Consequences of Economic Change in Circumpolar Regions

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Consequences of Economic Change in Circumpolar Regions

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Papers of the Symposium on Unexpected Consequences of Economic Change in Circumpolar Regions at the 34th Annual Meeting of the Society for Applied Anthropology in Amsterdam, March 21 to 22, 1975

First Printing January, 1978
Second Printing October, 1980
Occasional Publication #14
Price:$10.00
Boreal Institute for Northern Studies
The University of Alberta
Edmonton, Alberta, Canada
In memory of:
Jouni Aikio
Uula A. Länsman
Reidar Suomenrinne
Artto Sverloff
Jouni J. Vest

Sambelazjak (Lapps) dedicated to their people's cause, lost with their Finnish pilot, P. Niemi, at the Norwegian coast in flight to the Eighth Sami Conference at Snåsa, Norway June 24, 1974
Preface

The Boreal Institute for Northern Studies, The University of Alberta, is pleased to have the opportunity of presenting this volume to the public, scholarly and general, because of its substantial relevance to the current scene in the North. The focus of the Institute has traditionally been on understanding of the native peoples of Canada's northern regions and on the social processes inherent in the development of the North. It is clear that important decisions are constantly being made in the North, and that social and natural science have a responsibility to share in the planning for change and development. It is unquestionable that the future of industrial society is closely tied to the use of northern resources in a way which necessitates continuing reexamination of the basic premises of our own society.

It is my pleasure on behalf of the Institute to extend special thanks to Dr. Regna Darnell, Department of Anthropology, The University of Alberta, for editorial assistance; to Mrs. Charlotte Mittelstadt for her excellent work in the difficult job of typing the complete publication in camera-ready form, and to the staff of the University Publications Office for their contribution in providing expert professional advice.

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Foreword

The perspective of this publication is unusual and beneficial because it deals with the larger context of the circumpolar region throughout the world, thereby posing contrasts and comparisons which can lead to informed judgment. There are many variables which can be examined in relation to the circumpolar environment, and the range of papers is such as to explore many of these. There are certainly differences in time of contact and intensity of pressures toward development; there are major contrasts in the cultures of indigenous peoples of the circumpolar region; vastly diverse political systems and exigencies have produced a variety of strategies for planned social change. Each of these factors, and others, should have input to future decision-making in the region.

Further, the publication is impressive because it clearly reflects the interdisciplinary nature of inquiry into social and environmental conditions in the North. The subject cannot be usefully explored from within the boundaries of any single traditional discipline. There is a need within academic circles to increase communication among scholars with different interests and research premises. Equally, there is a need for an integrated socially-relevant conclusion which will be comprehensible to citizens of the varying nations which must deal with northern development. The appropriate role of Northerners in deciding their own future also depends on the existence and dissemination of accurate information about the North. These are the larger aims and perspectives within which particular papers should be read. The potential usefulness of the volume is far greater than the scope of any particular paper and, probably, greater than the understanding of any single scholar contributing to it. To the extent that there is an integrating disciplinary perspective, it is that of anthropology—the science of man in his social aspect and in interaction with his environment.

The organizers of the original conference session are to be congratulated in the breadth of the framework herein presented. No single order has been imposed upon the complexity of phenomena being explored. The tone of the resulting volume encourages continuing and open-ended examination of northern development in the widest possible context. It is my pleasure to express personal satisfaction at having the opportunity for involvement in this project.

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Introduction

The regions and peoples of the North have held a special fascination for peoples in the temperate zones. The challenge of extreme cold, the idea of winter darkness, and the supposedly mystical powers of the native circumpolar peoples have stirred the imaginations of adventurers and prospective economic entrepreneurs. It is noteworthy that the earliest detailed, first-hand accounts about the "Hyperborean peoples" clearly document the economic exploitation of the Skrithifinói (now known as Lapps or Sami people) and their environmental resources. It was the wealthy Ottar from the coastal areas of northern Fennoscandia who arrived in King Alfred the Great court in England during the 9th century with marvellous stories about the wild peoples who herded his reindeer, and from whom he extracted furs, feathers, fish, otter skins, and other tributes (Manker 1972).

The far northern peoples of Ultima Thule had fascinated the scholars of ancient Rome and Greece centuries before Ottar's time, of course. Scholarly interest in circumpolar regions dates at least from Tacitus and his semi-mythological references to the Fenni, people who dressed in furs and whose womenfolk participated directly in hunting. Long before Tacitus wrote his accounts of northern peoples in 98 A.D., the Greek Pytheas is supposed to have sailed far toward the north along the Atlantic coast, and there heard of people living in the hyperborean regions. All those second hand accounts about northern peoples were embroidered with fantastic embellishments -- about midnight sun, permanent snow cover, and people running swiftly across the snow on pieces of wood.

There must have been many other people besides the intrepid Ottar who were "taxing" the Skrithifinói and other Hyperboreans in the centuries before much history was written about the northlands. In Finland, for example, the tradition of Pirkkalaiset, a Finnish people of tradesmen, refers to exploitation of northern peoples since earliest memory, and the Pirkkalaiset were only one among a number of competing interests in collecting taxes and tribute from the "wild people" who hunted and fished at the "Top of the World" (Tegengren 1952).

Closer to recorded history, another group of explorer-adventurers, the Vikings, also looked to the resources and exploitation potentials of circumpolar regions. Although there is still debate about the impact on Vinland and/or other landfalls in the New World. The Vikings certainly were the first Europeans to take up residence on real estate belonging to natives of North America and Greenland. Thus, before 1000 A.D. the spread of European peoples was already touching the lives of the Eskimo, and perhaps Indian peoples, in addition to the "taxing" of Sami peoples in far northern Europe. By the end of the 15th century Portuguese fishing fleets were already making regular visits to the waters off Newfoundland and Labrador, and in the late 16th century the first European attempt to permanently settle Newfoundland occurred.
A new era of intrusion had started in northern North America.

Various historical Chinese sources dating back even to the 13th century B.C. tell us about the earliest penetration of "southerners" into the Siberian Northlands and about the power struggle between Chinese and various peoples of Central Asia at various stages. By the end of the 1st century the Chinese were in contact with Tungusic tribes. The utilization of reindeer as herd, riding, and draught animals and the use of skis in the Lake Baikal area was mentioned by various Chinese sources between the 5th and 10th centuries (Laufer 1917). Arabic documents of the 11th and 12th centuries, Marco Polo and other European travelers and traders of the 13th century refer to the richness of Siberia and in particular to the fur trade which by then reached markets in China and the Mediterranean regions (Donner 1933).

Northern Eurasia, excluding parts of northern Europe, had long been in the lore of Russians. It was Ivan the Terrible who, in the second half of the 16th century, issued land rights to the merchant family of Stroganoffs to colonize in Siberia. The Cossacks took the lead in the northeastward expansion, founding larger settlements. By 1700 the penetration of the Europeans into circumpolar Siberia required a coming to terms with Chinese interests and led to the establishment of the Amur River as the boundary between Russia and China (Donner 1933).

