

nature, abundance, and distribution of resources. The author questions some of the major assumptions in earlier studies of cultures with rich salmon fisheries. Such studies held that salmon was the supreme resource, that in such an environment people became sedentary because this had greater survival value, and that the use or storage of this essential resource was for as long as possible. The implication was that a group would be tied to a specific locale because of the need to rely upon stored foods.

The Tutchone Athapaskans studied by O'Leary utilize the Klukshu River drainage inland from the coastal Tlingit and were historically blocked by them from direct access to the coast. The Klukshu River is a tributary of the Alsek-Tatshenshini river system and supports a rich fishery consisting of king, coho, and sockeye salmon. During the fishing season, this band of Tutchone lives in the village of Klukshu within walking distance of their sockeye salmon traps and upstream from most of the king salmon gaffing stations. The runs on the Klukshu River are heavy, and the Tutchone harvest, dry, and store salmon in relatively large numbers.

This has not resulted, however, in an increase in sedentary life or social stratification in response to this comparative abundance. O'Leary examines the reasons for this and comes to several conclusions. The numbers of salmon vary greatly from year to year, and the majority of salmon that do pass the fish traps and gaffing stations do so over comparatively brief periods of time. In a good year, half the total salmon run passed within 7.5 days, and in bad years, half passed in as few as 2.5 non-consecutive days. In addition, from year to year the timing of the peak runs may vary over a period of 16 days, and the numbers of fish available during a peak year may be 2.5-3.5 times those in a bad year. This clumping in time and space places practical limits on both the numbers of fish that can be taken and the number of individuals who can participate and, in addition, discourages members of other bands from joining the people at Klukshu Village to fish.

These constraints have also led to organizational strategies for efficiency, such as female specialization in trap ownership and preparation of the fish for drying. The distribution of fish is along informal kinship lines. It is noted that, as with many other Northern Athapaskan groups, the Tutchone possess a kinship system consisting of matrilineal moieties. These kin groups control marriage and ceremonial obligations but do not form the basis for more complex organization of labor or distribution of resources. Another factor involved here is the coincidence of moose hunting with the later salmon runs, requiring that small groups of hunters become strategically mobile while those band members taking part in the salmon harvest are residentially stable. One consequence of this is that by fall most of the game in the immediate area of the village has been depleted. O'Leary noted that a September-October run of coho salmon passes Klukshu Village relatively untouched, since the people have already left for fall hunting camps.

O'Leary stresses that while in terms of sheer numbers the abundance of salmon would appear to favor reliance on this resource and increased sedentism, the variable and unpredictable nature of the runs and their clumping in time and space all serve to reduce the numbers of processed fish available to the people. Based on the observations of O'Leary and the statements of elder Tutchone, the numbers of fish taken and stored were sufficient to feed each family and their dog team for from two to six months, depending on the abundance of the salmon run. While salmon are a significant economic factor, there are other critical resources, such as moose, which are widely dispersed in their territory. This requires seasonal changes from residential stability in larger groups during the fishing season (June-September) to mobility during much of the rest of the seasonal round. Dried salmon, being relatively light and transportable, can be carried or cached for use during these hunting and gathering periods, supporting residential mobility and smaller group size. Thus the seasonal round shifts from a situation of residential stability in comparatively large groups while utilizing the abundant salmon to one of small mobile groups in pursuit of highly dispersed resources the remainder of the year. The author concludes that "This idea of dependence on a single resource masks much of the variation and complexity of resource procurement systems."

Beyond its focus on the Tutchone utilization of salmon, this publication contains much ethnographic detail, adding to the work of earlier anthropologists (cf. McClellan, 1981). O'Leary presents an overview of the environmental setting and a summary of the historical and archaeological background for the area and gives a useful analysis of the relationship of the social organization to the taking and sharing of resources. A major emphasis of the publication is a detailed presentation on the harvesting and preservation of salmon, which includes a breakdown of government figures on salmon runs for the period 1976-80. Also useful is a section dealing with the salmon life cycle.

