

and a full bibliography. In the review copy, a significant part of the bibliography was missing and the pagination at the end of the book incorrect. One hopes that the whole of the print run was not so afflicted. The book is very well presented, attractively bound, and has an astonishingly reasonable price. The publication was supported by the Miegunyah Fund. The book is warmly recommended, and the author and publishers deserve our thanks. (Ian R. Stone, Laggan Juys, Larivane Close, Andreas, Isle of Man IM7 4HD.)

**KEYGUIDE TO INFORMATION SOURCES ON THE POLAR AND COLD REGIONS.** William Mills and Peter Speak. 1998. London and Washington: Mansell Publishing. xiv + 330 p, hard cover. ISBN 0-7201-2176-0. £70.00.

The authors offer this work as a quick reference guide to current knowledge of the polar and cold regions, a commendable if somewhat daunting undertaking. The work is intended for a broad range of those concerned with such research, but might prove most useful to students who may be new to the field.

The *Keyguide* is presented in three parts. The first is a survey of the polar and cold regions and of their relevant information sources. It provides a broad historical background and commentary for the uninitiated. The exercise begins with maps and definitions of the polar regions; the reader learns, for example, that whilst defining the Antarctic geographically is relatively simple, such is not the case for the Arctic; it depends on which of various parameters or delimiters one uses, such as ice cover, permafrost, isotherms, etc. (The correct definition of permafrost, the authors remind us, is not 'permanently frozen ground.')

A brief historical account of polar research follows, starting with rudimentary data collection on early sailing explorations, and tracing this up to our present highly organized system of research organizations. The good record of international cooperation in Antarctica is contrasted with the more sticky problems in the Arctic, which has eight 'Arctic Rim' countries with which to contend. What broke the ice here (so to speak) was Mikhail Gorbachev's proposal in 1987 that the Arctic be declared a zone of peace and protection. This provided the framework for a growing number of international organizations and agreements on the Arctic. The authors make only brief mention here of research in the non-polar cold regions, but point to relevant organizations such as the International Glaciological Society and the International Permafrost Association.

Next is a listing of all national organizations engaged in polar research, with brief histories and locations of their research stations. The authors are diplomatic in giving all countries equal billing here, but in reality there is a continuum of importance, ranging from a few countries that are heavy-hitters in polar research down to some that have only pro forma efforts in place, intended to do little more than show the flag. The discussion concludes with a brief mention of the role in polar affairs of non-governmental

organizations, notably Greenpeace and the Worldwide Fund for Nature.

The focus of the next chapter is educational sources pertaining to polar research. It is directed to those who may seek career opportunities, or simply employment, in polar regions. The authors suggest a wide range of pertinent academic disciplines that one might pursue. They also provide a useful listing of institutions offering such courses; curricula are described for leading institutions throughout the world.

Next is an overview of the basic types of information sources and their formats. Main topics include bibliographic databases, serial publications, conference proceedings, theses and dissertations, and translations. No surprises here, although this reviewer was struck by the lukewarm evaluation of the thesis as a resource. The authors give it rather low marks, as 'tending to be both physically and intellectually inaccessible,' which detracts from the presumed originality of the thesis topic. On the matter of conference proceedings, this reader must emphasize that these are rich but elusive sources. The problem of obtaining conference proceedings in a timely manner, or indeed at all, is a vexing one for bibliographers, as can be attested from my work with the *Cold regions bibliography*. One can only hope that the retrieval situation improves with time.

This chapter concludes with references to internet resources. The authors note that at the time of publication (1998) the potentials of the internet were just beginning to be realized. It follows that internet search skills will become increasingly required if one is to do up-to-date research.

The fifth chapter ('Who? What? Where?') tells how to get information on individuals, living or dead; on data and statistics; and on maps. The sixth and final chapter in this part lists libraries, archives, and museums available to the researcher.

Readers not concerned with the above can cut to the chase by going directly to the second part of the book, which is a compendium of published sources under the simple heading of 'Bibliography.' The authors emphasize that the contents are guidelines, not a comprehensive listing. All types of print and electronic formats are covered. Entries are organized in a hierarchical format with Dewey Decimal notation, and are numbered consecutively throughout. There are two main categories here. The first, 'Regional and general sources,' has some 200 entries ranging from the most general (a guide to reference books) to a current listing of internet sources. In between, the authors cover a range of topics such as bibliographic databases, periodicals, and special collections.

The second main category in Part II is 'Subject sources,' which lists sources on disciplines in the sciences, arts, and humanities. The subsets are 'Earth sciences,' 'Life and environmental sciences,' 'Human and social sciences,' 'Arts and humanities,' 'Engineering and related subjects,' and 'Travel and expeditions.' For a random example to

give the general flavor, here is the treatment of botany, a subset of 'Life and environmental sciences,' which is broken down into a brief overview followed by botanical sources for polar and cold regions, the Antarctic, the Arctic, Alaska, Canada, Greenland/Iceland, the European Arctic, and Russia, for a total of some 40 references.