Beyond the shores of Greenland the American North was barely touched by the spread of European economic exploitation until the establishment in 1670 of "The Governor and Company of Adventurers trading into Hudson's Bay" led to a systematic approach to penetrate the vast inlands. Some 60 years later the Russians reached the American shorelines in Alaska and developed a profitable fur trade for a short period. A certain Russian merchant, Duzenin, reportedly brought Alaskan furs worth $750,000 to the Russian-Chinese market south of Lake Baikal in 1746 (Bandi 1967: 73).

Thus, most of the circumpolar north was drawn into the orbit of European-American economic expansion over 200 years ago, though some of the interior regions of northern Canada, for example, were scarcely touched by the fur traders and other European entrepreneurs until well into the 19th century.

Considering all this relatively early economic penetration of the circumpolar regions, it is interesting to note that the lifeways of the native "Hyperboreans" in most areas were not swamped by European settlers and merchants, and other intruders until quite recent times. The outposts of the Far North were economically successful in their own way, but the natural environments of the arctic and subarctic regions did not attract, nor did they permit, large-scale permanent settlement of the "southern" newcomers. Furthermore the vast distances to be covered made it difficult to extract natural resources other than furs, meat, fish, and a few
other portable and storable products. In many ways the inhospitable climate -- from a southerner's perspective -- and other ecological features have protected circumpolar regions from massive exploitation until well into the 20th century. Much of the rest of the world had been colonized, converted to plantations and other enterprises with native peoples being pressed into various forms of migrant labor, or onto reservations, while large areas of the North were influenced by economic exploitation only at the fringes. This was sharply altered after World War II.

No one of course would claim that the economies of any circumpolar peoples were still "aboriginal" in 1940, or in some areas even in 1840. What can be noted, though, is that to a considerable extent the day-to-day activities of northern peoples were bent to long-established subsistence economy which required very little contact with entrepreneurs or governmental agents, and the energy requirements for customary activities, including long-distance travel were available locally to considerable degree. Individuals and families who chose to live in more aboriginal fashion, from hunting and fishing, and with few elements of "civilization" could often do so with little interference.

The study of northern regions

Academic and scientific interests have paralleled the penetration of economic exploitation into the arctic and subarctic regions. Since Olaus Magnus' Historia de gentibus septentrionalibus (Rome 1555) and Johannes Schefferus' Lapponia (Frankfurt 1673) scholars have extended their studies slowly along the northern rim of the world. The discussion of cultural affinities among circumpolar peoples was of interest to anthropologists and geographers. In 1866, Adolph Bastian wrote about "Die asiatisch-amerikanische Polargegend," and by 1888 Friedrich Ratzel included in his "Völkerkunde" a larger chapter on "Die hyperboreischen Länder" with ethnographic material from all major regions of northern Eurasia and North America (Ratzel 1885-1888). Other circumpolar works of geographers and anthropologists, just to mention a few, followed, two works with the same title, "Die Polarmänner," by F. Riedel (1902) and A. Byhan (1909), "Polarvärliden" by O. Nordenskjöld (1907) and "Polarländer" by L. Mecking (1925). The two latter ones were published together as "The Geography of Polar Regions" in 1928 (American Geographical Society 1928). Israel Ruong, a Lappish professor at the University of Uppsala, put the Lapps in a broader perspective by compiling a popular book called "Arktiska Folk" (1959). Recent works include Nelson H.H. Graburn's and B. Stephen Strong's "Circumpolar Peoples" (1973) and the compilations of various articles in "Circumpolar Problems" edited by Gösta Berg (1973) and in "The Arctic Circle" edited by William C. Wonders (1976). Concerning geographical features distinctive of circumpolar zones, Louis-Edmond Hamelin introduced a comprehensive "indice nordice" or "indice circumpolaire" in which natural and human factors are used as
criteria to identify degrees of "nordicité" (Hamelin 1975).

Anthropogeographical scholars have often been struck with the similarities in cultural and social forms stretching across the arctic and subarctic. Gudmund Hatt (1916) and Berthold Laufer (1917a) debated about similarities and differences in material culture and origin of economic activities and William Thalbitzer wrote about "Parallels within the culture of arctic peoples" (1924). H. König examined parallels in the legal systems of circumpolar peoples in "Das Recht der Polarnöbler" (1929-1930). A.I. Hallowell's doctoral thesis on bear ceremonialism also dates from this same period (1926) and Valdemar G. Bogoraz discussed a number of cultural similarities in his paper on "Elements of culture of the circumpolar zone" (1929). Parallels in social organization were the focus of Gutorm Gjessing's presentation at the Circumpolar Conference of 1958 in Copenhagen (Gjessing 1960); more recently the pervasive bilateral tendencies in kinship structure among circumpolar peoples have been treated by Graburn and Strong (1973). In regard to population distribution Ilmari Hustich reviewed the available population data on arctic, subarctic and boreal regions, noting the recent trends to urbanization in many areas, particularly in northern Eurasia (Hustich 1972).

There are, of course, a large number of other works devoted to examination of cultural and social features of circumpolar peoples. Such comprehensive comparisons of the "Hyperboreans" have often suffered from the difficulties inherent in dealing with the logistics and political complexities of research, notably the inaccessibility of the vast regions and data within the Soviet North. In fact, the geographic gaps in our conference of 1975 reflect the same problems.

Various international scientific years concerned with polar regions, starting in 1882-83, have spurred the interest of more and more scientists in northern regions. The accumulation of research findings has provided us with a better knowledge of these areas. There now is a voluminous literature which include such useful tools as the "Arctic Bibliography" published, but now discontinued, by The Arctic Institute of North America and handbooks such as Patrick D. Baird's "The Polar World" (1964) and "Arctic and Alpine Environments" edited by Jack D. Ives and Roger G. Barry (1974). Also the institutional organizations of circumpolar research include a very large number of Arctic and Polar institutes, departments, libraries and archives in all the eight nations touching on the arctic and subarctic, as well as in France, Germany, Great Britain, Japan and other countries (Corley 1975). Major journals are "Acta Arctica" (Copenhagen), "Arctic" (Montreal), "Arctic and Alpine Research" (Boulder), "Arctic Anthropology" (Madison), "Inter-Nord" (Paris), "Polarforschung" (Münster), "Polar Geography" (Washington), "Polar Record" (Cambridge), "Problemy Arktiki i Antarktiki" (Leningrad) and "The Musk-Ox" (Saskatoon).
New economic penetration of circumpolar regions

William C. Wonders noted about "northern development" that "... northward expansion was delayed until other more accessible, more favoured regions were developed ..." and that "... for the layman it was World War Two and the long-range development of the aircraft that brought an awareness of northern perspectives and of circumpolar neighbours." (Wonders 1976: 1).

