rescue attempts that followed. There is no doubt that the volume achieves its purpose of better understanding the Franklin calamity, and there is no better way to convey this than highlighting some of the contributions and insights of the many articles. Perhaps this might encourage all those with an interest in the events to get a copy of the book.

Maurice Hodgson sets the stage from a literary point of view with the observation that much of the Franklin literature was akin to self-exploration and that Belcher's narrative, in particular, ranks with the best travel writers of his day. The second article, by Alan Cooke, provides a valuable service by guiding the reader through the published and archival literature related to Franklin and the search. This literature, including the popular, is immense, and Cooke has done his usual competent job. Constance Martin, an art historian, concludes in her paper that the watercolours and drawings of the Franklin era have a twofold value. They represent visual records of geographical knowledge, as well as revelations of individual explorers' personal perceptions of the Arctic. Her article is rich in interpretation and profusely illustrated.

The second main grouping of articles is primarily historical. Hugh Wallace chronicles the activities of the private expeditions, those not sponsored by the Royal Navy or the Hudson's Bay Company. In the process he makes a number of noteworthy observations, including the

bizarre inventiveness of Sir John Ross and an excellent discussion of fur trade versus marine modes of travel. Wallace makes no apology for Royal Naval ethnocentrism, but rather places it in context. W. Gillies Ross is also concerned with those who helped with the search and concentrates on the whalers in his contribution. It is fascinating reading, especially one particular incongruity that Ross has gleaned from his careful research. He wonders if the Franklin search might have been more successful if experienced whaling masters and crews had been involved to a far greater extent, something the Royal Navy was apparently loath to do. Yet, Ross believes that one of the few whalers directly involved, William Penny, inadvertently sidetracked the search effort, with disastrous consequences. Penny strongly favoured the Wellington Channel route and may have been partly responsible for diverting the searchers from the real area of the Franklin disaster.

John Bockstoce continues the search farther west in his article, with a detailed account of the chronology, strategy and logistics of the search for Franklin in Alaska from 1848 to 1854. This was a major effort by the Royal Navy, not without violence and bloodshed. With a discerning eye for detail, Bockstoce includes a dramatic and moving story of the death of an English naval officer at the hands of the Koyukon Indians. The last paper with a historical emphasis, by C.S. Mackinnon, is an excellent contribution to our understanding of a phenomenon that more often than not provokes derision or incredulity in the late 20th century — the British man-hauled sledging tradition. The author provides ample documentation to support Captain Richard Collinson's view that man-hauled sledging was about the hardest work to which free men have been put in modern times. In the tradition of sound scholarship, however, Mackinnon unravels the complexity of the history and myth surrounding this technique. His conclusions are as surprising as they are enlightening.

Climatology is the focus of two articles in this volume, each of which complements the other. In a technical and well-documented presentation, authors Alt, Koerner, Fisher and Bourgeoise offer the chilling conclusion that the Franklin expedition, and much of the subsequent search activity, took place during one of the least favourable climatic periods within the last 1000 years. This is certainly science in the service of history, as it forces reconsideration of the tacit assumption that Sir John Franklin was his own worst enemy. Moira Dunbar pursues this line of reasoning in her article on sea ice conditions during this period. Franklin may have been ethnocentric and a rigid adherent to tradition, but there is no doubt that bad luck and horrible ice conditions dealt him a cruel hand. Again, this article forces the reader to consider additional variables and their consequences. As Dunbar so aptly states, the Franklin search was almost uncanny in the way it avoided looking in the right place, despite the fact that Franklin had gone exactly where his orders said he should. This is a revelation that bears remembering.

The articles concerned with the archaeology and physical anthropology of Franklin's demise offer both documentary detail and interpretative reconstructions. Owen Beattie, a physical anthropologist, studied skeletal remains from the expedition to provide additional insights into the events leading to the eventual loss of the entire crew. Although lead poisoning from the tinned food of the day is thought to be a possibility, this cannot be demonstrated convincingly. Broadening his inquiry to include the historic Inuit in the High Arctic, James Savelle suggests that indirect contact, resulting from Inuit utilization of abandoned exploration technology (iron, tin, copper and wood objects), may have caused abrupt and turbulent changes among the Inuit through the disruption of trading relationships. Intriguing as this article is, it is not clear what constitutes "abrupt and turbulent change" in Savelle's view. He implies in the concluding discussion that such changes were reversible, at least among the Netsilik. What does this mean in terms of the indirect acculturation he implies was under way?

