

circumpolar peoples lived in similar seasonally regulated and periodically rich environments, there are many similarities of subsistence, settlement patterns, technology, social organization, and developmental trajectories. In this context, differences are highly significant. The encyclopedia is published in conjunction with the well-respected Human Relations Area Files (HRAF). One of the purposes of the HRAF is to facilitate cross-cultural comparisons. By excluding a significant portion of the Arctic and sub-Arctic prehistoric world, this volume loses an opportunity to provide a basis for broader and more interesting comparison.

Within Arctic and sub-Arctic North America, coverage is incomplete. Notably absent are the Maritime Archaic Indians of Labrador and Newfoundland. Maritime Archaic Indians were the first inhabitants of Labrador, arriving at least as early as 8000 years ago. Five hundred years later they built the oldest burial mound in North America, and three and a half thousand years later, in Newfoundland, they created the largest Archaic cemetery in the far northeast. Yet the only mention of Maritime Archaic Indians is by way of passing in Robert Park's coverage of pre-Dorset, where he brings up the important issue of cultural interactions on the Labrador coast. As for the Labrador coast, despite its rich and well-published prehistory, it is not even in the index. The impression given is that the North American Arctic and sub-Arctic have only one coast.

Other uneven coverage is due to the senior editor pinch-hitting for authors who were unable to write their pieces on time or at all, as acknowledged in the editor's preface. Consequently, for eight topics (Dorset, Amur Palaeolithic, Amur Neolithic and Bronze Age, Early Northwest Coast Pebble Tool Tradition, Northern Archaic, Palaeo-Arctic, Shield Archaic, and Siberian Protohistoric) a very short summary stands in for a more comprehensive piece, unintentionally de-emphasizing certain cultures. I am most familiar with Dorset Palaeoeskimo prehistory, and frankly I cannot imagine publishing such a volume without including comprehensive treatment of this core culture. I cannot comment on the other seven areas.

A regional survey of prehistory must be visual and spatial as much as textual. It is essential that every site mentioned in the text be located on an accurate and readable map. It would also be very useful to have line drawings or black-and-white photographs of diagnostic tools and features. Unfortunately, this volume has no illustrations and does not provide a detailed map for each cultural tradition.

Instead, it has a section of 15 maps, which are meant to portray large cultural areas through slices of time. These maps leave a great deal to be desired. They are visually unpleasant with jagged lines and heavy straight-line labelling, they are so generalized that they portray almost no information, and there are some errors. For example, two of the maps (#2 and #4) meant to show the distribution of Arctic North American cultural traditions in fact show

north Asia. One of the north Asian maps meant to show the major cultural traditions at 2000 BP (map #9) includes the significantly earlier Mesolithic and Neolithic. Maps #5 and #6 erroneously show the Shield Archaic extending eastward to include the coast of Labrador. The coast of southern Labrador and the island of Newfoundland, both with a rich sub-Arctic prehistory, are not included in any of the time slices.

I could not work out how the contributions in the volume are organized, since they are not presented chronologically or geographically. For instance, of the 31 contributions, early northwest coast is #6, late northwest coast is #12, and middle northwest coast is #14. Dorset Palaeoeskimo (2800–700 BP) is sandwiched between Cis-Baikal Neolithic and Bronze Age (8000–3000 BP) and early northwest coast (9500–5500 BP).

Finally, the copy-editing is not as good as it could be. There are spelling errors (page 23: 'mossess'), inconsistent use of style (page 28: '1 or 2 structures', but page 29: 'three to five families') and some words that don't look quite right (page 29: 'kayaklike boats'). There is at least one example of an acronym used without first explaining what it stands for, and without using it again (EAST for eastern Arctic Small Tool Tradition, page 28).

If an encyclopedia is an accurate and complete compendium of all available information on a certain topic, then this volume cannot lay claim to being an encyclopedia of Arctic and sub-Arctic prehistory. Too much is missing and there are too many errors. Sadly, given the high quality of many of the individual contributions, this volume does not weigh as heavily in the hands as it might. (M.A.P. Renouf, Archaeology Unit, Department of Anthropology, Memorial University of Newfoundland, St John's, Newfoundland A1C 5S7, Canada.)

ICE DRIFT, OCEAN CIRCULATION AND CLIMATE CHANGE. Jens Bischof. 2000. Berlin, Heidelberg, New York: Springer-Praxis. xvi + 215 p, illustrated, hard cover. ISBN 1-85233-648-X. £70.00; \$US105.00; DM210.

The first problem with this book is that the title is misleading. The aspiring reader quite reasonably expects to encounter a book that informs him about the relationship of sea ice and icebergs with ocean circulation and with climate change. Instead, it deals with none of these things, or at least deals with them as viewed through only a single narrow window, that of the record of ice-rafted debris (IRD) left on the seabed. Therefore we are dealing with a highly specialised book, which gives a detailed and rather contentious view of historical changes in high-latitude ocean circulation based on a single source of data. These results are often unsupported by other evidence, and the interpretations are flagrantly in opposition to what is suggested by other sources of data, such as ice cores, tree-ring data, etc.