The post-war development of military interest in the North certainly played a significant role. In many areas of arctic North America the construction of military installations brought sudden disturbance and modernization to northern peoples. Hunters became day laborers and electronic technicians. With the expansion of military interests came an intensified search for and development of non-renewable resources -- uranium, iron and other metals in northern Canada, a host of mining operations in northern Fennoscandia, and massive extraction of coal, metals, timber and other resources throughout the Soviet North. Mining in the North was not, of course, entirely new. Coal "mining" in Spitsbergen dates from the early 17th century and larger mining operations there started around the turn of this century.

The "energy crisis" of 1973 gave further impetus to circumpolar development, as energy-hungry nations made renewed efforts to extract petroleum and natural gas as well as hydroelectric power from northern areas. After 1960 the Soviet Union opened large gas and oil resources near Tyumen in Western Siberia and at Urengoy at the mouth of the Ob River. New petroleum finds were made in the Arctic waters north of Norway, and off the west coast of Greenland. The Alaska pipeline, tapping large reserves in northern Alaska and a series of projected gas and petroleum pipelines for western and central arctic and subarctic Canada mark the accelerated pace of energy exploitation (Lindemann 1974).

Less publicized than the pipeline developments, but massive in their environmental impacts, are a series of hydroelectric projects in the subarctic areas of the Mid-Canada Belt, as well as large dam projects in Fennoscandia and in the Soviet North.

Less obtrusive, but nonetheless far-reaching in impact, was the development during the 1960's of gasoline-driven snowmobiles and other off-road vehicles, the first modern vehicles to successfully replace the time-honored dog and reindeer sleds of circumpolar peoples. With the pervasive spread of this type of transportation, all but a few isolated pockets of northern peoples have become dependent on imported energy resources for daily mobility. During the mid-Sixties these peoples were thus made dependent on the cash economy in a new dimension, reaching far beyond their earlier ties to the fur trade and sale of reindeer meat and fish. In addition, massive tourism has also left its print on northern peoples, especially in Alaska and Fennoscandia.
Political and cultural organization of northern peoples

Faced with more intrusion into their daily lives, many of the circumpolar peoples have developed organizations for defending themselves and their institutions, and for seeking economic and political self-affirmation in a changing world. The Sami groups of Finland, Norway and Sweden were the first among northern peoples to establish a native organization, the Nordic Sami Council, which has been active since 1956 and crosses international boundaries. Throughout arctic and subarctic North America as well as Sweden a series of land claims cases have been contested. In Alaska, the native peoples have won significant concessions, including control of large areas as well as monetary compensation for land given up to the central government (Ervin 1977). In Canada, a major claims settlement was the James Bay Agreement whose full application is still pending. Other native organizations in Canada are in the midst of preparing and filing land claims with the government.

Political organizations of growing importance include the National Indian Brotherhood of Canada, the Inuit Tapirisat of Canada, the Alaskan Federation of Natives, and the Nordic Sami Council in Fennoscandia. In Greenland, the native Greenlanders have participated directly in governmental bodies under Danish rule, but the surge for "Home Rule" is ever stronger (Lynge 1976). In Finland, a quasi-governmental "Sami Parliament" was established in 1973 whose elected members are recognized as the representatives of all Finnish Lapps. This body has advisory power, reporting to Finland's President on economic, social and political concerns. In the Soviet Union, native peoples are directly engaged in local, regional and national political bodies, but it is important to note that currently not more than 2% of the population in the Soviet North are native peoples (Hustich 1972). There, as in most other parts of the circumpolar world, the sparseness of native peoples makes them politically and economically weak in the face of the population numbers, and the high energy technology of the intruding national cultures.

The Arctic Peoples' Conference, held in Copenhagen in 1973, was the first major international effort of circumpolar peoples to join political forces for mutual goals. Following the Copenhagen meeting, the National Indian Brotherhood of Canada, with the support of the Nordic Sami Council and other native organizations, called the founding meeting of the World Council of Indigenous Peoples in British Columbia in 1975. The World Council includes representation from approximately 50 different ethnic groups, numbering 40 million persons.

The circumpolar peoples of Fennoscandia and North America and the World Council of Indigenous Peoples, refer to themselves as "The Fourth World" (Kleivan 1973), noting that many "new nations," and other developing nations, however fresh their concern with colonial exploitation, do not thereby automatically place
priorities on protection of the cultural and economic rights of the smaller ethnic minority groups.

The problems posed by modernization and economic development throughout the circumpolar regions have no easy solutions, and the new (and not so new) political organizations are often split by intense disagreements concerning goals and strategies. Some groups press for economic development, effective education, and rights of access to other symbols and elements of modernization. On the other hand there are those voices -- not only from older people -- who echo this statement by an Inuk (Eskimo):

"An Inuk who is educated in the white man's manner does not think of accepting the responsibility of being a hunter. If he cannot find a job he does not consider hunting an alternative. He just wanders aimlessly among the houses. Some sleep by day and wake up at night. Some cause trouble because there is nothing else to do. Ask someone to accept some responsibility and he cannot imagine doing so for nothing. Unless he is paid he will not do it. People waste themselves in things that are not at all creative or constructive .... They have no will power. I do not say all educated people are like this, but there are many who are - too many." (Tagoona 1973: 2-3)

Organization of the Amsterdam Symposium

The idea of organizing an international symposium on northern matters came in the spur of a moment during a conversation between Henri J.M. Claessen, David S. Moyer and Ludger Müller-Wille at the University of Leiden in May 1974. Henri Claessen was the program chairman for the 34th Annual Meeting of the Society for Applied Anthropology which was held jointly with the Netherlands Sociological and Anthropological Society in Amsterdam (Royal Tropical Museum) from March 19 to 22, 1975. He was looking for symposium organizers and asked us if we could come up with some ideas. David Moyer and Ludger Müller-Wille discussed this possibility and suggested as a theme "Unexpected Consequences of Economic Change in Circumpolar Regions." The topic was accepted and Pertti J. Pelto was asked to join as a co-convener of the symposium. Ludger Müller-Wille served as organizer and convener although he was involved in field research in northern Fennoscandia between June and November 1974. During the following months he contacted more than 130 persons in 10 countries who were known to have expertise and current interests in the northern circumpolar regions in fields like geography, biology, psychology, sociology, and anthropology. The response was very good indeed, although it was not possible to attract people from all northern countries. Still, 25 contributions were filed with the organizer and many more persons signed up as participants (see list at the end of the book). Most of the
papers were presented at the symposium and are included in this volume.

As so frequently happens in attempts to encompass a broad geographical area, inevitable gaps occurred in both topical and areal coverage. The most serious lacunae are in the regions of the Soviet North. As a result, the major accomplishment is in the intensive comparison of data from the circumpolar areas of North America, Greenland and Fennoscandia. Researchers concerned with the North American northlands seldom have opportunities for intensive discussion with the "Lappologists," and vice versa, so we feel that the comparisons and perspectives that emerged from this symposium are of considerable practical and theoretical importance.

In addition to the papers included in this volume, the symposium especially benefited from the contributions of Erik Bylund, Tim Ingold, John C. Kennedy, Margaret Lantis, Philip Lineton, Per Mathiesen, Juha Pentikäinen, and Gösta Weissglas.