The other article on archaeology, written by Caroline Phillips, is in large part a sober recounting of the damage and destruction that so many arctic exploration sites have suffered at the hands of who knows whom. As a principal player in Parks Canada's half-baked Arctic Historical Archaeological Project, Phillips had the rare opportunity to observe and record over 50 sites in the High Arctic, 35 of which date to

the Franklin era. Her illustrations in this article are excellent, and her conclusions are even more relevant than they were when she wrote the article — that is, Canada needs effective heritage legislation to protect archaeological sites on federal crown land. Canada is one of the few economically developed countries in the world still without such laws.

In an article that serves as an inadvertent link between the scholarly inquiries and the exploits of the modern-day Franklin searchers, Charles Hett also feels compelled to issue the reader a warning: If you are contemplating any sort of arctic archaeology, then you must consider the conservation requirements. Hett then introduces the reader to some of the disturbing realities of artifact removal in the frozen north and backs up his plea with an invaluable list of questions that ultimately must guide the research designs of all arctic archaeological projects, both terrestrial and marine. His most powerful case in point is the removal of the ship's wheel from a sunken Franklin search vessel, which by undoubted editorial design is also the subject of another paper in this volume, written by the individual who supervised its removal. Joseph B. MacInnis, the medical doctor *cum* ice diver, was in charge of the project that dove on HMS *Breadalbane* and returned with the wheel for reasons still obscure to this non-underwater archaeologist.

Obscure or not, the reader must confront the substance of Hett's argument. In short, the conservation of this water-logged steering wheel will cost the Canadian taxpayer a minimum of \$200 000, not to mention the problems associated with the disposal of the hazardous materials involved. There is no doubt that comprehensive, multidisciplinary planning could have avoided this unnecessary and costly burden. While there is absolutely no denying the pioneering contributions of Joe MacInnis to our capability to operate below the arctic ice, one cannot help but think that the removal of this artifact was a public relations exercise.

Little can be said of the article by M.J. Muirhead of Western Subsea Technology that briefly chronicles the activities of another late-20th-century search party, the Canadian Armed Forces. We learn that the military mounted three expeditions in 1967, 1975 and 1977 to locate the *Erebus* and *Terror*, the two Franklin expedition ships last seen nipped in the ice off King William Island 137 years ago. Relocating these objects, if in fact anything remains, will require sophisticated technology in the author's view.

The last paper by T.C. Pullen, also written from a contemporary perspective, is one of the most enjoyable. He offers a comparison of historic arctic explorers and their latter-day counterparts, the modern ice navigators. A man of his prestigious ancestry and accomplishments is eminently qualified to put things in perspective, and this is precisely what he does. His comments on the absurdity of technological overkill aboard modern icebreakers are candid, wise and humorous, both because he knows what he is talking about and because of his acute sense of history. In his view, it remains to be seen whether modern polar seamen can match the qualities of the 19th-century explorers.

In conclusion, I have attempted to share my enthusiasm for this volume by highlighting its contents. There is much more to be gleaned by the inquisitive reader. With two exceptions, these papers are of high quality, an unusual result for many conference proceedings. This is to the obvious credit of both the editor, Patricia Sutherland, and the contributors. There is little to find fault with in this volume other than to observe that the papers could have been more coherently organized within it. I rearranged them mentally for this review and feel that more thought could have been given to the internal arrangement of the papers, simply for the benefit of the reader.

The volume is neat, clean and remarkably readable, with its micro-computer typeface. It is also refreshingly free of typographical errors. If the high quality of this volume can be taken as an indication of the standard of Mercury Series publications, then we must hope that the recent demise of this series is only a temporary difficulty.

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