

exact role in the later development of Eskimo cultures. This is not a criticism. The issue of cultural origins must always be elusive, given the many permutations in the ways that cultures grow and change. Dumond's analysis of cultural interactions seems to me to be the best approach for interpreting human history in the Bering Sea region.

This monograph is not for the casual reader who wishes to be transported back in time to experience, if only vicariously, life in earlier time periods. It is, however, an important scholarly work that should be read by serious students of Arctic archaeology. Those readers will also be interested in excerpts from correspondence and published materials that give insights into the debate between Collins and others in the nascent days of Arctic archaeology, as they pieced together archaeological information and developed theories about the origin and development of Eskimo cultures.

On another note, *The Hillside Site, St. Lawrence, Alaska—An examination of collections from the 1930s*, is an excellent example of collection-based research. Archaeologists whose research interests lie in the North are now facing escalating costs for conducting field work in remote areas, declining levels of research funding, and difficulties in obtaining permission to undertake excavations because of changing political environments. Dumond's study is a timely reminder that museums contain collections that have enormous potential to continue to inform us about the past. As he ably demonstrates, many museum collections warrant further study, by researchers who bring with them new questions as well as new paradigms and analytical techniques for peering into the past.

REFERENCE

COLLINS, H.B., Jr. 1937. Archaeology of St. Lawrence Island, Alaska. *Smithsonian Miscellaneous Collections* 96(1). Washington, D.C.

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SACRED ECOLOGY, TRADITIONAL ECOLOGICAL KNOWLEDGE AND RESOURCE MANAGEMENT.

By FIKRET BERKES. Philadelphia: Taylor & Francis, 1999. xvi + 209 p., maps, illustrations, index, references. Softbound. US\$24.95.

Awareness of traditional ecological knowledge has become so widespread in the last ten years that the phrase (or its acronym, TEK) is now the standard descriptor of this often ill-defined and sometimes controversial subject. Although there is now a substantial literature on TEK,

Sacred Ecology is the most comprehensive and authoritative book on the subject to date. It is an engaging survey of the field, the quality of editing and production are high, and I detected only one error (on p. 138, sea urchin density is given per square mile, when it should presumably be per square metre). I would recommend this book highly, both as a course text and to the general reader. Yet so rapidly has the field of TEK grown that a book of this size and scope is, in fact, quite general. Many topics receive only cursory attention. For example, much TEK literature from northern Canada and Alaska, including most of what has appeared in *Arctic* in recent years, is absent from the 17-page list of references.

The book is organized in three parts: concepts, practice, and issues. In the first, Berkes defines TEK and compares it to "Western science." He explains the intellectual roots of the study of TEK, relating it to other emerging fields of environmental ethics, common property, and environmental history, all in turn rooted in ethnohistory and human ecology. Berkes shows the uses of TEK for a variety of environmental management purposes, such as resource management, conservation of biodiversity and protected areas, environmental assessment, and ecological research. The book's strength and focus is resource management, reflecting the author's own experience and expertise. The discussion of the use of TEK in environmental assessment (p. 32–33) is, in contrast, disappointing, especially as it does not address the role and utility of TEK in the prediction of effects.

In the second part, on practice, Berkes draws upon his long and fruitful research career (he began as a marine scientist and became a social scientist) on the resource harvesting and management practices of the James Bay Cree. He draws together his findings to illustrate key themes, one of which is the similarity between TEK and adaptive management. This section is enhanced by concise vignettes from Berkes' shorter research stints in diverse places and circumstances.

The third part, on issues, considers how local knowledge develops in contemporary circumstances, drawing on several case studies from the West Indies. These case studies also reinforce the parallel that Berkes draws between TEK and adaptive management, a particularly strong point of the book. In the final two chapters, the author addresses many questions that have been raised about the legitimacy and use of TEK; examines the challenge that indigenous knowledge poses to the "positivist-reductionist paradigm" that, he asserts, has dominated conventional resource management; and outlines the benefits of TEK for resource conservation and management. In so doing, he grounds TEK clearly in its institutional context (often one of common property arrangements) and suggests that periodic resource crises are not necessarily a sign of the failure of TEK, but can be the occasion for institutional renewal and learning.

Too many commentaries on TEK create the impression that science is the problem, and TEK is the solution.

Berkes avoids exaggerated claims for TEK, and instead points the way to an integration of knowledge systems. In a challenging concluding chapter, he suggests that the lessons we should be learning from traditional management systems include a more pluralistic approach, the importance of community-based management, and the importance of ethics in resource management.