The symposium convened during the Annual Meeting of the Society for Applied Anthropology on March 21 and 22, 1975. Besides the presentations and discussions, the symposium was supplemented by a visit to the "Circumpolar Community Exhibit" at the Rijksmuseum voor Volkenkunden at Leiden where the film "Greenlanders" by Hubert Schuurman was also viewed (National Film Board of Canada 1974). The exhibit arranged by the Department of Indian and Northern Affairs (Canada) was kindly made available to the symposium through the Department of External Affairs in Ottawa. Gert Nooter, curator at the Rijksmuseum, did an outstanding job in complementing the exhibit from the museum's own collections. The exhibits and film gave the circumpolar symposium a special dimension beyond the scope of the papers themselves.

During the preparation and organization of the symposium and its publication, between May 1974 and March 1977, several persons and institutions assisted the organizers in their efforts. We would like to extend our thanks to Henri J.M. Claessen and David S. Moyer (both at Leiden) for their organizational skills, as well as External Affairs (Ottawa), J.J. Guss (Canadian Embassy at The Hague), Hubert Schuurman (Indian and Northern Affairs, Ottawa), Gert Nooter and the Rijksmuseum voor Volkenkunden at Leiden for arranging additional visual aid for the symposium.

Don Gill, then Director of the Boreal Institute for Northern Studies at The University of Alberta (Edmonton), was instrumental in securing publication of the papers with the further help of Regna Darnell and R.S. Jamieson to see this volume through the press.

Margaret Lantis (University of Kentucky) and Cornelius H.W. Remie (Katholieke Universiteit, Nijmegen, The Netherlands) did a painstaking task of reviewing all papers for publication. Their
help was invaluable and their speediness was very much appreciated although the Canadian mail strike of 1975 contrived to delay the appearance of this volume. Linna Müller-Wille struggled patiently with the various versions of the English language represented in the papers. Alan Cooke (Montréal) was kind enough to check through the manuscript on very short notice and Rosalie Robertson Haun (Storrs, Connecticut) managed the tedious task of deciphering the edited manuscript pages into a typed copy.

We know that we, at times, stretched the contributors' patience to quite an extent and we do appreciate their understanding and support in finishing this volume.

To us involved in editing these papers, the "Bonner Post-Symposium" of Easter 1975 with its good discussions, suggestions, and the air of cooperation and leisure will be well remembered.

St. Lambert, Quebec March 20, 1977

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Literature


Thalbitzer, William C. 1924. Parallels within the culture of the Arctic peoples. 20th International Congress of Americanists in Rio de Janeiro 1922, Tome 1: 283-287.

Part I

Northern environments and peoples: some definitions

One of the intentions of this symposium was to bring together people from various regions and fields, particularly from natural and social sciences. We expected that geographers would be of help to anthropologists in drawing a clearer picture of the interrelationships between northern peoples and their physical environments. There often seems to be a confusion of terms and definitions as used by both natural and social scientists in speaking about circumpolar regions. John G. McConnell summarized some general definitions for the northern regions from the geographer's point of view. These concepts can serve as a guideline for social scientists working with circumpolar peoples.

Another aspect of concern was the naming and defining of particular ethnic groups. Terence Armstrong gave a brief account of changes in definitions of northern peoples in the Soviet Union, at the same time clarifying the confusing terminology used to identify the various groups. There continue to be variations in terminology, as can be noticed in the use of different terms for peoples by the contributors. Apparently there are no firm guidelines about ethnic labelling as discussed in our summary comments in the final chapter.
Northern regions: some general geographical definitions

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The definition of northern regions has been accorded a great deal of attention by geographers and biologists, but much less by social scientists. Yet social science in the north has emphasized the environmental influences upon all aspects of northern society. The remoteness, the inaccessibility and the harshness of the environment have been portrayed as major influences, but have been little defined. Nor has the way in which specific aspects of the environment—cold, snow, wind, distance—contribute to harshness and its supposed social effects been analyzed. To facilitate the identification and analysis of the influence of specific environmental features in the different parts of the north it is essential to have some standard terminology which will permit regional comparison. The term "arctic" calls to mind a land of winter darkness, extreme cold and treelessness to most geographers and biologists, yet it has been used to describe areas in northern Scandinavia which are preponderantly forest-covered (Müller-Wille and Pelto 1971). The terms "northern" and "subarctic" are even more vaguely used. Yet if these regional or geographic terms are used inconsistently throughout social science literature, the terms which describe "northness," such as "cold," "inhospitable," "hostile," etc., and the terms which describe social conditions which arise from northness, such as "lonely," "remote," and "inaccessible," are even more carelessly used.

In general the defense of these terms is that they adequately describe the physical and social environment of the specific place under study. While the description of a settlement like Utsjoki in northern Finland, which is on a paved highway between Rovaniemi and the Norwegian coast, as being "remote" may seem an exaggeration to a Canadian used to settlements hundreds of miles from the nearest road, the use of the term can be defended by the argument that to the southern reader such a place is remote compared to places in his own environment. Moreover, it can be argued that remoteness may be a strongly subjectively held attitude by the residents of a place, despite its lack of remoteness when compared to another place on some objective standard.
Nonetheless, some objective criteria would permit the student to evaluate the degree to which the attitudes of local residents were based on objective fact, and further would go some way to counteract undue subjectivity in the observer as well. Some terms used to define or describe northern areas are susceptible to precise definition. Others, while they might lose some of their descriptive usefulness if defined too closely, can be used with a greater degree of precision than is commonly the case. There is a good deal of literature available on the definition of northern areas, some of which may be useful as a starting point for work in the social sciences.

Hare (1950), Hustich (1960), Rousseau (1964) and Hämet-Ahti (1963) have offered biological and climatic definition for various northern regions. All agree generally about the term "arctic." The arctic is that area which, due to latitude (as opposed to altitude), to a long cold winter, and to a short cool summer, is devoid of high-trunked trees. The plant species are few and the vegetation is dominated by lichens (Cladonia), sedges (Carex), and such low-growing species as willows (Salix), birches (Betula nana), crow berry (Empetrum nigrum), etc. While the arctic can and has been subdivided into various regions on the basis of varying physical conditions - for example Hamelin (1964) divided the arctic of Canada into low, high and extreme regions on the basis of cold and ice conditions - it has a degree of hemispheric uniformity deriving from the fact that its internal diversity is less than its difference from non-arctic northern areas. This last judgment is based in large part upon consideration of the influence of arctic conditions on potential human uses of the area. The lack of vegetation and the climate it reflects preclude any sustained and extensive use of the vegetation either for food or fuel. The paucity of vegetation limits the number of mammals in the region, and again limits the type of human occupancy. The term "arctic" thus defines a relatively homogeneous geographic area and when used precisely to refer to such areas permits a degree of accurate identification and analysis of environmental influences on human behaviour. The various terms used by biologists and geographers to modify "arctic" are similarly useful when used precisely. Hamelin's terms "low," "high," and "extreme," or Rousseau's (1964) terms "toundra seche" and "toundra humide" are applicable throughout arctic regions. They do not refer solely to Canada or Greenland or the U.S.S.R. Thus any modifying term used in social science literature to describe the characteristics of a particular arctic area being studied should, if it is to be useful for comparative studies, follow one of the schemes of nomenclature suggested in the biological or geographic literature, and should identify the scheme being used.