O'Leary successfully illustrates that, at least for some groups, the earlier generalizations of Northwest Coast cultures may obscure more than they illuminate. By examining the relationships of abundance and mobility in detail within a particular group, the author has added a fresh perspective to the questions others have raised about the role salmon play in the native cultures of the Northwest Coast and elsewhere. This publication of O'Leary's doctoral dissertation is a well-written and cogently argued monograph, and it is recommended as being of value to graduate students and professional anthropologists, especially those involved in research on Northern Athapaskans and the Subarctic. It will also be useful to others interested in ecology, particularly that of the salmon fisheries of the Northwest Coast. The book is illustrated with helpful maps, drawings related to salmon preparation, and charts. The quality of reproduction of the book is only average, and this diminishes the value of some of the illustrations. There are a few editing lapses, but these do not detract from the overall value of the work.

REFERENCES

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- OUT IN THE COLD: THE LEGACY OF CANADA'S INUIT RELOCATION EXPERIMENT IN THE HIGH ARCTIC. By ALAN R. MARCUS. Copenhagen: International Work Group for Indigenous Affairs, 1992. Document 71. 117 p., illus. US\$10.00.

In the summers of 1953 and 1955 the Canadian government moved eleven Inuit families from the Port Harrison (Inukjuak) region and four families from Pond Inlet to new communities at Grise Fiord and Resolute Bay in the High Arctic. This episode occurred in an era when the Inuit were still called Eskimos and were dealt with as childlike wards of a paternalistic state. The Inuit went where they were told, and the government announced the project as a humanitarian success.

Much has changed in forty years. The people who were moved from their homes are now in the process of obtaining self-government under Nunavut. The federal government has abandoned paternalism, at least officially, as a policy suitable for First Nations people in Canada. Civil rights have become entrenched in our constitution. And the Inuit relocation plan, which may have appeared to be a reasonable experiment in social engineering in the 1950s, now seems like an antique episode that causes, or ought to cause, hideous embarrassment in official circles.

For someone new to the subject of government-Native relations, a young person grown up in the climate of Native assertiveness that has prevailed for the past two decades, the dismissive paternalism of a brief forty years ago must seem almost unbelievable. When Ottawa held its first conference on Eskimo Affairs in 1952 to discuss policies for the future of the Canadian Inuit, for example, no Inuit were invited to attend. Marcus quotes the official explanation:

The only reason why Eskimos were not invited to the meeting was, apart from the difficulties of transportation and language, that it was felt that few, if any, of them have yet reached the stage where they could take a responsible part in such discussions.

Anyone who wonders how the authorities could ship Inuit to the High Arctic in such a cavalier manner, "for their own good," as one would take a pet animal to the veterinarian, need only read this quotation.

The hardships the Inuit families suffered in their new homes have become fairly well known through recent media interest in this episode. Hunting was not good, the climate and topography were different from what they were used to, and worst of all, they had been taken far north of the Arctic Circle, where winters were much darker than in the latitudes where they had been born. Because only a few families moved, the young people suffered a drastic shortage of potential marriage partners, a problem one would think would have occurred to the government. Most though not all survived, however, including, ironically, John Amagoalik, now one of the best-known leaders of the Inuit of Nunavut.

Considering the subject, this is a remarkably even-tempered book, which though not long, outlines the main facts of the episode in a fair and temperate manner. The only thing that it lacks, I think, is an adequate explanation of the context in which this removal took place. In 1952 the federal government was reeling from the revelation of the events in which the Inuit of the Keewatin interior had been found to be starving, a story vividly recounted by Farley Mowat in *The People of the Deer*. Critics of government are fond of recounting its many failings: insensitivity, slothfulness, reluctance to change, self-absorption. Some people think that the Canadian government is evil rather than sluggish and negligent, though I am inclined to disagree. One great motivating force in government and the civil service, however, is the fear of exposure to public criticism.

The episode exposed by Farley Mowat was a great embarrassment to the St. Laurent government, which found its aboriginal policy compared to that of the worst European colonialists and had to explain the presence of actual starvation in a country enjoying the prosperity of the post-war boom. When Ottawa learned through the RCMP that the Inuit of Port Harrison and Pond Inlet were in a difficult situation for food, they must have feared a new onslaught of bad publicity. Although the other reasons for the "experiment" cited by Marcus — the sovereignty question, the wish to "protect" the Inuit, and the desire to save on welfare payments, for instance — undoubtedly were important, official fear of another scandal surely must have had some weight. Such a contextual framework would not have excused this sorry episode, but it would perhaps have made it more understandable. This aside, however, *Out in the Cold* is a good survey of the question and a valuable addition to the IWGIA series.

