

Arctic and Antarctic is a very well-produced book, as it should be in view of its cost, and has few misprints. There are, as there must be in any book of this length, some errors and, as is inevitable when so much ground is being covered, some over-simplifications. The following are some instances.

It is certainly true that melting snow makes travel over the sea-ice difficult in late spring, but for a period of a few days, when the water drains off the ice, greater distances can be covered than at any other time of the year. The snow-house may not be a Dorset culture invention. Frobisher's "gold ore" was probably not iron pyrites. The concentration of the Greenlandic population in the major fishing ports was halted in the '70s for political rather than economic reasons. Oil was discovered at Prudhoe Bay in 1968, not 1969. Not many trappers could operate out of a single trading post, especially before over-snow vehicles were used. The map showing the pattern of the human system in Arctic Canada is poor, with, for instance, Arctic Bay in the wrong place, the Haines Cutoff road and Cape Dorset omitted, the wrong legend for railways, and Repulse Bay shown as a weather/defence site. Dr. Sugden seems least at home when describing the Inuit. "Wasting food in orgies of over-eating" is not an Inuit trait. They respected the old, and leaving them behind was at the old peoples' request. Women were not treated as little more than vital possessions, and an Inuit hunter would be surprised to read that he was "used to irregular, short hours of hunting separated by long periods of rest".

Many of these criticisms are matters of opinion and may be considered as illustrations of the well-known fact that two people who have been in the north rarely agree. They should certainly not discourage anybody who is interested in the polar regions from reading such a thought-provoking book.

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INSTITUTIONAL ARRANGEMENTS FOR WATER MANAGEMENT IN THE MACKENZIE RIVER BASIN. Edited by BARRY SADLER. Banff, Alberta: The Banff Centre School of Management, 1984. 125 p. Cdn.\$10.00.

The title alone is enough to drive away the timid, but don't go. It is a good book.

The Mackenzie River Basin is a very large area and to date has been relatively untouched by technological man. We still have both the opportunity and ability to live in harmony with this great river system and make use of the resources it offers, if we have the will.

This book examines the entire question and offers some very worthwhile conclusions. The 29 delegates represent an excellent cross section of the proposed future management jurisdictions with one notable exception. I trust that the absence of the British Columbia government does not indicate lack of interest or, worse, the non-consultative approach that province adopted in the Bennett Dam project. On the plus side, the excellent contributions made by Herb Norwegian, vice president of the NWT Dene Nation, and Peter Stone, Chairman, Kaska Dene Council, provide a point of view so often lacking in these forums.

The volume is well put together and easy to read. Appendix II, "The Master Agreement and Operating Procedures — Prairie Provinces Water Board", provides a ready reference for what could well become the model for the Mackenzie Basin group. The six jurisdictions envisaged should be enlarged to include direct representation of native people.

The book should have wide appeal to all concerned citizens of the west and northwest areas of Canada and is an excellent follow-up to the Mackenzie River Basin Study Report (1981).

Strong political will is necessary to implement the delegates' recommendations. A vocal contributor to the sessions is now a senior minister in the government of Canada. He just may have the will to push the establishment of a Mackenzie Basin Water Board. I hope so.

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USSR/USA BERING SEA EXPERIMENT. Editor-in-chief: K.YA. KONDRAT'EV. Proceedings of the Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Rotterdam: A.A. Balkema, 1982. ISBN 90-6191-403-5. 307 p. + vii. US\$20.00.

This book consists of 20 papers presented at the final symposium held by 14 groups of Soviet and 6 groups of American authors that summarize the scientific results obtained from "The Bering Sea Experiment" carried out from 15 February to 7 March 1973. It is a translation of the original 1975 Russian version, but the 6 American articles are reproduced in their original form. The measurements undertaken in 1973 concerned the microwave radioemission from ice cover, wind-driven sea surfaces, and clouds and precipitation. The results of these measurements were very important at the time, and it is most unfortunate that the proceedings were not published simultaneously in Russian and English. This belated translation, appearing some ten years later, is primarily of historical interest, since there have been enormous advances in the design of microwave radiometers and of the image-processing capabilities of computers during this period. The translation of the Russian papers is quite good but there are annoying lapses that should have been eliminated by an editor or a reviewer.

This work is concerned primarily with a joint research experiment carried out in international waters in the Bering Sea by American and Russian scientists using aircraft, helicopters, ice breakers, and ground observations. The objective was to obtain microwave radiometric data from aircraft altitudes and to correlate them with ground-based meteorological and oceanographic observation data concerning precipitation zones, sea surface temperature and states, and the various types of ice cover. The objective was to improve the interpretative quality of satellite microwave radiometric scans of the earth's surface.

The measurements determined that the microwave brightness temperature at frequencies from 10 to 37 GHz were linear functions of the atmospheric water vapour and cloud liquid water content and of the surface wind speed and are in good agreement with meteorological and in situ measurements and with theory. They found that the variation in the brightness near an ice edge is due primarily to an areal decrease in the coverage of thin film streaks. The salinity, density, and temperature profiles of sea ice were correlated with microwave and optical photographs. The microwave signatures were strongest for upper frazil ice layers. Another new signature due to a moisture film over grey ice is attributed to a high salt concentration on the ice surface. The increased response to these factors is greatest at 2 GHz and does not fit usual models, but 10 μ m infrared measurements do. The latter are severely limited by ground haze and air turbulence. It was found that the theoretical models for sea surface emissivity that take account of the wave geometry yield comparable results for both wind-driven and ripple waves. However, the fact that experimental measurements are always higher than predicted is attributed to the effect of foam emission, which occurs when the waves break. The total