Hamelin's term "extreme" refers to areas with a permanent ice cover on either land or sea. Such conditions largely preclude the presence of animals or plants, inhibit access to marine resources and render access from outside difficult. When "extreme" is used only for such areas it is obviously a useful
comparative term. Other modifying terms such as "typical," or "characteristic" should be examined in the light of one of the schemes of nomenclature before they are used. Typical of what? If a place under study is to be called "typical," care should be taken to ensure that the characteristics being typified refer to the mean conditions of the region for which a specific term is used. Thus, "typical arctic" should not be used to refer to an area with permanent ice cover. Rather one should say "typical extreme arctic," and so on.

The areas which are transitional between the arctic and mid-latitude regions have also been the subject of attempts at definition. Such areas have some but not all of the characteristics of the arctic. A poorly defined term, "subarctic," has been used for some time. The difficulty with this term generally was that it defied accurate geographic use, since it was defined by what it was not rather than what it was. Such regions were too cold for crop farming, but not too cold for trees. Moreover, the internal differences within the northern areas which fulfilled these vague criteria were immense. There is a good deal of literature which attempts to define "subarctic" more accurately and which attempts to define the various sub-regions within this area.

Ilmari Hustich in a number of papers on the phytogeographic regions of both northern Canada and northern Scandinavia suggested that the northern forest regions of the world should not be viewed as a uniform region but should be clearly divided into distinct regional units. He maintained (Hustich 1953) that the term "subarctic" should be used only for the forest-tundra transition zone which lies between the open tundra and the closed-crown coniferous forest which lies to the south. Rousseau (1964) lent ecological support to this view. He used the term "hemi-arctic" for the forest-tundra zone, and pointed out that it represented a human environment distinctly different from either the tundra or the forest. However, because of seasonal movement between the forest and the forest-tundra he preferred to retain the term "subarctic" for the zone of the taiga forest. Hare (1954) suggests that the term "subarctic" be used to identify the forest-tundra, the boreal forest, and the taiga regions. Hämet-Ahti (1963) pointed out that in strictly botanical terms the region that Hustich (1960) described as subarctic in Scandinavia might better be termed sub-alpine, and that the western treeless areas in Scandinavia are not arctic or even maritime tundra, but maritime heath. Thus, while the phytogeographic studies have produced a welter of varied and often conflicting terms for the precise botanical subdivision of these northern areas, they have provided a picture of different, identifiable, and significant sub-regions within the zone of transition between temperate and arctic regions. If one follows the system suggested by Hare (1950) and classifies the whole of the forested area with extreme cold and long winters as subarctic, it is then possible to identify the major environmental divisions within it as forest-tundra, open boreal woodland or taiga, and closed-crown boreal
forest. These categories will provide a general comparative reference framework. Further subdivision of the regions which are due to specific vegetation history, physiography or climatic accident can then be noted where the area under study does not fulfill the minimum requirements for regional definition, i.e. an open-crown moss lichen woodland, or a closed-crown coniferous forest. The general uniformity of circumpolar mammals, birds and fish gives to each of these subdivisions a similarity as human habitats which makes for valid regional comparison.

Some geographers working in northern areas have attempted to create maps and indices which, while remaining consistent with the physical regionalization of the north, would indicate the regional differences in human activity and impact. K.H. Stone (1954) mapped the southern limits of northern areas in North America and subdivided the area so defined on the basis of population density and permanence of settlement. While he outlined a series of criteria both physical and economic which should be examined in human geographic research he did not produce an index or a map on the basis of these criteria. The most comprehensive and precise system combining both physical and human criteria for northern regional comparison is that put forward by L.E. Hamelin (1968). Using ten criteria Hamelin has created a numerical index which can be applied to any northern location. This index of "nordicity" permits the drawing of regional maps for any northern area, and, when the criteria are examined individually for places with a similar degree of nordicity, allows the comparison of the impact of various human or physical factors which contribute to the nordicity of any specific place. While the index is useful in this way it has some major inadequacies. Numbers will not replace descriptive terms in most writing about the north. To say that a place has a nordicity value of 782 will not appeal to or inform most readers. Also the possibility of places with widely different characteristics having the same numerical value reduces the comparative usefulness of the system.

There is then no single system in the geographic or biological literature which is adequate to all the various branches of social science, or even to one of them. Nevertheless the various attempts at definition can be of value for social scientists. All of the literature mentioned tries to show the similarities and differences of places over a wide longitudinal and latitudinal range, and disregards different political divisions. Moreover, all of it demonstrates the differences existing in areas which may have at first view an apparent sameness. An awareness of these differences, and of the terms used to denote them, will help to clarify the influences of environment on social change. For example, the trapping of wild fur is an economic activity characteristic of subarctic areas. Changes in the role of trapping in the economy of such areas is currently everywhere apparent. However the changes are not everywhere the same. The question then arises as to why differences in the rate or nature of change exist. Since the nature of trapping will change with the natural environment, and the alternative economic
opportunities will similarly vary with environment, it would seem that a reasonable first step in analysing the differences in the changes in trapping would be to establish the degree to which changes are similar in similar regions. The effects of social, cultural or political factors on trapping activity would be more accurately analysed if the role of the environment were first clarified. Such clarification requires a set of criteria for the identification of regional differences and similarities. Reindeer herding, forestry, hydroelectric power development, environmental deterioration and even the question of the impact of such technical developments as snowmobiles could also be used to demonstrate the need for a clear set of regional definitions. Spatial definition then is an essential basis for regional comparison in northern studies, and such comparison is essential for the adequate understanding of the wide-ranging changes occurring in northern areas.

The papers which follow in this volume arose from a conference the stated purpose of which was to stimulate discussion between people working in various disciplines in various northern areas. The papers are published in the hope that they will aid students of northern areas to make cross-regional and cross-disciplinary comparisons. No system of northern definition was urged upon the authors of the papers, nor was any discussed at the conference. The problems which arise from a lack of definition will become apparent to readers who wish to make use of this volume for regional comparison. The reader who attempts to clarify the definition of the areas dealt with in this volume according to one or more of the systems of definition introduced above will find the usefulness of these papers greatly enhanced. It is as much for this reason as for making a general plea for clearer regional definition in the social sciences that this introduction to the need for and the problems of definition is written.

Literature


Hustich, Ilmari. 1953. The boreal limit of conifers. Arctic 6(2).


Who are the "northern peoples" of the USSR?

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My intention in this paper is not to pass judgement in anthropological terms on which cultures, or sorts of culture, ought properly to be called "northern," but rather to examine the more practical problem of interpreting what Soviet and other writers mean when they use the phrase "the northern peoples of the USSR." Uncertainty arises for two reasons: first, a lack of conciseness in defining "the north:" and second, an implied belief that northern peoples must have certain common cultural characteristics.