Nonetheless Berkes frequently notes the philosophical and epistemological differences between TEK and a somewhat narrowly characterized "Western science." TEK certainly provides a useful antidote to the positivist-reductionist variety of Western science. But is the broad spectrum of science today really driven by "mechanistic, linear, Newtonian science" (p. 22), or by Cartesian thought (p. 34, p. 154), or by the ideas of the Enlightenment (p. 35)? Berkes makes much of the separation in Western thought between humans and nature. Yet the critique of this separation has in fact arisen from other traditions of Western thought and is advanced not primarily by those who have TEK, but rather by those who (even if inspired by TEK) are well trained in the sciences and in philosophy. Adaptive management can just as well be seen not as contrary to Western science, but as an outgrowth of it. There is certainly a case to be made that the rise of scientific resource management in the first part of the 20th century was closely related to, and conveniently served the needs of, distant and centralized authorities in an era of displacement and control of aboriginal peoples. But that is a story about economics, politics, and culture, not only about science, and needs to be the subject of another book.

Despite the title of the book, the notion of the sacred in ecology is not well elaborated. It is briefly alluded to as a unity of mind and nature (as opposed to industrialism and monotheism), and more frequently as a system of environmental ethics, but this is surely simplistic. Scientists frequently justify their endeavour on ethical grounds, not least among them the importance of rationality and the search for truth as antidotes to arbitrariness and tyranny, and as the route to human emancipation and equality. The realm of the sacred includes not only ethics, but also aesthetics, reverence, and faith, but these are barely mentioned.

Common property systems and community-based resource management systems, and the ways of thinking to which they give rise, are the exception, not the rule, in today's world. Those systems will not be part of any foreseeable future for most of the world's people, who now live in highly heterogeneous cities and towns, segmented by class, ethnicity, interests, and ideology, and who have little if any knowledge of how a naturally functioning ecosystem works or what effect their daily activities might be having on one, whether nearby or distant. In such a world, there does indeed need to be, as Berkes advocates, greater respect and understanding of TEK, as well as a more pluralistic approach to resource management. But there must also be more universal institutions, rules, and values by which the local and the global are integrated, because the local cannot remain isolated.

That is another challenge for effective and workable resource management and environmental conservation.

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NARRATIVE OF THE ARCTIC LAND EXPEDITION TO THE MOUTH OF THE GREAT FISH RIVER IN THE YEARS 1833, 1834 AND 1835. By GEORGE BACK. Dartmouth, Nova Scotia: CD-Academia Book Co., 1999. Distributed by University of Toronto Press. ISBN 1-894127-07-2. Maps, illus., CD-ROM. Personal use, Cdn\$39.95; institutional use, Cdn\$112.00.

A member of the British Navy, George Back was both a skilled naval officer and a talented artist. He created beautiful watercolours and sketches, some of which were used to illustrate the accounts of three of his four expeditions in northern Canada.

The expedition described in this CD-Book was organized to search for Sir John Ross when he failed to return from the Arctic. George Back volunteered to lead this land expedition, but after reaching the staging camp on Great Slave Lake, he received the news that Ross was safe in England. The objective of the expedition then changed from rescue to exploration, and Back set out to explore the Great Fish River (now the Back River) and to chart the coastline. Rapids and other obstacles in the river, ice, and bad weather on the coast prevented him from adding much new information to the charts. However, Back did spend a great deal of time making detailed illustrations, maps, and journal entries that give us much insight into the people, flora, fauna, and countryside of this part of the North.

Back's entire original journal, including four maps and 16 illustrations, has been scanned at high resolution (600 dpi) for inclusion in this CD-Book. The CD format allows illustrations, pages, and maps to be reproduced accurately, giving us another tool for learning. Using a zooming tool, one can magnify map segments up to eight times and print them. Readers can also choose to read the journal in its original format, with its old-fashioned typeface, or in an easier-to-read modern typeface and design. Back's journal provides interesting reading. He describes people, places, and events in great detail and makes thoughtful observations about his companions throughout the journal, leaving readers with lasting impressions of the activities and interactions of day-to-day life at the time of his expedition. Observations and details regarding weather, geology, botany, and wildlife, precisely located by frequent latitude and longitude readings, are also fascinating.

It would be interesting indeed to hear the story from the point of view of the other people involved in the trip (e.g., the voyageurs, the Chipewyans, or the interpreters).