water content of clouds determined at 20 GHz and this effect were used to locate atmospheric fronts. The possibility of using these data to forecast the movement of cyclones and the determination of sea roughness parameters using the two-dimensional spectral analysis of radar images using side-locking radar was explored. The extra noise observed when the sea is storming was found to be reduced by signal averaging. Power spectral analysis was used to develop empirical models that can be used to distinguish between separate wave systems and can be correlated with direct sea roughness measurements. The role of wind speed was explored. The morphology and dynamics of the five types of sea ice cover were studied on a macroscopic scale and related to a variety of weather conditions ranging from strong anti-cyclonic to strong cyclonic. Dielectric and elastic measurements were performed on the various ice types and correlated with other physical parameters and temperatures from -1 to -15°C . Ice covered 74-90% of the study region and was only one year old or younger.

Clearly, very comprehensive measurements were made within the study area of all the physical and meteorological factors that could affect satellite microwave radiometric scanning of the earth's surface in the Arctic Ocean region. The results of these cooperative scientific studies made significant contributions to the state of our knowledge of satellite imaging ten years ago. Today they are primarily a historical record of this state at a time when there was a thaw in relations between the U.S.A. and the U.S.S.R.

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SONS AND SEALS: A VOYAGE TO THE ICE. By GUY WRIGHT. Newfoundland Social and Economic Studies No. 29. Institute of Social and Economic Research. St. John's, Newfoundland: Memorial University of Newfoundland, 1984. ISBN 0-919666-45-0. ix + 126 p. incl. annotated bib., 3 appendices. Softcover. No price indicated.

Sons and Seals is the most recent addition to a still small, but growing, body of social science literature concerned with the effects and consequences of the anti-seal hunting-animal rights movement on northern and Maritime rural and native communities in Canada. As most readers of Wright's work are aware, the spring hunt for harp and hooded seals off Canada's coast has become the focus of widespread public and scientific discussion. The larger reality, however, is that the controversy extends beyond the immediate geographic area and hunt discussed by Wright and others (see Coish, 1979; Lamson, 1979) to include all communities where a primary subsistence-secondary commercial dual economic strategy, as described by Berger (1977), is practiced.

Wright, in this book, has attempted to both describe and analyze anthropologically the social dynamics of contemporary Newfoundland sealing and, in so doing, present a counterpoint to the arguments of the hunt's opponents suggesting the hunt is motivated by purely crass commercial reasons and no longer holds any meaningful place in Newfoundland society. While these objectives are well aimed, *Sons and Seals* is not wholly successful on either count.

The anthropological technique employed by Wright is one well known to northern ethnologists, that of direct participant observation combined with a modified interview approach. Given the physical and socio-cultural setting in which the research was conducted, Wright wisely eschewed alternative formal methods. Much of the success of his research is attributable to his methodological approach. The major deficiency in this work with regard to the strength of the anthropological analysis and to the counter-arguments it provides is also, in part, due to the chosen approach.

While describing well the main aspects of the seal hunt and the bonding that occurs and continues between participants, the scope of the work suffers from a lack of broader perspective, especially one grounded in a cultural ecological approach. Wright touches in this direction when he asks the question "Why Do Sealers Seal?" in chapter seven, but by limiting the discussion primarily to examples of individuals with whom he shipped, he has lost the social context of a whole society. Thus while providing analytical depth to the research, along the way he removes some of the power from his counter-protest arguments.

These criticisms, however, should not detract from a basically well-conceived and executed research project, which was ambitious for a master's candidate. As already noted, the field methods used were most appropriate; indeed, many candidates bound for the field could well take notes here. Wright also provides a three-dimensional portrait of a micro-society, which has been lacking so far in the scholarly literature. Finally, in chapter seven some extremely important insights are offered into the Newfoundland society from which these sealers come. One last point concerns the appendices. The last, Paul Watson's letter to the sealers of Newfoundland, does not do justice to the varied and deeply thought-out views held within the animal rights movement.

Wright has written an important contribution to our understanding of the sealer's position within the current controversy. Along with Coish and Lamson, *Sons and Seals* helps form a reference core for the better understanding of a key area in an expanding confrontational situation.

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AN ARCTIC WHALING DIARY. THE JOURNAL OF CAPTAIN GEORGE COMER IN HUDSON BAY 1903-1905. Edited by W. GILLIES ROSS. Toronto: The University of Toronto Press, 1984. xi + 271 p. incl. maps, illus., glossary, bib., appendices. Hardcover Cdn. \$29.95.

The era of commercial whaling by whalers from New England and, to a lesser extent, Scotland in northwestern Hudson Bay was really quite a short-lived phenomenon in the history of the Bay, extending only from 1860 to 1905. Thus the whaling voyage of the *Era* described by her captain, George Comer, in his journal was in fact the last to be made by a New England vessel to the Bay. The causes of the collapse of this fishery were the almost complete extirpation of the stocks of bowhead whales (*Balaena mysticetus*), combined with the disappearance of the market for baleen. In publishing this edited version of Comer's journal, Ross has thus provided a valuable insight into the final phase of an extremely important chapter in the history of the Canadian Arctic. Significant, for example, was Comer's imaginative innovation of sending his whaleboats on prolonged independent, self-contained cruises, often while his ship was still in winter quarters, in an attempt to cover the maximum possible area in search of the few remaining, elusive whales.