The first point is one that might as easily arise in any other northern territory as in the USSR. The southern limit of "the north" has no generally applicable definition, and varies with the subject under discussion. But Greenland and Iceland happen to be islands, and so offer no problem of where to draw the line; and in continental North America administrative boundaries (the northern boundary of the Canadian provinces, and isolated Alaska) offer a rather easy, if not always adequate, guideline. In the USSR, administrative boundaries tend to run north and south at many points where an east-west boundary would make this particular exercise simpler, and there is no easy guideline. Different limits have been put forward for different purposes. I have discussed elsewhere the positions of the southern boundary of "the north" as variously defined in Soviet usage (Armstrong 1961, 1974). If a particular boundary is agreed upon, then it is relatively easy to list the minority peoples who live to the north of it. The widest definition of the north is "the Soviet north" as defined by the economist S.V. Slavin (see Armstrong 1974), and the peoples who live in it are as follows (currently used Soviet names, with other names in brackets): Saamy (Lapps), Karely (Karelians), Nentsy (Samoyeds), Komi (Zyrians), Mansi (Voguls), Khanty (Ostyaks), Sel'kupy (Ostyak Samoyeds), Kety (Yenisey Ostyaks), Dolgany, Nganasany (Tavgi Samoyeds), Yakuty, Evenki (Tungus), Eveny (Lamuts), Yukagiry, Chukchi, Koryaki, Itel'meny (Kamchadals), Eskimoey (Eskimo), Aleuty. Another definition, "the far north" and "regions equated to the far north," areas defined by the laws governing regional wage differentials, encompasses a slightly different selection of peoples (Table 1).
But what if a people straddles the boundary? If a clear majority live to the north, then no doubt that people should be included (after all, every group has some members living in southern regions). As it happens, along the boundary of "the Soviet north" there is only one case which presents something of a problem: the Komi-Permyaki. This people, nearly 150,000 strong, is closely related, both ethnically and culturally, to the Komi (nearly 300,000) - but the boundary runs between them. Since they are enumerated separately for census purposes, it is reasonable to include one and exclude the other; but Soviet demographic tables sometimes list the two together, a practice justified by their affinities. The boundary for regional wage differentials, however, bisects the Komi and the Nanaytsy, and it would be impossible for anyone without access to unpublished material to determine the proportion on either side of the line.

The second point causes greater trouble. A phrase in common Soviet use for many decades is "the peoples of the north," or, in the earlier years, "the small peoples of the north." This phrase connoted peoples who were numerically small (under, say, 25,000), but who lived not only in the north but also in southern Siberia and the Far East - the Sayan mountains, Sakhalin, and the lower Amur river (which is at the latitude of Paris). The reason for the inclusion of more southerly peoples - Tofalary or Tofy (Karagas), Nanaytsy (Golds), Nivkh (Gilyaks), Negidal'tsy, Ul'chi, Orochi, Oroki and Udegeytsy - was no doubt that their cultures and their administrative needs and problems were most closely comparable to those of the small northern minorities.
One of the earliest pieces of Soviet legislation about the north was the Decree of the Central Executive Committee of the RSFSR of 20 June 1924 setting up the Committee of Assistance to the Peoples of the North (Ob utverzhdenii 1925). This referred to "small peoples," but mentioned none by name. As the Committee started to identify the peoples it wished to help, a curious inversion of reasoning occurred, and "the north" came to be understood as the region inhabited by the peoples taken care of by this Committee. The region did indeed include all the most northerly parts of the USSR, but it also dipped far southwards in central Siberia and on the Pacific seaboard. In the 1970 census results (Itogi 1973: 10) the heading was commendably changed from "peoples of the north" (used earlier) to "peoples of the north, Siberia and the Far East." But this still does not answer the question as to why these particular peoples, and not others, are included under the heading.

Those same census results introduce another oddity, of somewhat the same kind. The Eskimo and Aleut are no longer included in the list with the other small peoples, but are shown separately, at the end of the general list. No reason for this change is given. Both happen to be peoples with more members outside the USSR than inside it, but this is also true of the Saamy (Lapps). It seems unlikely that the change reflects any alteration in the legal status of Soviet Eskimo and Aleuts. One may note that the
Tofalary were already shown in this way - that is, on the general list and not on the "peoples of the north" list - in the 1959 census results (Itogi 1962: 186-89).

A different difficulty is that the three largest indigenous minorities are always omitted from "the peoples of the north:" the Komi, Yakuty and Karely. These three are not only much the largest in numbers (totalling 764,000 in 1970, compared to 154,000 for the other 23 peoples), (see Table 1), but also are the most sophisticated. The reason for the omission may have been historical. These peoples were perhaps not in need of the same sort of help as were their smaller neighbours, so they were not central to the interests of the Committee of Assistance to the Peoples of the North (though not specifically excluded from its terms of reference). In the administrative context, this distinction took the form that the Komi, Yakuty and Karely were given the status of Autonomous Soviet Socialist Republics (and the Karely for some time the even higher status of Union Republic), while the others were organised in National Districts or lower. It is also possible that these three peoples did not care for the idea of being grouped with the others, whom they will have regarded as much more backward. To the outsider, the omission seems today quite strange, for the difference between the Yakut and, say, the Evenki is surely less than that between the Yakut and the immigrant Russian. A recent listing of "the peoples of the north" confirms the pattern just outlined. The ethnographer Gurvich, its author (1971: 10), does not defend it on ethnographic grounds, but merely states that it derives from legislation enacted in the USSR and the RSFSR over the years.

Many questions arise from the apparently odd fluctuations shown by these figures (Table 1), but this is not the place to discuss them. However, a word about some of the "not listed" entries is required. The Dolgan were not listed in 1959, apparently because of the fact that they speak Yakut, which led to their classification as Yakuty; this was corrected in the 1970 census results (Itogi 1973: 10). Likewise the few hundred Negidal'tsy of the lower Amur and its tributary the Amgun' were not listed in 1959, probably because they speak Evenki and were enumerated as such. The Ents of the lower Yenisey and the Chuvantsy of Chukotka were listed in 1926 but not later. It seems that the Ents are now almost indistinguishable from the Nganasany (though in 1967 it was reported (Vasil'yev 1967: 9) that there were still 300 of them): and the Chuvantsy, who were Chukchi-speaking but Yukagir in origin, have been assimilated into either Chukchi or Russian groups.

