

known rivers and portage routes west of Pike's Portage. Also, Ingrid Urberg of the University of Alberta has written an especially compelling chapter on the life of Helge Ingstad, who began his adventures in Canada in the 1920s as a barrenland trapper and went on in later life to discover the Viking Age site at L'Anse aux Meadows in Newfoundland. In 1970, I had the honour of meeting Helge Ingstad on Baffin Island, where he was still searching for evidence of Viking presence.

Pike's Portage is named for Warburton Pike, an English gentleman adventurer and hunter who crossed it in 1890 with aboriginal guides. Although Pike is romanticized in this book, today many would challenge his racist attitudes and stereotypes of aboriginal people, as well as his misinformation about his Beaulieu family guides. Unflattering stories about Pike still linger in the North, especially among Beaulieu family members.

Pike's Portage: Stories of a Distinguished Place is a well-written book with appropriately detailed maps and an interesting display of period photographs. Although there's not a lot that is new here for aficionados of northern history, many will find this a fascinating read about the people who have inhabited or passed through this storied place.

Alex M. Hall
Canoe Arctic Inc.
Box 130

Fort Smith, Northwest Territories X0E 0P0, Canada
alex@canoeartctic.com

THE GREAT OCEAN OF TRUTH: MEMORIES OF "HUDSON-70," THE FIRST CIRCUMNAVIGATION OF THE AMERICAS. By PETER WADHAMS. Ely, Cambridgeshire: Melrose Books, 2009. ISBN 978-1-907040-30-6. vi + 378 p., map, b&w and colour plates, appendixes, index. £15.99.

This is an interesting, if unusual, book. Its nominal intention is to describe the 1969–70 scientific cruise of the Canadian Government vessel, the CSS *Hudson*, which (if one neglects the northern Canadian Arctic Archipelago) circumnavigated the American continents. The "Hudson-70" cruise was arguably the last of the long-duration oceanographic expeditions that explored the unknown oceans, which the author considers to have been initiated by the 1872 HMS *Challenger* cruise. Certainly, oceanographic research expeditions no longer span durations of a full year or longer; however, by 1969–70, the world's oceans were no longer quite the blank scientific slate that they were at the time of the *Challenger* voyage. Instead, new technologies were overtaking grand ship-based scientific investigations. The introduction of new observational methods provided global surface coverage from orbiting satellites and enabled long-term measurements (i.e., over months or even years) at widely spaced sites from moored ocean equipment, requiring the use of ships only for deployment and recovery purposes.

This book was written nearly 40 years after the end of the *Hudson-70* cruise. The author, now a well-known and esteemed polar oceanographer, was fresh out of his undergraduate training in physics at Cambridge University when he joined the *Hudson-70* crew as a "scientific assistant." He participated in the entire cruise, and his account is highly personal and often very subjective. It informs and enlightens its readers on the scientific content and background underlying the yearlong expenditure of human and technical resources. He is particularly good at concisely summarizing the key physical and marine biological processes that were studied as part of the cruise's oceanographic and other geophysical programs, using instruments and methods that are now mostly outdated. The author also updates these understandings on the basis of research carried out in the 40 years since the cruise ended. His outline of the origins of the cruise and his own inclusion on its scientific staff tells us much about the Canadian ocean science community around 1970. Wadhams' descriptions of the deep ocean working environment are vivid, and the writing gets particularly intense in his meticulous portrayal of sights and events experienced on his frequent trips ashore in Argentina, Chile, and Peru, illustrated by spectacular colour photographs taken during those landfalls. Given the author's distinguished career in polar oceanography, it seems somewhat surprising that the text devoted to the Canadian Arctic regions of the Beaufort Sea and the confined channels of the Canadian Arctic Archipelago is limited to brief and very high-level descriptions of major oceanographic and ice features. Overall, the author demonstrates a remarkable grasp of details of events and states of knowledge from times 40 years in the past. A few minor details are somewhat distorted, such as the date of the massive landslide east of the town of Hope, British Columbia, which occurred in 1965 rather than 1955.

Lest the reader anticipate being restricted to a snapshot of ocean science as it was carried out and understood in 1970, it should be noted that much of Wadhams' text is best classified as a mixture of travelogue, exposé, and "coming of age" reminiscence. It brims with the excitement of a nascent but knowledgeable and appreciative traveler and frequently offers vague echoes of Watson in *The Double Helix* and Holden Caulfield in *Catcher in the Rye*. The personal and professional reminiscences included in the writing, contributed 40 years after the described events, retain the tone and, yes, the priorities of a libidinous, gregarious, 21-year-old male. This approach is refreshing and highlights an often-unappreciated impediment to a young scientist's powers of concentrated thought. On the other hand, female readers are likely to notice that the physical "attractiveness" of all women encountered (scientists or not) is inevitably assessed, while males escape such scrutiny. Likewise, at times, judgements on the wisdom of the *Hudson's* route and activity priorities seem to be inordinately coloured by the opportunities they offered for Wadhams' social and recreational pleasure. This is a nagging inconsistency, given the book's often-unflattering treatment of *Hudson-70* ship

