

ALASKA NATIVE CULTURE AND HISTORY. Edited by YOSHINOBU KOTANI and WILLIAM B. WORKMAN. *Senri Ethnological Studies* No. 4, National Museum of Ethnology, Osaka, Japan, i-iv, 320 p., 1980. Available from Nauka Ltd., Export Division, 2-30-19 Minami-Ikebukuro, Toshimo, Tokyo 171, Japan. Price U.S. \$21.50.

This volume is the published version of an Alaskan culture history symposium held in Japan in 1978. The symposium proposed to "bring together younger scholars from Japan with those from other lands," in this instance Japanese, American and Canadian archaeologists and ethnologists whose research focuses on Alaskan natives. The 11 participants were obviously chosen for their Alaskan experience and their former published contributions to the culture history of that state.

While not an anthropological synthesis of Alaska, this one volume includes some of the best written and edited chapters about the subject to appear in several years. The source, a recent publication series of the National Museum of Ethnology (Osaka), might be obscure to New World professionals. Yet this compendium is assured a central place on anthropologists' bookshelves because of the overall high quality of the message as well as the medium. The volume is paperbound, but is technically superlative with regard to format, printing, spelling, and most illustrations.

As the volume editors note, the 12 chapters do not give equal treatment to Alaskan anthropological topics. Prehistory and ethnology are somewhat balanced (5 chapters each), but northern and southern coastal regions of Eskimo association receive much greater emphasis than do the interior and its Athapaskan Indian occupants. The southeastern panhandle and the Aleutian Islands are only marginally included. One chapter covers native language, and one might wish for a human biology contribution to round out traditional topics. This symposium, like most, could not address all areas and problems, but these chapters do tackle anthropological basics: spatial and temporal unit concepts, subsistence and adaptation, dating, archaeological-ethnological integration, social, economic and political organization, ideology, and contemporary native lifeways.

Kotani and Workman open with a brief introduction to the history of Alaskan anthropology as well as thoughtful synopses of the following papers. They remind us that Alaska's size, remoteness, and severe climate contributed to relatively late and incomplete professional investigations by ethnologists and archaeologists. The ethnohistoric, ethnological, and archaeological literature that does exist is highly international in flavor. Recent Japanese investigations are, therefore, a continuation of long-term and worldwide interest in Eskimos, Aleuts, Indians, and their respective predecessors.

Masao Gamo briefly describes Japanese anthropological studies in Alaska which date primarily from 1960, the year that Meiji University personnel engaged in "surveys" at Anaktuvuk Pass, Point Barrow and Point Hope, and archaeological excavations at Port Moller, the latter in conjunction with a University of Wisconsin team. A second chapter by Gamo describes band structure and acculturation of Nelson Island Eskimos, principally through one old native informant, Frank Amadéus. Changes in economic, religious, and social patterns from the 19th century to the present are summarized.

Dumond outlines the development of native subsistence systems throughout the state, from the late Pleistocene to the ethnographic present. He points out that the Eskimo-tundra/Indian-forest dichotomy which fits well in Canada is much more blurred in Alaska. Dumond portrays the major Alaskan cultures and traditions within either a coastal, interior, or balanced subsistence structure. He succinctly expresses the notion that successful northern adaptation is largely mental rather than material; the Athapaskans, in contrast to the technologically well-endowed Eskimos, persisted "burdened only with their snowshoes, their loose rabbit-skin robe, a ball of string, and the crucial ideas in their heads."

Workman carefully depicts the prehistory of southern Alaska as the "eastern sector" of a larger North Pacific Maritime co-tradition (several cultural traditions within an area sharing a common origin). Four "branches" — Alaska Peninsula, Kodiak, Outer Cook Inlet, and Prince William Sound — are outlined phase-by-phase with technologic and ecologic overviews provided for each branch. Pacific Eskimos and Koniag occupied this area during the early historic period, but Workman indicates that connecting the archaeological past with the ethnographic present or locating evidence for prehistoric linguistic, racial and cultural discontinuities remain methodological problems.

Hiroaki Okada provides the latest summary about the Port Moller Hot Springs site, one of the largest investigated on the Alaska Peninsula. The

site has remained a cultural enigma since Weyer's first excavations there in 1928. However, excavations by Okada and his colleagues and a dozen new radiocarbon dates indicate that this large midden site was occupied three times: c. 1500-1000 BC, AD 500, and AD 1300. This dating may be critical in explaining why no pottery and few ground slate tools appear at Port Moller when both are found east and west of that site on the Alaska Peninsula at c. AD 1000.

Kotani casts 50 species of Port Moller fauna, indicated by remains from three seasons' excavations, in five subsistence patterns: sea mammal hunting, land mammal hunting, bird hunting, fishing, and collecting. Of these, sea mammal hunting, fishing, and intertidal collecting are the most important, and this maritime exploitation supported the large and enduring populations which are reflected at that site. No quantitative species data are presented but they will likely be published in future site reports.

