

to have quoted the isotope data, and discussed trends in the isotope data with time.

One of the most controversial topics covered in the book is the interpretation of a cool mode in the Middle Jurassic to the Early Cretaceous, with the development of periglacial conditions with seasonal winter ice at high palaeolatitude sites. However, direct evidence for glaciation depends upon the interpretation by the authors of mudstone sequences with dispersed coarse clasts representing ice transport. As this is controversial, more detailed documentation and description of these sediments would have allowed the readers to examine the evidence for themselves.

Despite these criticisms, this is a useful addition to the literature on palaeoclimatology. Earth scientists working on any aspect of Phanerozoic climate will find it to be of value for three reasons: 1. it provides a broad framework within which to view one's own work, 2. it is a useful source of ideas to stimulate new research, and 3. it is an invaluable reference source, with nearly 900 references listed, of which more than 50% have been published since 1984. The book is well produced with few typographic errors, and at £40.00 is probably affordable by most libraries and individual research workers. Whether you agree with the authors or not, this book will probably become an essential reference for anyone trying to unravel part of the Earth's climatic history. (Duncan Pirrie, Camborne School of Mines, Trevenon, Pool, Redruth, Cornwall TR15 3SE.)

THE VARANGER SAAMI: HABITATION AND ECONOMY A.D. 1200–1900. Knut Odner. 1992. Oslo: Scandinavian University Press; Oxford: Oxford University Press. vii + 320 p, illustrated, hard cover. ISBN 82-00-21285-8. £27.50.

Knut Odner is a researcher who combines interests in archaeology and social anthropology, and who should also be called an ethnohistorian. All three approaches are mirrored in this fine monograph. The core of his data is from fieldwork totalling five to six months, conducted between 1981 and 1986 among the Saami of Varanger Fjord, Finnmark. He describes his work as 'an archaeological survey,' but there has also been intensive analysis of available documentary sources, touching on resources and their exploitation, settlement patterns, and social organization. One might regret that much of the sociological material might have been supported by personal observations of these phenomena — he tends to take the observations of his predecessors somewhat uncritically, although these refer to material from the past, which was often collected with a different intellectual frame of reference.

Odner also engages in a certain amount of 'shadow-boxing' with the trendier post-modernist anthropology that will, I believe, date rather rapidly, but the body of his material is firmly empirical. As a researcher with some identical interests, it is refreshing to find the 'new archaeology' being incorporated into anthropological discussion of the Saami.

His argument is complex, but a couple of items can be examined. He shows that the pre-1600 Coast Saami society was not merely a hunting economy, as frequently asserted, but was accompanied by the domestication of sheep, goats, and cows. The extent of this diversification is not certain, but it must have had consequences within the household, reducing the transhumance for women. Thus, in the seventeenth century, some Saami were sedentary, whilst others migrated. Moreover, yet other Saami engaged in sea-fishing. As in an earlier book, Odner is somewhat inclined to detect ethnicity as a distinctive variable at a time when there is no documentary evidence available, and when, perhaps, it was less significant than the strictly economic differentiation. This will no doubt be debated; Odner certainly gives some excellent data for such a discussion. (Ian Whitaker, Department of Anthropology, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada.)

THE REAL PEOPLE AND THE CHILDREN OF THUNDER: THE YUP'IK ESKIMO ENCOUNTER WITH MORAVIAN MISSIONARIES JOHN AND EDITH KILBUCK. Ann Fienup-Riordan. 1991. Norman, Oklahoma and London: University of Oklahoma Press. x + 420 p, illustrated, hard cover. ISBN 0-8061-2329-X. US\$35.00.

John Kilbuck was born in 1861. His education was directed by Moravians from primary school through theological seminary, and, in 1884, he became the first Delaware Indian to receive ordination into the Moravian Church. He and his wife Edith lived and worked among the Yup'ik peoples in southwest Alaska for the better part of 40 years, representing first the Moravian Church and subsequently the United States government, almost without a break between 1885 and 1922. The Kilbucks were thus undeniably agents of powerful institutions that defined (and continue to define) the nature of social relations quite differently from much contemporary Yup'ik ideology and practice. While admiring much about the Yup'it, the Kilbucks thought of them primarily as errant children and set about to bring them into the fold, not only of Christianity but also of capitalist society. Their job was that of most missionaries of the time, although carried out with perhaps a good deal more sympathy and respect for the people with whom they worked than was demonstrated by many of their contemporaries.

Working primarily from letters and journal entries written by the couple, Fienup-Riordan examines this period of intense Yup'ik/Euro-American interaction. It is her intention to challenge and redefine a number of assumptions prevalent in many descriptions of the missionising process — assumptions that tend to canonise the missionary project as 'civilising' or to demonise it as the source of cultural imperialism and, ultimately, the destruction of the other. Both positions tend to assume that the effects of these interactions are determined by the external institutions and deny the agency of the missionised. Neither incorporates an understanding of points of possible conjunction between the local and global institutions,

beliefs, or practices. The long-term effects of missions, she argues, are part of a dialectical process, in this particular case shaped by Yup'ik ideas and opinions as well as by missionary intent and systemic pressures. The Yup'ik role was neither passive nor merely resistive, but actively creative. Their theory of mind, of reincarnation, and, at a practical level, their admiration of hard work, all contributed to the ways in which they responded not only to the message, but the messengers.