management. Serious questions are raised about the suitability of at least two key members of the shipboard support team for participation in a yearlong oceanographic science cruise. Science is portrayed as having been short-changed not only at the hands of a lonely sea captain and a rather unpredictable ship's doctor, but also by at least one public relations-driven science manager. Although the benefits drawn from the cruise are enumerated in an appendix, the reader may have trouble discerning a hard-and-fast "Science Plan," which one would have thought to have been paramount in setting schedules and resolving on-board disputes over competing scientific priorities.

The readership for this book is likely to be limited primarily to members of the greater oceanographic and polar research community who may remember and appreciate the described people, events, and issues. Readers interested in visiting South America might also find some useful information and inspiration, although we suspect that many regions visited by the author are no longer considered "remote" by modern travelers. The book may also be of interest to undergraduates considering a career in oceanography who might appreciate quick reviews of the progress achieved over the past 40 years in describing and understanding oceanographic processes. Overall, however, the appeal of the book probably lies in its paralleling of a last anachronistic effort to do "big" global oceanographic science with a young man's fitful and uncertain start of a career. Wadhams' melancholy rumination on that career in a postscript cannot help but stimulate the reader's own introspections.

*John R. Marko and David B. Fissel
ASL Environmental Sciences Inc.
1986 Mills Road
Sidney, British Columbia V8L 5Y3, Canada
Corresponding author: dfissel@aslenv.com*

THE NORTHERN WORLD AD 900–1400. Edited by HERBERT MASCHNER, OWEN MASON and ROBERT McGHEE. Salt Lake City: The University of Utah Press, 2009. ISBN 978-0-87480-955-8. x + 349 p., maps, b&w illus., index, 26 contributors. Hardbound. US\$55.00.

The chapters in this edited volume, apart from brief introductory and concluding chapters by the editors and a summary by James Jordan exploring the relationship between Arctic climate and landscape during the centuries under question, are grouped into four sections. The first, "Social Change in the Western Arctic," contains three papers documenting the apparently dramatic population interactions and movements that took place in Alaska and adjacent areas during this period and exploring their possible causes and implications for events elsewhere in the Arctic. The next section, "The First Thule," deals with the nature, timing, and causes of the expansion of the Thule culture from Alaska into the Canadian Arctic and Greenland, exploring

various issues from the perspectives of biological anthropology, archaeology, and technology. The third section, called "The Last Dorset," contains chapters that explore the age and nature of the most recent Dorset occupations in three regions. The final section bears the dramatic title "Regional Interactions, Population Movement, and the Clash of Cultures." It contains a chapter that explores the disappearance of Dorset from Newfoundland and their replacement there by Recent Indian groups and three chapters that postulate contact between the Dorset and the Norse and explore the nature and effects of such contact. The issue of contact between the Dorset and the Thule comes up in several chapters in each of the last three sections. In a short review, it is impossible to comment adequately on all the interesting content of many of the chapters. I will concentrate on two themes: climate change and its effects, and chronology.

One of the concerns that lay behind the choice of those particular centuries as the focus for this volume was the issue of climate and its effects on human populations, particularly the so-called Medieval Warm Period. Many of the authors challenge previous uncritical assertions of climate change as the driving force behind major changes in the archaeological record, especially the Thule migration. However, in circumstances where a particular change appears to have occurred essentially simultaneously over a broad geographical area, only an equally widespread or pervasive phenomenon, such as climate change, can be plausible as a cause. Thus, M.A.P Renouf and Trevor Bell speculate in their chapter that the synchronicity of the Dorset population collapses across Newfoundland may ultimately have been due to climatic warming, but that the proximate cause was the abandonment of the vital Phillip's Garden site at the crossroads to Labrador. Similarly, Herbert Maschner and his five co-authors conclude that interactions between climate and oceanic productivity during this period, combined with developments in boat technology, led to dramatic changes throughout the archaeological record of the Western Aleutian region, the Kodiak region, and the northern Northwest Coast region. However, most of the chapters posit non-climatic factors as the ultimate cause for many of the most important changes in the archaeological record during this period.

It is not surprising that in a volume focusing on a specific period of time in the past, interpretations of chronological data figure prominently in many of these chapters. For example, in exploring whether climate change can serve as a plausible explanation for a particular transformation in the archaeological record, it is necessary to determine the precise chronological relationship between a particular change in climate and that transformation in order to ascertain whether a cause-and-effect relationship can have existed between them. The plausibility of invoking climate change as an explanation for a particular transformation in the archaeological record is further enhanced if the transformation took place simultaneously over a very broad area, since a widespread change would be less consistent with other possible explanations such as diffusion of ideas