Joan Townsend demonstrates the European origin of Eskimo-Indian ethnic separation and questions the accuracy of the all-too-easy label of "tribe" to apply to groups of Alaska natives. She makes a well-reasoned case for "ranked societies" being the basic social units along the state's Pacific rim (Aleuts to Tlingits). Societies focused on one or more villages "which shared intense interaction and a number of kinship ties." Descent, slavery, redistribution, and inheritance of leadership helped structure these contact period societies, which were interrelated by military, social, and marriage alliances in southern Alaska.

Osahito Miyaoka traces the effects that Euro-American contacts have had upon Alaskan native languages. Within Russian America, missionaries such as the notable Ivan Veniaminof created grammars and dictionaries for native language and encouraged literacy largely for religious purposes. Reading and writing then spread to secular areas. After 1867, Alaskan education, using English as the *lingua franca*, expanded under missionary as well as local, federal, territorial, and, finally, state jurisdiction. Miyaoka concludes that bilingual instruction has failed in terms of school retention rates, mastery of English, and interest in formal education, due in part to insufficient teacher preparation, prejudice against natives, and inadequate facilities. A two-page appendix summarizes Alaskan native languages and their numbers of speakers.

Richard Nelson presents a lucid overview of Koyukon and Kutchin subsistence patterns. These Indians organize their subsistence around hunting, fishing, gathering, and trapping in the boreal forest of interior Alaska. Nelson emphasizes dependence upon vegetation for heating, housing, and equipment in contrast to food. Fishing is an important pursuit of women, and trapping, or catching animals "automatically," is developed to a high degree. Apparently it is highly predictable that unpredictable vacillations will occur among animal populations on which Indians depend, including caribou. The northern Athapaskan world view includes an elaborate supernatural framework which involves rules and taboos about using animal and plant species and inorganic objects. Nelson amply demonstrates that to fathom subsistence patterns is to comprehend these supernatural arrangements.

Douglas Anderson focuses on a series of problem areas which encapsulate much of Alaskan prehistory: early man, paleoenvironmental studies, Eskimo origins, prehistoric-historic Eskimo continuity, and Athapaskan origins. Starting at c. 15 000 BC, Anderson reviews North Alaskan prehistory and relates it to key finds in other parts of the state. While subsistence strategies used by recent Eskimos can be traced back as far as ten millennia, Eskimo culture *per se* emerges in Alaska at the beginning of the Christian Era with no direct continuity (to date) with the preceding Arctic Small Tool tradition. In a similar manner, Athapaskan culture of this millennium cannot yet be related back to interior occupants of the much earlier Northern Archaic tradition. Better information from northern Alaska areas, some of which are virtually unknown archaeologically, will enable better links to be established with earlier human finds.

Ernest Burch covers many of the same topics for traditional societies in northern Alaska as Townsend does in southern Alaska, and another well-accepted model collapses as a result. The coast (Tariurmiut)-inland (Nunamiut) Eskimo dichotomy, long an anthropological tenet of this area, is interpreted as having little social reality. In its place, Burch delineates 25 "societies" for Northwest Alaskan Eskimos (1816-1842), using "societies" much as Townsend did to refer to networks of extended families linked by kinship ties. Political authority of *umialiks* (head men), economic redistribution, and the *qazgi* (meeting house) functioned to tie each society together; inter-social alliances were both extensive and structured. Burch gives a useful outline for each of the 25 societies as an extensive appendix.

Rosita Worl examines the modern Inupiat (northern coastal Eskimo) whaling complex. Her description of crew composition, contemporary equipment used, and outfitting costs adds a recent chapter to earlier accounts of North Alaskan whaling. Of particular interest is Worl's discussion of customary laws applying to possessory rights and whale part distribution. A complex series of judgments are made to determine rights to a dead whale, based primarily on reconstructing the succession of bombs which ultimately killed the animal.

This cooperative volume is praiseworthy as a tool for today and an inspiration for the future. Through the writings of these seasoned authors, we have excellent interpretations of culture history, past and present, which are useful for research and instruction. On the other hand, the volume reminds us of the largely unrealized potential for studying the richest resource available in Alaska today — its native peoples and their history.

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**THE ARCTIC AND THE ANTARCTIC: THEIR DIVISION INTO GEOBOTANICAL AREAS.** By V.D. ALEXANDROVA (Translated by DORIS LÖVE). Cambridge University Press, 1980. xii + 247 p. + illustrations. ISBN 0 521 231J9 1. \$34.50.

With the publication of Kamorov's monograph, "Introduction to an Investigation of the Vegetation of Yakutia" in 1926, a major stride was made toward the division of Arctic regions into geobotanical areas. Dr. Vera Alexandrova has now undertaken the task of synthesizing her own extensive research and that of other northern investigators, including Kamorov, into a well organized classification system.

It has often been said that there are as many different ways to classify vegetation as there are individuals who classify. Although this may be somewhat of an overstatement, one only has to peruse the botanical literature from 1950-1970 to appreciate the theoretical problems which confront phytosociologists. Though one may not agree with the particular classification system or may prefer different ones, Alexandrova has adequately set out and explained the principles and tenets (Chapter One) upon which her system is built: an essential component in a book of this nature.

