

Inuit navigational skills of which I am aware. Yet, as MacDonald admits, Inuit knowledge has diminished substantially in recent generations, and his project has salvaged memories of some of the last elders remembering traditional practices. Had this research been conducted two or three decades earlier, one can only wonder how much richer the present volume might have been. Nonetheless, MacDonald demonstrates the elegance of Inuit intellectual culture and the many features of aboriginal knowledge that are analogous to western science.

Inuit observations were once typically dismissed by non-Native scientists as hearsay opinion or folklore, but in recent years the validity of aboriginal knowledge and its value for enhancing western science have become more widely appreciated. An example is given of Inuit reports about sounds emitted by the aurora borealis and displays occurring close to ground level being rejected by most atmospheric scientists, although confirmed in historical accounts written by European and American explorers. Yet we may be perpetuating a bias against information from aboriginal people by continuing to describe material as 'traditional knowledge,' while 'science' is credited only as a product of western society.

Modern Inuit have become less reliant on star-gazing and traditional navigational skills with the introduction of high-speed snowmobiles, man-made landmarks, compact GPS (Global Positioning System) gadgets, street lights in winter, clocks for telling time, and calendars organized by work days, weekends, observance of Sunday religious rites, and holiday periods. With the establishment of Inuit jurisdiction to Nunavut (formerly the eastern Arctic) in April 1999, interest in reviving the Inuit culture has grown and should generate new opportunities for collaborative research between community residents and western scientists. Material from *The Arctic sky* is already being used in school classrooms to teach elements of Inuit astronomy to children, and the book is a valuable model for future studies combining indigenous and western sciences.

*The Arctic sky* is beautifully produced by the Royal Ontario Museum and the Nunavut Research Institute, and contains numerous colour photographs, sketches, woodcuts, images of artifacts, and diagrams. For Igloolik elders and John MacDonald, the stars in the Arctic sky will surely whistle their thanks for being remembered through the publication of this intriguing volume. (Carol Brice-Bennett, Bareneed, Conception Bay, Newfoundland, Canada.)

**SNOW.** Ruth Kirk. 1998. Seattle and London: University of Washington Press. 320 p, illustrated, soft cover. ISBN 0-295-97734-5. \$US17.95.

Do not be misled by the title of this book, which was first published in 1977. Whilst it attempts to cover the distribution of snow in all its vicissitudes, it also deals with many other aspects of frozen water, from snow animal ecology to snow clearance in New York. It is not written for the specialist glaciologist or meteorologist, but more for the well-read generalist with some knowledge of ice ages, climate change, polar biology and anthropology, snow

transport systems, and water conservation and management. The author draws on her direct experience of snow whilst living with her husband, a ranger in the Mount Rainier National Park, reputedly the snowiest place in North America; on wide reading in the eclectic literature of the subject; and on discussions with notable mountaineers, and particularly her friendship with Sir Charles Wright (now deceased), a long-time survivor of Robert Falcon Scott's last expedition. In no way is the book a scientific monograph, nor a textbook in the physical sciences, but a highly readable, discursive account similar in approach to the classic *Times of feast, times of famine*, by the French social historian Emmanuel Le Roy Ladurie. Essentially, it is a 'geography of snow.'

The book is divided into 10 chapters as diverse as: 'The role of snow,' a general commentary on the influence of snow on the human environment, including an account of the making of snowballs by macaque monkeys; 'Theories of ice ages'; a brief outline of the major events in the search for the North and South poles; the contrasts in polar ecology of the Arctic and Antarctic; perceptive analyses of human adaptation to snow and ice in shelters built, and clothing used, in polar regions; the domestication of sled dogs and reindeer; and a history of skiing. The purist will object to the unavoidable over-generalisation in a work of this kind, such as the statement, 'glaciers caused the formation of Niagara Falls,' but the book is commended as an entertaining and widely researched account of the natural history of snow.

The work is not referenced in the text, but in a selected bibliography for each chapter, given at the end, and in an index. As befits a general work produced in North America, metric measure is eschewed: temperatures are given in Fahrenheit, snowfall in feet and inches, and topographic elevation in hundreds of feet. (Peter Speak, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

**THE CIRCUMPOLAR INUIT: HEALTH OF A POPULATION IN TRANSITION.** Peter Bjerregaard and T. Kue Young. 1998. Copenhagen: Munksgaard. 289 p, illustrated, hard cover. ISBN 87-16-11905-3. DKK 300.

