

took the volume with me into my field camp in the St. Elias Mountains in the southwest Yukon but made slow progress because of the wealth of information in the book and because the papers really pointed out many of my own field problems of glacial geology. The changes in stratigraphic nomenclature that have occurred recently, together with the abundant evidence displayed by many authors for different patterns of glacier behaviour in different regions, are requiring a rethinking of ideas on correlation of events. This rethinking is apparent from the book in the discussion being generated between the scientists reporting on each area. With the fluidity of ideas, it is particularly valuable to have so much material assembled in one volume.

The presentations demonstrate the wide range of dating techniques that it has become necessary to employ, the problems of correlation of the different dating techniques and the gaps that still exist in dates of glacial events. They demonstrate the development of a framework of mountain glaciation fluctuations that are not constrained by the continental glaciation framework and point out the need for considerably more research in the field and in the laboratory for the development of new dating techniques.

Some of the field measurement techniques employed can be questioned — for example, the morphological measurements of moraines reported in some detail, the rock hammering techniques and the validity of lichenometrical techniques — but in general the papers are both good syntheses of research conducted and good scientific presentations of ongoing work.

The presentations are divided regionally, with chapters on the Brooks Range, the Seward Peninsula, the Yukon Tanana Uplands, Nenana River Valley, West Central Alaska, the Alaska Peninsula, the Aleutian Islands, Cook Inlet basin, the Gulf of Alaska and southeast Alaska, and a general summary of the process leading to the book and some general conclusions begin the volume. Although a synthesis of the whole of Alaska was not the purpose of the book, a more detailed overview of the implications of the regional findings is probably necessary. The message would appear to be that similar trends throughout Alaska mask considerable differences in detail of glacier fluctuations.

The volume undoubtedly fills a need for all of us interested in glacial geologic problems of the cordilleran northwest of America and should be a basic reference book on the desk of all glacial geologists and glacial geomorphologists. The editors have, as they point out in their introduction, seen the need for a synthesis volume, and they must be congratulated for their successful completion of the task.

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ICE SEAMANSHIP. By GEORGE Q. PARNELL. London: The Nautical Institute [202 Lambeth Road, London, England SE1 7LQ], 1986. 87 p., 35 figs., index, recommended reading list. Softbound. £17.

The aim of *Ice Seamanship* is to provide a handbook for navigators and masters of ships operating in ice-infested waters. The author, George Q. Parnell, as a master mariner of the company of Master Mariners of Canada and a member of the Nautical Institute, is presumably well qualified to write such a book, although he gives no autobiographical details. As a reviewer who is more familiar with sea ice than with seamanship in sea ice, I found this annoying, as the reader has no information as to the experience of the writer.

Quite rightly, the hazardous aspects of operating ships within an ice cover or near the ice edge are stressed in great detail. Also the very sensible recommendation — do not proceed unless you are sure about what you are going to encounter — is to be found time and time again in the handbook, advice that cannot be over-stressed. Radar, although a valuable asset in pack ice and just off the ice edge, is not to be relied on,

and the author is careful to point this out. Suggestions on how to trim the ship, what to do if beset in the ice, the correct track through pack when under escort, iceberg avoidance, and what to do to minimize damage if collision is unavoidable are all provided, along with many other valuable pieces of information.

There are several points in the book that I am unhappy about, however. My principal objection is that the author is really not too informative about pressure ridges. Indeed these features, which are very common within the ice cover, are mentioned only once, and their significance to ships is severely understated. A 10 m sail and a 30 m keel will really not do a ship too much good if collision occurs. The omission of a detailed discussion on pressure ridging and other features of sea ice deformation is serious for another reason. Pressure ridge sails offer the best indicator of the age of sea ice, rather than colour as the author suggests. It is always difficult to tell the difference between first year and multiyear ice floes, but it would usually be near impossible to do so by colour alone, given the ice will almost certainly be snow covered. Shape and degree of consolidation of pressure ridge sails, combined with other morphological features of the ice cover, are the best indicators. On the whole, the account of ice properties in the handbook is incomplete and rather naive, indeed sometimes erroneous. Fortunately the errors would not impact greatly upon ice seamanship. Grease ice, for example, as a herded slurry of frazil crystals, can reach over a metre in thickness; all salt does not drain from multiyear ice; the word "height" applied to ice is ambiguous — "freeboard" should be used; the raised rims of pancake ice are mainly the result of wave pumping. There are more.