Her taxonomic units are separated on the basis of diagnostic characteristics which draw on floristic, vegetational, structural, biomass, life form, soil profile, soil formation, faunistic and ecological information. The hierarchy of the classification is based upon Lavrenko's (1947, 1968) system, modified by the author, and includes the following: Dominion, Subdominion, Region, Subregion, Province, Subprovince, and District. The Arctic belongs to the Holarctic Dominion and the Subdominion Arctogaea. Diagnostic characteristics or distinguishing criteria for the remaining five synsystematic units in the hierarchy may be briefly, and somewhat elusively, summarized as follows:

- 1) *Regions* are distinguished by the distribution of a characteristic zonal type of vegetation on mesic habitats of an area and by the absence of this vegetation type on zonal, mesic habitats of adjacent areas. The presence of a specific set of non-zonal, non-mesic vegetation types is also important in defining regional boundaries.
- 2) *Subregions* are distinguished by the presence of vegetation subtypes of the characteristic Regional zonal vegetation type and also by the presence of a specific set of non-zonal vegetation types particular to non-mesic habitats of that Subregion.
- 3) *Provinces* are distinguished by the occurrence of classes and groups of plant associations which are endemic to that province. These are represented by a typical zonal type of vegetation developed on mesic sites and also by the characteristics of plant associations which develop on non-zonal, non-mesic habitats.
- 4) *Subprovinces* are distinguished by the presence of endemic phytocoenotic units (vegetation subclasses and groups of plant associations) and by the relative abundance of these units in an area.
- 5) *Districts* are distinguished by the presence of a specific combination of plant associations typical for a particular subprovince. They are also distinguished by the presence of plant associations

formed because of the special orographic, type of soil forming bedrock and local climatic conditions which prevail in that District.

Alexandrova concludes the discussion of her hierarchical system with a brief analysis of the problem of placing geographic boundaries around areas that essentially belong to a natural continuum. The remainder of the book (pp. 18-186), with the exception of her concluding chapter, provides an elegant and comprehensive discourse on the nature of specific units within each of her hierarchical levels. As one reads this portion of the book, some of the lack of clarity with definitions of diagnostic characteristics in her synsystematic units is removed. The author concludes with a firm statement that her work should only be considered as a step toward solving the problems of Arctic geobotanical classification: "... as an hypothesis launched, which may serve as a departure point for debate and discussion and for further refinement and elucidation."

One cannot conclude a review of Alexandrova's work without a special note of acknowledgement to Doris Löve, the translator. Although my linguistic abilities in Russian are inadequate to judge the accuracy and faithfulness of her translation, it is apparent, as one studies the work, that she has paid close attention to choosing equivalent English terms for the many Russian ecological expressions. This terminological precision is something that is all too often lacking in ecological literature and has been a source of great misunderstanding in the field.

Clearly this is an essential volume on the bookshelf of any arctic ecologist and one that should be a constant companion in the field. It would also be an excellent textbook for any advanced course dealing with northern phytogeography or ecology. I recommend it very highly.

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**SEA ICE PROCESSES AND MODELS**, Proceedings of the Arctic Ice Dynamics Joint Experiment, International Commission on Snow and Ice Symposium at Seattle, September 1977. Edited by R.S. PRITCHARD. University of Washington Press, 1980. 474 pages. \$30.00.

In March 1975 the main camp of the Arctic Ice Dynamics Joint Experiment (AIDJEX) was installed (76°N; 145°W) on the constantly shifting pack ice of the northern Beaufort Sea. Funded by the National Science Foundation, the Office of Naval Research and the Canadian Polar Continental Shelf Project, with headquarters at the University of Washington, Seattle, AIDJEX may still hold the record for being the largest and most ambitious scientific program to have taken place in the high Arctic.

Prior to AIDJEX, an understanding of the basic nature of pack ice dynamics had accumulated since Nansen's crossing of the Eurasian Basin (1893-1896). However, data derived from isolated points such as long-term drifting ice stations precluded significant progress possible through analyses of synoptic data, a basic requirement perceived in the planning of AIDJEX. Thus, during the main experiment until its end in early May 1976, four manned camps were surrounded by a ring of data buoys with the long-term goal of providing answers for the following questions: (i) how is large-scale ice deformation related to the external stress field?; (ii) how can the external stresses be derived from a few fundamental and easily measured parameters?; (iii) what are the mechanisms for ice deformation?; and (iv), how do ice deformation and morphology affect the heat balance?

According to the Director of AIDJEX, Dr. N. Untersteiner, in the initial AIDJEX review paper which introduces the book, these questions maintained their validity throughout the five years of observations and analyses. In hindsight, he poses four more fundamental questions, namely: (i) were the scales of observation chosen correctly?; (ii) were the right observations taken?; (iii) was it possible to deduce the external stresses to sufficient accuracy?; and (iv) did the model development advance our understanding of sea ice mechanics and heat balance?

The answers, a qualified "yes" for each of the questions, form the basis for most of the forty papers presented in the book. These are presented in four sections: AIDJEX review papers; deterministic ice modeling; ice observations; and boundary layers. The latter three also contain research papers from programs other than AIDJEX including sea