Arctic human history can be read as a narrative of changing health patterns. Ancient health indicators remain inscribed in genetic markers linking Inuit populations with northeast Asia. Recent analytical techniques involving mitochondrial DNA suggest a common ancestor for several northwestern North American and northeastern Asiatic populations, providing clues about distinctive patterns of health and disease (pages 18–19). In the history of European colonization, Inuit were both the first and the last North Americans to contact Europeans: Inuit on the Labrador coast met Norse visitors as early as 1000 AD, yet when Stefansson reached Coronation Gulf 900 years later, in 1910, he was the first European the Copper Eskimos had encountered directly (page 25). Evidence from the last five centuries attests to the general deterioration of health throughout the Arctic, initially because of massive de-

population caused by epidemics.

This volume draws together current information about contemporary Inuit health and identifies both broad circumpolar patterns and regional variations. Worldwide, approximately 167,000 people self-identify as Inuit — some 50,000 in Greenland (with 8000 living in Denmark), another 50,000 in Canada, 44,000 in Alaska (with another 13,000 in the southern United States), and 1700 in Russia, almost all in Chukotka. The authors provide a biocultural synthesis of changing Inuit health patterns in these four countries, combining evidence from population genetics and human biology with social, political, cultural, and environmental factors. They draw primarily on an extensive literature in English and Danish, and they also pay close attention to local perspectives voiced by Inuit men and women speaking publicly about issues surrounding health in their communities.

Both authors are physicians with long experience of epidemiological research in the Arctic. Peter Bjerregaard is a research professor of Arctic health at the Danish Institute for Clinical Epidemiology in Copenhagen, and T. Kue Young is professor of community health sciences in the Faculty of Medicine at the University of Manitoba. Their objective is to provide a current overview of what is known about Arctic health, and also to identify implications of emerging patterns for public health policies directed to disease prevention and health promotion. They divide their book into three parts. Three introductory chapters identify biogenetic factors that link patterns of health and illness in the Arctic and regional histories of governance that differentiate them. A second part, in five chapters, outlines current patterns of disease. Part three adds four chapters on determinants of health. A conclusion underscores their thesis that the chasm dividing biology from culture must be bridged in any comprehensive understanding of health issues facing northern populations.

Until the 1960s, health concerns in the Arctic focused on transmission of infectious diseases. The dominant treatment model was a medical one, fuelled by conviction that increasing the availability of professional medical services to remote Arctic communities would improve health. Infectious diseases have been virtually eliminated as causes of Inuit deaths in Arctic North America and Greenland. Tuberculosis, formerly targeted as the major health risk in the Arctic, has declined dramatically in all regions with the exception of Siberia, where it is rising again following the dissolution of health services after the collapse of the former Soviet Union. The striking decline in all areas must be attributed at least partly to expanding medical services during the 1960s, but the authors also point out the shortcomings of medical models. Alaska, Canada, and Greenland developed radically different TB eradication programmes, and the differences were much debated. Canada chose to forcibly remove infected Inuit to southern hospitals for treatment between 1953 and 1964, a policy that had devastating social ramifications both for individuals taken away and for families left behind

after a parent or child was removed. In Alaska and Greenland, by contrast, care was arranged closer to home. Despite profound differences in programmes, all three areas experienced similar and nearly simultaneous decline of TB by the mid-1970s.

Contemporary health risks have taken a startling turn that is less amenable to medical models. Suicides, fatal accidents, and violent deaths, often tied to substance abuse, are the primary risk factors in Arctic communities today, and these intersect with social and economic stresses that require a focus firmly grounded in conceptions of public health. Visible health risks also intersect with the life cycle. Despite improving health care, infant mortality rates still far exceed those for non-Inuit in all four countries. Children and young adults are disproportionately at risk for accidental death in all regions. Evidence confirms the high rates of self-directed violence and especially suicide among young Inuit men. In older people, cancer and cardiovascular disease contribute significantly to death.

A discussion of chronic disease points to unique patterns of distribution among Inuit, who are especially susceptible to specific cancers. Again biogenetic evidence is casting new light on this. For several specific cancers, rare in other populations, Inuit have the world's highest rates. This contrasts with evidence from Native American populations, which have lower cancer rates than those among populations of European origin. The authors discuss how culture and biology interact to modify patterns for other several other diseases.