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THE GEOMORPHOLOGICAL SETTING, GLACIAL HISTORY AND HOLOCENE DEVELOPMENT OF "KAP INGLEDFIELD SØ", INGLEDFIELD LAND, NORTH-WEST GREENLAND. By WESTON BLAKE, JR., MARY M. BOUCHERLE, BENT FREDSKILD, JAN A. JANSSENS and JOHN P. SMOL. Copenhagen: The Commission for Scientific Research in Greenland, 1992. Meddelelser om Grønland, Geoscience 27. 42 p., tables, figs., plates in pocket. Softbound. DKr125.

Ingledfield Land is perhaps best known as the resting place of the Swedish botanist Thorild Wulff. He succumbed in 1917 to the hardships of the Second Thule Expedition to the North Coast of Greenland. His companions, the geologist Lauge Koch and Nasaitordluarsuk and Inukitsoq from Thule, had to abandon him as he was too feeble to go on. What a contrast to the modern field work by W. Blake, Jr., that was carried out with helicopter support. Today the major problem of doing field work in such remote areas is budgetary.

The monograph presents the results of reconnaissance field work by W. Blake, Jr., from the Geological Survey of Canada, air photo interpretations and detailed work on a core raised from a lake near the westernmost point of Greenland. In a time of economic constraint and more and more emphasis placed on applied science, it is encouraging to see that the Geological Survey of Canada can still support research programs aimed at unraveling the history of the Earth — even outside Canada.

In the past years several Canadian Quaternary geologists have extended their work into Greenland. In view of the enormous land area of Canada that may seem strange. However, the main question that they have pursued is whether Nares Strait between northern Canada and Greenland was glaciated during the global maximum of the last glacial period (about 18 000 to 20 000 years ago). This is a very controversial question among glacial geologists. One school envisages that the glaciers of the region were only slightly more expanded than at present, whereas another school envisages a much more heavy glaciation than today.

Blake belongs to the second school, and one of the results of his work in Ingledfield Land is that raised, postglacial sediments up to 80 m above the present sea level have been documented. Had this been a local phenomenon it could perhaps have been explained away by some local anomaly in the crust of the Earth, but it certainly is not. Therefore the conclusion arrived at by Blake, that this emergence followed from the melting away of substantial masses of glacier ice, appears fully justified to me.

There is very strong geomorphological evidence along the coast of Nares Strait for a southward-flowing glacier between northwest Greenland and Ellesmere Island in the form of glacial striae and other glacial sculptures and in the form of a system of lateral meltwater canyons described in detail and shown on a map in pocket that greatly facilitates reading the geomorphological description. The map is excellent, but it is bewildering that the north arrow points towards southwest.

The question is, however, what is the age of the features? According to Blake, and convincingly documented on excellent photos, the features are very well preserved, and Blake concludes that they date from the last glacial maximum. I consider this correct, but it is impossible to prove. Another argument for the young age of the glacier between Canada and Greenland is that amino acid analyses on shell fragments from till deposits in the area have yielded low ratios, also indicating a young age for the till. Amino acid analyses are based on aspartic acid, which racemizes about four times faster than isoleucine, which has been used in all other analyses of amino acids in Greenland. This should have been noted by Blake.

In order to date the disappearance of the glacier in Nares Strait, a lake in Ingledfield Land was cored and the basal organic sediment in the core radiocarbon dated at 7210 years before present. It is a bit unclear to me if this date is taken to represent the timing of the local deglaciation. From a regional consideration of available radiocarbon dates, I think that the deglaciation probably occurred at least 1000 years earlier.

Although the main object of the lake coring was to date the basal organic sediments, the core has been utilized for an integrated study of sediments, pollen, algae, mosses and invertebrate animal remains. These studies have resulted in a wealth of information about the history of the lake itself and the surrounding vegetation. Changes in the vegetation of the area are deduced from pollen analyses performed by Fredskild. Not surprisingly, the pollen content of the sediments is extremely low, but nevertheless about 100 pollen grains were identified and counted per sample. The pollen diagram reflects changes from a pioneer vegetation rich in grasses to a fairly rich vegetation with abundant arctic willow. At ca. 4000 years ago this vegetation changed to a much poorer vegetation dominated by purple saxifrage — undoubtedly a result of colder summers.

At the same time the lake also underwent a major change. Smol has studied diatoms (algae with a shell of opal), Fredskild has studied green algae, Janssens has studied mosses and Boucherle has studied small