Mention of waves brings me to another point. There is only one mention of there being reduced wave and swell action in pack ice. This would seem to be important information to the ice seaman. However, there is also no mention that several vessels have been destroyed by entering the pack in search of calm seas, only to find the worst conditions imaginable within the first km of the edge: high waves throwing ice floes at the ship.

Finally, I should add that there is no description whatsoever about ice chart interpretation. I would have expected this to be an essential section in a handbook of this type.

The handbook is clearly presented with many illustrative diagrams. It is typewritten rather than typeset.

Sadly, I cannot recommend *Ice Seamanship* as a stand-alone handbook on the operation of ships in pack ice, but as a complement to other manuals on this subject perhaps, since the experience of the author as a master mariner and his recommendations are presumably valuable to ships operating in these inhospitable seas.

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HOW TO FIND INFORMATION ON CANADIAN NATURAL RESOURCES: A GUIDE TO THE LITERATURE. By GABRIEL PAL. Ottawa: Canadian Library Association, 1985. 182 p. Softbound. Cdn\$25.00.

Natural resources have received increased attention over the last several decades, stemming in part from escalating energy prices, rapid depletion of energy and other resources, and a growing interest in conservation and ecology. A growing body of natural resource literature has reflected this heightened interest, and the number of books, articles, serials, and government publications relating to natural resources has become large and unwieldy. This is especially true in Canada, a nation both rich in natural resources and dependent upon their export. Gabriel Pal's book attempts to make sense out of this expanding literature and provides a useful guide to gathering current data on natural resources.

Pal's book is not merely a bibliography of natural resource works, but a complete guide to obtaining information on natural resources in Canada. References are to physical, social, and life science material. The first several chapters acquaint the reader with the types of published material relating to natural resources, including the use of library collections, indexes, bibliographies, abstracts, and data bases. Effective library use, research organization, and data gathering are also discussed. Important works on natural resources are cited and classified according to the type or location of resource. The large central chapters list major works by type of resource, including energy, mineral, land, climate, water, and fish and wildlife resources. Within each classification are listed bibliographies, government publications, maps, periodicals, and other general sources of information. The latter chapters deal with additional types of source material, including legal information, maps, theses, and films. Most of the references throughout the work contain short annotations, which are of added use in determining the relevance of the work cited to a particular topic. An index by title and key words completes the guide.

The work is well arranged for those researching a particular type of natural resource, such as uranium or wildlife conservation. For those wishing to focus on a particular region within Canada, however, the task is not so easy. For example, the student of northern resources will find relevant material listed under many diverse headings. A work such as *Energy from the Arctic* is found under the subheading "Energy Resources — Environmental Aspects," while *Arctic Oil* is listed under "Oil and Gas Resources — The North," both of which fall under the major heading of "Energy Resources." Additional material on northern resources can be found under other major headings, such as "Mineral Resources" or "Water Resources," and even more specifically under the many subheadings. Likewise, the researcher interested in Canadian agricultural resources will find a subheading to that effect, while the researcher concentrating on Alberta's renewable resource policy will have to look in several places. A cross reference by region, lacking in this edition, would have helped here.

This natural resource guide is published by the Canadian Library Association, by librarians familiar with all aspects of reference materials and data collection. The Cdn\$25.00 price seems a bit unreasonable, especially when the publishing quality leaves something to be desired. The high price places it beyond the means of many, leaving *How to Find Information on Canadian Natural Resources: A Guide to the Literature* to stand as another expensive reference work. As a guide to searching the literature on natural resources, this book is unique and generally excellent. It is recommended to all students of natural resources and to those outside the university in consulting and business.

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TLINGIT INDIANS OF ALASKA. By ARCHIMANDRITE ANATOLII KAMENSKII. Translated, with an Introduction and Supplementary Material, by SERGEI KAN. Fairbanks: The University of Alaska Press, 1985. (The Rasmuson Library Historical Translation Series, Volume 2.) 166 p., illus., index, bib. Softbound. US\$15.00.