The conclusion to be drawn from all this is that anyone using Soviet sources on northern peoples must keep his wits about him. If the sources provide generalised statistics on the northern peoples as a group, he must be aware of the problems outlined above: for instance, that "the peoples of the north" number 154,000, while the minority peoples living in "the Soviet north" number 897,000. A research worker will do best to decide for
himself which peoples he is concerned with and then assemble statistics about each in turn. There can obviously be no unchanging list of northern peoples, correct for all occasions. I find that my particular purposes (which tend to be historical and economic, rather than anthropological) are best served by a grouping approximating to "the Soviet north." Others may take a different selection. But unless one is specifically interested in the history of the Soviet government's attitudes towards small minorities – and perhaps even if one is – there is no need to follow the oddities of selection apparent in "the peoples of the north."
Table 1

Available population statistics for the "northern peoples" of the USSR from Soviet censuses

(Sources: Levin and Potapov 1964; Itogi 1962; Itogi 1973)

<table>
<thead>
<tr>
<th>Code</th>
<th>People</th>
<th>Population in Thousands</th>
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</thead>
<tbody>
<tr>
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<td>1926</td>
</tr>
<tr>
<td>2</td>
<td>Komi</td>
<td>226</td>
</tr>
<tr>
<td>2 3</td>
<td>Yakuty</td>
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</tr>
<tr>
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</tr>
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<td>Nentsy (Samoyeds)</td>
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</tr>
<tr>
<td>1 2 3</td>
<td>Evenki (Tungus)</td>
<td>16</td>
</tr>
<tr>
<td>1 2 3</td>
<td>Khanty (Ostyaks)</td>
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</tr>
<tr>
<td>1 2 3</td>
<td>Chukchi</td>
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<tr>
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<td>Eveny (Lamuts)</td>
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</tr>
<tr>
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<td>Udegeytsy</td>
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<tr>
<td>1</td>
<td>Oroki</td>
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</tr>
</tbody>
</table>

* 1 "Peoples of the north" according to Gurvich (1971: 10).

2 Peoples living in "the Soviet north" as defined by Slavin (Armstrong 1974).

3 Peoples living in "the far north" and "regions equated with the far north" as defined for regional wage differentials (see Boundaries 1969). (3) = partially included.
Literature


Ob utverzhdenii. 1925. Ob utverzhdenii Polozheniya o komitete sodeystviya narodnostyam severnykh okravin pri Prezidiume Vserossiyskogo TsIK (On confirming the Statute on the Committee of Assistance to the Peoples of the Northern Marches attached to the Presidium of the All-Russian Central Executive Committee). Sobraniye Uzakoneniy i Rasporyazheniy Rabochego i Krest'yanskogo Pravitel'stva RSFSR 12(79): 148-149.

Part II

Changes in native economy, equipment and resources

Far-reaching changes are affecting all aspects of peoples' ways of life throughout the arctic and subarctic regions. Only a few examples are taken up here, but the focus is on factors influencing ecological adaptation. The new needs for energy resources force native populations to seek new adaptations, and the progressive de-localization of such resources is particularly important, as noted in the paper by Pertti J. Pelto. Eino Siuruainen showed how cash income becomes a central concern in all areas, a theme that he developed further in his recent monograph, "The Population in the Sámi Area of Finnish Lapland" (University of Oulu 1976). The paper by Gert Nooter reminded us of the complex link between material culture and social organization, while Menno Lenstra's contribution focused on how the reindeer economy in a Lappish community is affected by natural environmental and governmental factors.
Ecology, de-localization and social change

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Most of our contemporary studies of economic development and modernization are framed in an implicit or explicit ecological perspective. This is especially true in recent studies of arctic and subarctic peoples, as evidenced in this conference. The focus on interactions of human groups with their environments has been a dominant theme in circumpolar studies because the extreme cold, sparseness of food supplies, and paucity of resources (such as firewood and materials for making implements) is one of the most striking features in the cultural adaptations of Inuit, Sabme, and other northern peoples.

The ecological perspective now current in much of anthropology includes concepts and approaches borrowed from ecologists who study the lifeways of wolves, deer populations, shoreline flora and fauna, forests, and other complex, multi-species ecosystems. Of course, our focus on human populations and their ecosystems has necessitated the development of new concepts and research techniques because of the importance of cultural systems in human adaptation processes.

Employing implicit or explicit theory, we have long been concerned with inventorying food supplies and other resources available in circumpolar environments, the technology and social organization used to exploit such resources, and the effects of these systems on other aspects of culture and social organization. For example, Pehrson's study of the Könkämä reindeer herders concludes that "... North Lappish bilateral organization is particularly well adapted to large-scale reindeer herding in a variable and difficult environment." (Pehrson 1957: 108). Similarly, Leeds (1965) had analyzed "reindeer herding and Chukchi social institutions" from an ecological perspective. Surveying data about Inuit populations, Balikci made the following ecological comments: "... within the vast Eskimo area there are great regional differences in the processes of ecological adaptation. For instance, both northern Alaska and the Netsilik country may be considered to have harsh environments, yet the abundance of larger sea mammals in Alaska has allowed a much denser population
to develop relatively sedentary patterns. Greater food availability seems to have reduced prolonged ecological pressure among the Alaskan Eskimos and made possible the growth of complex ceremonialism." (Balikci 1968: 82).

W.S. Laughlin (1975) and associates have carried out extensive ecological investigations of Aleutian peoples and their ecosystem, bringing together archaeological data, research in genetics, osteology and other medical studies, with cultural and behavioural data.

The more recent attention to modernization and economic development, therefore, has a baseline of ecological studies on which to draw. Change and development in circumpolar areas consist of large-scale modification of previously low-energy, semi-isolated ecosystems in which (in most areas) great human ingenuity and social flexibility were essential for coping with sparseness of resources.

Localization and de-localization in ecological studies

Ecologists who study non-human animals and their environmental relationships can generally rest assured that large-scale quantities of energy or other resources are not transported across boundaries of their delimited ecosystems. That is, non-human animals generally exploit localized resources within given areas - territories or home ranges - they do not engage in extensive exports and imports with neighbouring groups. Also, the study of non-human ecosystems does not have to take account of inter-group political relations. One effect of this localization in non-human ecosystems is that ecologists can make some meaningful calculations of "carrying capacity" for particular species in a given local environment.

Among human groups on the other hand, there are only a few examples of such near-complete localization. Apparently the Polar Inuit of Thule carried on no trade with other peoples, and exploited only the resources of a definable, bounded region of polar Greenland, until the coming of white explorers put them in touch with a wider world of communications and goods.

The condition of localization of resource management - exemplified by the Polar Inuit and perhaps a few other human groups was probably the usual situation among hunter-gatherer peoples in the distant Pleistocene past. Of course migrations took place, and small items were traded among neighbouring peoples. More important, spouses were occasionally obtained from among fairly widely dispersed bands. But in terms of energy utilization, and taking natural products from the lands and waters, pre-neolithic ecological systems were to a large extent localized.

With the development of Neolithic societies (based on domestic food production systems, greater sedentariness of populations,
and increased population densities) a process of de-localization began. At first the inter-regional flow of goods and communications was no doubt fairly modest, for the Neolithic way of life almost certainly kept most people busy, probably requiring greater numbers of hours of local production activity than had been usual in the hunting-gathering situations (e.g. in the Near East).

Extensive de-localization probably first came into being in connection with the earliest urbanization and political centralization. You do not have to have centralized governments in order to produce extensive de-localization of ecological systems, but it helps. Centralized governments in the proto-urban centers of the Near East were the first ecological systems we know of that have clear evidence of the following aspects of de-localization:

1. Significant quantities of raw materials were imported into production centers through systems of exchange among different cultural groups hundreds of miles apart. (The flow of copper and other scarce metals in the Near East is only one indicator of this trend.)

