

REFERENCE

NELSON, E. W. 1899. The Eskimo about Bering Strait. 18th Annual Report of the Bureau of American Ethnology. Washington, D.C.: Government Printing Office. 3-518.

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TRADITSIONNOYE MIROVOZZRENIYE OKHOTNIKOV
TAYMYRA (na materialakh Nganasan 19 - nachala 20 stoletiya).
[Traditional world-view of Taymyr hunters and gatherers based on
data gathered on the Nganasans of the 19th - beginning of the 20th
centuries.] G.N. GRACHEVA. Leningrad: Nauka, 1983. 176 p. 1 r
50 k (North American price unknown). (In Russian.)

To my knowledge this is the first Soviet research that addresses the questions of relationships between man and the environment, with emphasis upon Nganasan hunters and gatherers of the nineteenth and the beginning of the twentieth centuries. It uses the environmental-psychological method of analysis, which is relevant to microeconomics (economic behaviour) on the one hand and to ethnoscience or "new ethnography" on the other.

Gracheva's analysis is an attempt to describe the behaviour of a rational economic unit in its pursuit of certain objectives within the framework of its environment. Of course, it is quite conceivable that not every firm or consumer acts as rationally as we assume in our analysis, either because of a lack of knowledge or perhaps a lack of desire. It is, therefore, quite appropriate to think of some of our findings as a set of rules designed to instruct the decision maker in the pursuit of his objectives. Thus, Gracheva's investigation and its conclusions depend directly on what she assumes about both the objective and the environment of the decision maker.

She takes the view that the actions of the Nganasans can be rationalized in terms of their desire to maximize their own satisfaction. Therefore, the author focuses her research on the strategic behaviour of people in making choices and modifying patterns. She uses the cognitive, decision-making processes of man as a theoretical basis, thus advancing toward elucidation of ultimate causes of human behaviour rather than remaining at the descriptive level. In her study, Gracheva demonstrates the ecological and sociological implications for analysis of Nganasan material culture and their world views on the basis of their ecological adaptations derived from rules of individual decision. In short, Gracheva's methodological approach rests on a set of assumptions concerning the relationship among language, cognitive rules, codes and categories that the native himself must know in order to understand the social situations confronting him in daily life and closely approximating the "truth" of cultural reality.

Concerning the traditional world views of the Nganasans, the author examines four aspects of their lifestyle. They are their (1) world view on environment, (2) world view on man, (3) burial customs and (4) shamanism. In the course of her analyses, in which she relies on archaeological, ethnographic, folkloristic and linguistic data, an attempt is made to demonstrate subjective (etic) native notions about their world and then to make objective (emic) interpretations.

The research is well done. However, the printing is not. Soviet publishers should try to improve format, quality of paper and illustra-

tions in publishing scientific literature. Improvement of the publication quality would also serve to present Soviet scholarship in a much better fashion.

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ARCTIC AND ANTARCTIC — A MODERN GEOGRAPHICAL
SYNTHESIS. By DAVID SUGDEN. Oxford: Basil Blackwood, 1982.
ISBN 0-631-13085-3. 473 p. incl. illus., tables, maps. Hardcover.
\$84.25.

David Sugden, Senior Lecturer in Geography at the University of Aberdeen, has worked in Greenland, Arctic Canada, and Alaska, as well as Antarctica. Though his special field is geomorphology, his polar interests are very wide, and in *Arctic and Antarctic* he attempts "to describe and interpret the polar environment, to explore the problems associated with economic and social development, and to provide a framework for a better understanding of the overall geography of the polar regions". This area covers a fifth of the land surface of the world and presents an enormous task that few would dare to tackle. To do it so well is a noteworthy achievement.

The author adopts a systems approach, examining how the systems associated with the land, the atmosphere, the oceans, the native people, and industrial society operate in the arctic and antarctic regions and how they interrelate. He begins with plate tectonics and climate, as the two global natural systems responsible for the special characteristics of the polar regions, and then discusses them in relation to the three polar environments — namely, permanent ice covering land or sea, land that is not covered by ice, and the oceans. A concluding chapter in the section on natural systems considers the changes that occur in these systems on four time scales: over millions of years, over periods of 100 000 to 10 000 years, over periods of 1000 to 10 years, and over decades.

The section on human systems begins with a general chapter on the evolution of man in the polar regions, covering the original penetration of the north by nomadic people, the development of reindeer herding, the Norse colonization of southwest Greenland, and the exploration of the Arctic and Antarctic. It is followed by a chapter on the Inuit, a term Dr. Sugden uses to include the Yuit, and how they lived as hunters and gatherers. The next five chapters consider the intrusive Western society on a regional basis: Greenland and Svalbard, Arctic Canada, Alaska, the Soviet Arctic, and Antarctica. The final chapter draws conclusions.

This method of treatment is unusual and is at first rather difficult to follow, but it is logical and permits a great deal of material to be considered in a rational and comprehensible manner. It also presents the polar regions in a rather different light and in a way that stimulates thought. This reviewer, however, felt somewhat uneasy with the models of regional development adopted throughout the book. That on network and node evolution by Taaffe, Morrill and Gould is based on transportation patterns in Ghana and Nigeria, and it requires too many explanations and adjustments in each of the five polar regions, where conditions are so very different, to carry any conviction. That on resource frontier regions and downward transitional areas, applied by Friedmann to the situation in Venezuela, also needs too much manipulation to be an acceptable fit for the north. Neither model seems to serve much purpose. Perhaps this is because the United Kingdom is much farther from the frontier than is North America, and especially Canada. Models are useful to explain and illustrate the unfamiliar, but their shortcomings are more obvious to those who deal with the subject on a daily basis.

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