Sergei Kan's translation of Fr. Anatolii Kamenskii's *Tlingit Indians of Alaska*, first published in Odessa in 1906, is an important contribution for a number of reasons. It presents for the first time in English translation a major book on the Tlingit Indians and an important

landmark in the history of ethnography — a document not of "memory culture" but of Tlingit life and culture at the end of the 19th century, written by a contemporary of Swanton and Boas.

Although it should be used with caution and studied along with Sergei Kan's excellent scholarly apparatus, which indicates and discusses Kamenskii's errors, inaccuracies, strengths and weaknesses, Kamenskii's ethnography is of continuing value not only for historical purposes, but as a source of information about Tlingit life and culture. The book as a whole — Kamenskii's text and Sergei Kan's excellent introduction, annotations and fascinating appendices — provides a valuable history of turn-of-the-century life in Sitka, documenting the interaction of Tlingits, Creoles, Whites, Orthodox and Presbyterians.

The book opens yet another door in ethnographic literature — that of missionary ethnography in general, and of Alaska in particular. While the book shows in explicit detail some of the conflicts between the Orthodox and Presbyterian missionaries, it also raises, more indirectly, the issue of differences within the Orthodox mission. Reflecting the world view and biases of one Orthodox missionary priest at the end of the 19th century, in one sense, Fr. Kamenskii can be seen as a "balance" to St. Innocent (Veniaminov), showing that, alas, Veniaminov was not typical, but exceptional.

The image of the Orthodox mission in Alaska has suffered greatly and unfairly from over 100 years of negative stereotyping at the hands of its detractors. For example, Bancroft's account of the "Diary" of Fr. Juvenaly is still widely cited as "gospel," even though a number of scholars and authorities of the Russian-American period have proven it to be a hoax and forgery perpetrated by Bancroft's research assistant, Ivan Petrov. Some contemporary scholars with a rabid anti-Orthodox bias have presented the Orthodox clergy as drunkards and as incompetent alcoholics.

On the other hand, those of us in the "pro-Orthodox camp" are no doubt guilty of some "positive stereotyping." Perhaps our sin was in documenting the best. We would like to feel that the tolerance, compassion, courage, energy and genius of the Russians St. Herman and St. Innocent and of the Aleut Fr. Netsvetov were typical. Dr. Kan and Fr. Kamenskii gently remind us that they were not. Kan's valuable contribution is in making available the views of what is probably an "average" Russian missionary priest of the late 19th century — in contrast to the truly extraordinary competence and charisma of St. Innocent Veniaminov.

As an ethnographer Kamenskii was not brilliant and was sometimes wrong. He was a Russophile, not very happy in Sitka, and he shared to a large extent the world view of his era, dominated by Pobedonostsev and Alexander III. Despite this, or perhaps because of this, with the writings of Fr. Kamenskii we gain a more complete picture of Russian America and its impact into the American period, especially the years of transition. These were difficult times for the Tlingit people and for the Orthodox Church, both of whom were directly and heavily impacted by the "Americanization" of Alaska, which intensified in the decades after 1884.

Perhaps it is best to conclude with a passage from the end of the translator's introduction.

Kamenskii was able to produce a fairly detailed, accurate, and well-rounded description of a native Alaskan culture in a state of change caused by Western colonization. For the present-day reader, it is an interesting document not only for its value as an early ethnography, but as an example of the views of an Orthodox missionary on the people among whom he was laboring. Combined with other writings by Kamenskii and his Orthodox co-workers, translated here, it provides essential data for a study of the relationship between theory and practice in the work of Russian missionaries at the turn of the century. It dispels an erroneous view of them as being tolerant cultural relativists and, instead, portrays them as human beings of their own times, and with their own cultural and personal biases and illusions. At the same time, it reveals some significant differences between their views and approaches to Alaska natives and those of their Protestant American rivals . . . , and thus helps one understand the history of Christian missionization of Alaska.

The Kamenskii work is not only a valuable book for any student of the northwest coast, Russian-American history, or the dynamics of