Most of the references are monographs, and most are in English. There is extensive cross-referencing to other parts of the book, and websites and e-mail addresses are given where known. The authors cite more than 1000 sources here, and appear to have covered the ground most thoroughly. Initially this seemed a bewildering array of information, but if one follows the table of contents, it becomes manageable. The field of information to be considered is a vast one, so its documentation is necessarily somewhat complex.

Part III is a 'Directory of selected organizations,' namely those organizations mentioned elsewhere in the book. It is ordered broadly under international and national organizations; libraries, archives, and museums; and publishers. URLs and postal and e-mail addresses are included. The book concludes with an index of proper names.

I searched for gaps in the *Keyguide*, but was hard put to find any. I think that the Russian *Referativnyy Zhurnal*, while mentioned, deserves a fuller treatment, since the series (which is published monthly, not irregularly as listed here) covers the world uniquely in science and technology. *Referativnyy Zhurnal-Geofizika*, for example, has much cold regions material, and I would cite *Referativnyy Zhurnal-Vodnyi Transport* for its excellent coverage of icebreakers. I note also the absence of patents, which I would have thought a source worthy of mention (the number of patents cited in the *Cold regions bibliography* is now approaching 2000). There are just a few other quibbles. *Bibliography on cold regions science and technology*, supported by CRREL, is listed as having citations without abstracts; this is correct except for entries by CRREL authors, which do include the author's abstract. There are the inevitable few typos; one is under zoology, where the subset numbers appear to have slipped a digit. But these are minor flaws in an otherwise very solid work.

This reviewer's only other correction is rather an addendum, referring to the *Antarctic bibliography*, published by the Cold Regions Project at the Library of Congress. Owing to a recent budget dispute between the Library of Congress and the National Science Foundation sponsor, NSF has withdrawn its support, so the *Antarctic bibliography* and *Current Antarctic literature* have ceased publication. They are therefore both dead files. As of this writing, the future of the Antarctic effort is uncertain, as are the prospects for the remaining Cold Regions Project at the Library of Congress. The effort may possibly be resumed at some future date by a private contractor.

In conclusion, the authors have done an impressive job when one considers that the universe of publications concerning cold regions is extremely diffuse; there are

now, for example, more than 2000 periodicals cited in the *Cold regions bibliography*, and that is just in science and technology. What Mills and Speak have done is to focus on only the most important of the available sources; thus the *Keyguide* provides a starting point without overwhelming the user. This is a skillfully organized and highly informative reference book that should prove useful to anyone seeking information on the cold regions, whatever the topic. (Stuart Hibben, 7719 Sebago Road, Bethesda, MD 20817.)

**NORWEGIAN MARITIME EXPLORERS AND EXPEDITIONS.** Kåre Berg, Thor N. Devig, Øystein Kock Johansen, and Henrik Ulven. 1999. Oslo: Index Publishing AS. 175 p, illustrated, hard cover. ISBN 82-7217-102-3. NOK 100.

This year is the one thousandth anniversary of Leif Eiriksson becoming the first European to reach North America. As part of the commemoration of that event, the Norwegian Trade Council sponsored this book, which is a tribute to the great maritime and polar explorers who made significant contributions both to Norwegian history and to the geographical knowledge of the Earth.

The book, which has contributions by four authors, is divided into 10 chapters, five of which, as well as the Introduction, are written by Øystein Kock Johansen, a well-known archaeologist who has specialised in Nordic and maritime archaeology. Johansen's first chapter is about the ninth-century voyages of Ottar the Viking, who is credited with sailing both to the White Sea and to the Wessex of King Alfred. The next chapter looks at the Norse discovery of the New World. Johansen indicates that, according to the *Greenlander saga*, Bjarni Herjólfsson was the first Norse mariner to sight the east coast of North America, some time around 986. However, both that and the other great Vinland saga, *Eirik's saga*, agree that around the year 1000 Leif Eiriksson was the first European to go ashore in the New World, landing most likely on Baffin Island (which he named Helluland), Labrador (which he called Markland), and, finally, Newfoundland (his famous Vinland).

In the next five chapters, the other three authors deal with polar exploration. Henrik Ulven writes about Jens Munk's Northwest Passage expedition of 1619–20, on which only three of the original 65 men survived the scurvy that appeared during their wintering at the estuary of Churchill River on Hudson Bay. Thor N. Devig makes the one Antarctic contribution to the volume with a chapter on Carl Larsen, who, after having served as a sealer and whaler in the Arctic, was captain of *Antarctic* on Otto Nordenskjöld's Swedish Antarctic expedition (1901–04) and then became a pioneer in the Antarctic whaling industry.

There are three chapters by Kåre Berg, one about Fridtjof Nansen's Arctic drift on *Fram* (1893–96), one on Otto Sverdrup's second *Fram* expedition (1898–1902), and one on Roald Amundsen's magnificent attainment of