Bjerregaard and Young build on their own research directed to identifying health determinants — those social and biological factors associated both with health problems and with health promotion. They give special weight to modernity's role in determinants of health. Arctic history, they suggest, falls into three specific phases shared by all northern regions, and each phase has specific implications for health. An initial period of extreme disruption was inevitably followed by a second period of relative stabilization, which concluded in most regions with the end of World War II. A third period, still ongoing, frames the astonishing speed with which small independent hunting communities have been dismantled and life transformed in settled communities. The stresses generated during this period have undeniable impacts on health that everyone agrees can no longer be resolved (as was once hoped) merely by improving medical services. The authors conclude with a discussion of how research can contribute to the promotion of health at local community levels.

This book provides a comprehensive, up-to-date overview of a complex situation. It is designed to be used as a textbook and will appeal to health-care professionals and to students interested in a broad introduction to contemporary health issues in the circumpolar north. The authors present a wealth of data in accessible language supported by graphs and photos. The comprehensive bibliography enables readers to follow specific interests. This book will

be of great interest to anyone concerned with issues of Arctic health. (Julie Cruikshank, Department of Anthropology, University of British Columbia, Vancouver, British Columbia V6T 1Z1, Canada.)

### BRIEF REVIEWS

**SPERM WHALES.** Jonathan Gordon. 1998. Granttown-on-Spey: Colin Baxter Photography. 72 p, illustrated, soft cover. ISBN 1-900455-52-8. £11.00.

It is not always easy for experts in a particular field to condense their knowledge in a way that is accessible to the general public. Jonathan Gordon, however, has succeeded admirably in his gorgeously illustrated paperback *Sperm whales*. The book is divided into six sections, comprising a general introduction to cetaceans and sperm whales in particular, social behaviour, diving biology, a guide to acoustics, current research, and where sperm whales can be seen, including the kind of boat trips available for would-be whale-watchers. The last page contains a brief summary of 'sperm whale facts,' including body-size information and details of gestation and lactation. There is also a page-long index and a very short bibliography for those interested enough to pursue the subject further.

Gordon adopts a 'chatty' narrative style, including vivid personal observations and impressions from his own 20-year career in sperm-whale studies. While perhaps irritating to a serious marine biologist, it should be remembered that this is not intended to be an academic text, and that any book that generates an interest in cetaceans among the general public might be deemed a worthwhile venture in itself. This book would be a valuable addition to any school library, and its clear, large-format print will make it particularly attractive to children.

The photographs in this short volume are beautiful, many of them showing close-up images of sperm whales complete with scars and barnacles. Some are taken from

boats, usually with stunning backdrops of purple mountains or orange sunsets. Others are taken underwater, and comprise a remarkable diary of a year in the life of a sperm whale, ranging from a huge male surrounded by smaller females and calves, to underwater 'dances' between members of the school, and mothers and calves. This WorldLife Library book is one of a series of colourful guides to natural history published by Colin Baxter Photography.

**SECRETS OF ESKIMO SKIN SEWING.** Edna Wilder. 1998. Fairbanks: University of Alaska Press. 131p, illustrated, soft cover. ISBN 1-889963-12-7. US\$12.95.

In *Once upon an Eskimo time*, Edna Wilder told the story of a typical year among the Eskimos of Seward Peninsula, Alaska, before the coming of Europeans. No one could have been better placed to do so. Wilder's mother was the redoubtable Nedercook, who lived to be more than 100 years old, in full possession of her wits. Originally published in 1976 by Alaska Northwest, *Secrets of Eskimo skin sewing*, is more than simply the definitive guide to sewing techniques among the Inupiat Eskimo. Materials, techniques, and products are set firmly in their context of traditional life. A place, however, is also found for modern innovations (zippers, etc), where they have functions to serve, and, as the cover reminds us, the 'techniques [are] adaptable to simulated fur & leather.' Throughout, the approach is eminently practical, as chapter titles in Part One 'How to do it' make clear: 'Before you begin,' 'Preparing hides and skins,' 'Tanning hides,' 'Patterns and beadwork,' and 'Cutting and sewing the fur.' Part Two, 'Things to make,' gives detailed instructions for the making of items such as fur mittens, mukluks, parkas, and Eskimo toys. It is good to have Wilder's handbook in print once more, and this publication exemplifies well the fine contribution made by the reprints series of the University of Alaska Press.