Fienup-Riordan is entirely correct that the missionary process in Alaska remains virtually unexamined and that such an examination is critical to any clear understanding of social relations in Alaska today. Her study of a little-documented era in Alaskan history is thorough, and it supports her case convincingly. She knows a great deal about ways Yup'it talk about the world and human relations within it, and so brings a rich interpretation to the events recorded by John and Edith Kilbuck. I am less convinced that anthropologists so obligingly fall into the extreme dichotomies set out in her introduction. Much of the anthropology of the colonial encounter, of syncretism, of post-functionalism in general, is based on a challenge to the view that change can be thought to be imposed from the outside, or that local/global relationships are not dialectical by definition.

The question of how much direct material to use from the journals must have been a difficult one. Fienup-Riordan, after all, is attempting to deconstruct the history of a complex process through her analysis of text. I would like to have seen more of the journal entries themselves, since, as it stands, the reader is pointed quite carefully in the direction of the author's argument — coming once again face to face with one of the central questions about the nature of the ethnographic voice facing anthropologists today.

Some of Fienup-Riordan's most stimulating and controversial arguments are brought forward in the concluding chapter, concerning the relationship between language and culture and the influence of single individuals on the course of historical interactions between systems. In support of her assertions, more comparative material would have been useful, particularly from the North Slope, where the Kilbucks also worked, but where the history of language change as well as of Iñupiaq/Euro-American interactions have taken a different course.

That being said, the work presents historical material of real interest and importance set within an ethnographic context that enriches its presentation significantly. (Barbara Bodenhorn, Pembroke College, Trumpington Street, Cambridge CB2 1RF.)

SCIENCE AND THE CANADIAN ARCTIC: A CENTURY OF EXPLORATION, 1818–1918. Trevor H. Lever. 1993. Cambridge: Cambridge University Press. xiv + 438 p, illustrated, hard cover. ISBN 0-521-41933-6. £40.00; US\$64.95.

The domination of science by politics, finance, and committees, which we have had to accept as the norm in recent times, has always existed in polar research. This emerges

clearly in this book, which, apart from its importance for historians of science and polar scientists, contains much that will interest the more general reader and afford him wry amusement in the recognition of the familiar in situations and characters from the last century.

This is a scholarly work — well researched, carefully written, and with the full apparatus of footnotes — but readable and well illustrated. It gives an account of exploration and research in the Canadian Arctic, a maze of islands and ice-bound waterways that, together with a large piece of the continent, comprise an area of land north of the tree-line greater than in any of the seven other Arctic countries. A map of the region is provided, but it is not always easy to locate on it the place mentioned in the text. The period covered began with a scientifically successful expedition by the Royal Navy into virtually unknown regions adjacent to what was then a British colony, and finished with Canada as a sovereign nation with its own scientific resources, faced with applying its knowledge and new technologies to the vast area that had been reconnoitred and claimed as part of its territory. The author, who is Professor in the Institute for the History and Philosophy of Science and Technology, University of Toronto, treats the history of this period chronologically, dealing with different sciences — geology, hydrography, meteorology, botany, zoology, and anthropology — expedition by expedition. This is a sensible way of handling the material, and a reader wishing to trace the development of a particular science should have no difficulty in extracting what he needs. Geography, which was unequivocally regarded as a science in the early nineteenth century, is included in the scope of the book, and, indeed, would be difficult to disentangle from the science *sensu stricto*.

The story of the British navy's involvement in Arctic exploration may be outlined as an indication of the fascinating material that is presented. The end of the Napoleonic wars in 1815 left the Royal Navy underemployed, and scientific survey was an occupation to which its technically trained officers could readily adapt — geomagnetic studies, for example, might have been tailor-made for them. The long-standing figment of a freely navigable Northwest Passage from the Atlantic to the Far East was an objective with popular appeal to which could be coupled scientifically more interesting projects and also, perhaps more importantly for the politicians, a search for it would forestall Russian probing into the area. The *Admiralty manual of scientific enquiry*, produced in the mid-nineteenth century, crystallized the methods to be used and the branches of science to be studied. Many able scientists became involved in Arctic research, and ultimately no fewer than 15 of them became Fellows of the Royal Society of London. A cosy relationship grew up between the Royal Navy and the Society. This had the advantage that the Admiralty became uncommonly inclined toward science, but a disadvantage was that the non-naval geographical or scientific enterprise, such as that by whalers, who had an unrivalled knowledge of the Arctic, was discouraged.