A typical set of such assertions concerns reversals in the current systems in the Norwegian Sea during the Holocene. The distribution of coal fragments (fig 5.10) in

IRD is used to support the assertion (fig. 5.16) that in both the early (9000–5000 years BP) and the later Holocene (more recently than 4000 years BP) the flow in the Norwegian Sea was dominated by a cold polar current coming out of the Barents Sea and running down the coast of Norway. Such a polar current would have administered a massive climatic shock to Norway, which is not supported by any other data. In addition, the simple dynamics of currents on a rotating Earth shows that as a boundary current this is flowing the wrong way and would not be stable. A more considered view would have involved thinking about the sort of year-to-year variability in ice cover that we get today due to anomalous wind action. For instance, in May 1881, sea ice (originating through Fram Strait) spread over almost the whole of the Norwegian Sea to near the Norwegian coast, due to a freakish wind pattern at a critical time of year (and not occurring in 1880 or 1882). This overstretched ice melted *in situ* and no doubt dropped its burden of sediment all over the Norwegian Sea. A succession of such sporadic episodes over a long period could be misinterpreted as indicating a current coming from a different direction from normal. This illustrates the danger of interpreting an entire pattern of ocean circulation on the basis of one kind of evidence only.

The only part of the book that resembles the title is chapter 7, entitled 'Sea ice motion: the physical foundation and implications,' which was written for the book by a 'guest author,' Peter Lemke, of the Alfred Wegener Institute for Polar and Marine Research, Bremerhaven. Lemke is one of the world's leading modellers of the ice–ocean system. His chapter describes sea-ice modelling methods and shows some drift observations, drawing attention to the importance of wind forcing, although the figure (7.5) meant to show the overall mean motion pattern is missing from the book. He then describes a numerical experiment in which parcels of sea ice are started in motion from different coastal regions north of Siberia, and an ice–ocean model used to compute where the parcels move and where they dump their sediment (dumping occurs when the model indicates melt taking place). This experiment could be of the greatest importance in connecting the empirical observations of Bischof with a well-founded model treatment, but, infuriatingly, the publishers have also omitted the figure that shows the result of the experiment (fig. 7.9) from the book.

A potentially useful section of 20 colour plates showing icebergs and sea ice loaded with sediments is spoiled by the absence of individual descriptions of what each plate is meant to show, as well as any scaling. Although we can see which pictures show icebergs seen at a distance, the close-ups could be icebergs or sea ice and could be on any scale. This is important, because in his conclusions Bischof maintains that sea-ice sediments are fine-grained, while those picked up by icebergs are larger, up to the size of rocks. I have personally seen large stones among the sediments on top of sea ice. Although the conventional source of sediment is believed to be fine-grained material

suspended by storm action in Siberian shelf seas, which is then incorporated in newly forming ice, another source is the occasional spring outbreak of water from Siberian rivers, which flows out over the surface of coastal fast ice, ice that later breaks up and joins the moving pack along with its burden of heavier riverborne sediment.

There is no denying Bischof's enthusiasm for this field, nor his high level of knowledge and experience on the topic of ice-rafted sedimentation. There is no doubt that this is an important new technique through which we really can derive fresh knowledge of the past distributions of sea ice and icebergs from particular source regions. I just wish that he had called his book 'Ice-rafted debris' to avoid giving the false impression that this is a general textbook on sea ice, and had also been less keen on making sweeping assertions based on IRD evidence alone. (Peter Wadhams, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

CHANGING TRACKS: PREDATORS AND POLITICS IN MT MCKINLEY NATIONAL PARK.

Timothy Rawson. 2001. Fairbanks: University of Alaska Press. xvi + 326 p, illustrated, soft cover. ISBN 1-889963-17-8. \$US24.95.

There are some topics that elicit strong opinions from people. Try telling some folks that Scott was a flawless explorer, that Madonna has had more musical impact than The Beatles, or that Roger Moore is the best James Bond. You're bound to get a reaction, because these are topics about which people have definite opinions. The same can be said for wolves. To most people, they fall somewhere near the extremes of the continuum that runs from vicious, bloodthirsty baby-eating destroyers of Bambi on one end, to spiritual, mystical conduit to a higher understanding of Gaia on the other. People have feelings about wolves, even if they don't have contact with them. In *Changing tracks: predators and politics in Mt McKinley National Park*, Timothy Rawson has deftly, and in a balanced fashion, presented the history of a political conflict that involves the passionate feelings of several different wolf perspectives.

The conflict that he has so wonderfully chronicled is the wolf–sheep controversy, a conflict the roots of which go back to the dawn of the domestication of animals. When people started keeping ungulates as possessions and ready food sources, the wolf became a competitor and the 'bad guy.' In these earliest days, the conflict wasn't over opposing opinions, because back then everybody was against the wolf. However, as civilisation evolved and human populations began to shift to cities, the wolf began to attract some fans, until today, when wolf-love is at an all-time high. But unlike many contentious issues, the wolf–ungulate controversy is a dispute that cuts across most cultures and has carried on through several millennia. At its heart is one of the oldest resource-management conflicts in human history, and with extreme thoroughness and a fluid style, Rawson walks us through the whole saga.

The book looks at how opposing factions fought for