2. Multi-ethnic organizations were developed, and political and economic control extended into neighbouring regions. The archaeological record from Middle America and South America show that de-localization of ecological systems is possible without large amounts of non-human energy sources - but the pace of de-localization quickened when there were ships, beasts of burden, and wind- or water-driven machinery.

3. De-localization in the empire-building phase of human history meant that centralized, usually urban, populations were dependent not only on the immediate surrounding countryside for food and other resources, but were able to exploit much wider regions for raw materials and personne.

4. At the receiving end of these processes, de-localization meant that local populations lost their autonomy and local control of resources, being forced to expend energy to send shipments of local resources to the political centers (even when they had little knowledge about these centers). In Lapland, for example, native peoples came under the "tax-gathering" influence of Danish, Swedish, Finnish and Russian agents well before the 10th century, and probably, for centuries, the Sami had very little idea of where those foreign devils, the tax collectors, came from.

De-localization, then, can be defined as the tendency for any territorially-defined population to become increasingly dependent on resources, information flow and socioeconomic linkages with the systems of energy and resources outside their particular area. It is not just a process at "the little end" - for the centers of power also exhibit de-localization as they become more
dependent on foreign resources, international markets and intercontinental flow of energy. In quantified terms, de-localization might be defined as the ratio of externally produced (imported) energy to total energy expended in the local area. By that definition New York City and Kautokeino, Norway, may be about equally de-localized.

It is my impression that de-localization is the major process underlying all or most of the variety of forms we commonly label "modernization," "acculturation," "economic development," and related transformations. Furthermore, it is the process of de-localization that renders a great many studies of local ecological systems unrealistic, since the wider energy systems on which local population depends are often more extensive than the locally-available energy sources.

De-localization in the circumpolar north

Much of the description of economic change in Far Northern regions (Lapland, Siberia, and arctic North America) involves the chronicling of de-localization - the coming of traders, the decimation of game with imported rifles, the settlers, missionaries, government agents, and the growing dependence on the price structure and economic ties of fur-trade, imported flour, kerosene, and commercial production of fish, reindeer, and other products.

One of the prime markers of de-localization everywhere is the establishment of a full cash economy. In many areas of the arctic significant portions of the population were only partly involved in a cash economy until very recently. Dependence on fur trade or sale of wild products did not convert everything into a cash economy. Many families continued to live from wild products, using equipment and supplies that were over fifty percent locally produced. This was true of the Skolt Sami people before World War II for example, and also true of many different Inuit groups in North America.

Dependence on outside fuel resources: energy de-localization

Many populations in the arctic remained semi-autonomous until recent times because their major energy resources, especially primary foods and major transportation means, were of local origin. Throughout the arctic, transportation has been a central feature of the ecological system, and transportation (especially winter transportation) was not significantly de-localized until the 1960s in many areas. It is true that the Euro-American economic systems that penetrated the arctic were based on de-localized energy - primarily fossil fuels for ships and planes.

Overwhelming de-localization in the arctic generally comes in two
closely related forms:

1. The development of concentrated, high-energy extraction systems such as mining, hydroelectric power projects, and oil production.

2. Conversion of local transportation and other energy systems to dependence on imported energy in the form of fossil fuels and/or electric power.

Both of these developments generally have resulted in greatly accelerated economic exchange between local populations and the economic systems of the wider world. Complete or nearly complete conversion to cash economies (often more visible in the purchase, maintenance, and fueling of snowmobiles and other transportation equipment), has been occurring in most areas accompanied by techno-economic differentiation of households, as some families manage to accumulate cash and machines, while others become dependent on welfare, pensions, unemployment compensation, and other cash support payments.

The direct or indirect consequences of energy de-localization deserve careful study, because most other processes of modernization are of lesser impact, and are somewhat more reversible in nature. At least in reindeer herding in northern Finland the impact of energy de-localization has been swift and dramatic. In parts of North America the processes seem to have been equally impressive. Some of the consequences (many of which have been the focus of papers in this conference) that appear regularly in conjunction with rapid conversion to imported energy sources include:

1. Rapid increases in unit costs of production bring about pressures to expand the scale of production operations. For example, the operating cost of a single reindeer herder rose from about $3.00/day to $15.00/day with the advent of snowmobiles in northeastern Finland, forcing cuts in the numbers of herders and forcing small operators "out of business."

2. Increased costs of imported energy sources raise the "cost of living" as well as the definitions of "acceptable standard of living" so that any given area is likely to support smaller numbers of people - surplus populations are forced to migrate toward population centers and Euro-American wage labor employment. Among the Sami of northeastern Finland, for example, most young males considered themselves to be reindeer herders until the 1960s. Now, in the "snowmobile era," out-migration is increasing rapidly (Müller-Wille 1971; Pelto and Müller-Wille 1972-1973).

3. The sudden growth of techno-economic complexity immediately produces some economic specialization, at least in matters of machine maintenance, and perhaps in sales of equipment,
as well as other "middleman" roles. Unfortunately, local Inuit, Sami or other native peoples seldom have the cash or training for middleman roles - so people "from the South" assume these roles.

4. The quickened flow of economic transactions with the wider world increases the needs for communication skills and more education, at the same time increasing the sociocultural marginality of more distant outposts and communities that are far from educational and communications facilities.

5. The weakened economic position of people lower down in the techno-economic systems leads to progressive marginalization and gradual impoverishment - the development of far northern poverty pockets - whose position depends on the extent of social welfare services. The Yupik peoples in the Kuskokwim of Alaska live in an area that once supported a much larger population. Nevertheless at least 1/3 to 1/2 of the approximately 13,000 Yupik people are now dependent on some form of government subsidies, despite the fact that 75% of their food is through local hunting and gathering (Reitz and Reitz 1975).

6. With the shift to a full-time market economy many families may be cut off from reindeer meat and other local high-protein sources. When people develop greater dependency on imported commercial foods - often of doubtful nutritional value and generally of high carbohydrate content - some serious health hazards may be involved. One of the most visible signs of these nutritional problems is dental decay. "Dental disaster" has been described in detail by researchers in both North America and the European arctic.

7. The political implications of energy de-localization are of course fairly apparent, and in many areas people in the arctic communities become attracted to the possibilities of involvement in inter-regional or even inter-national political efforts.

8. Advanced stages of de-localization may be visible in heavy flow of cash investments northward into key areas, and in the flow of tourist traffic along the same lines, as the previous remoteness and cultural distinctiveness of these areas become defined as attractive resources. The flow of tourists northward is often perceived as easy income for northern inhabitants. On the other hand, tourists from the south often participate directly in depleting fish and game reserves. In Alaska non-resident big game hunting licences rose from 183 to 23,000 from 1940 to 1973; during the same time period resident sports fishing licences went from 4,400 to 82,000, with similar increases in non-resident fishing licences (Reitz and Reitz 1975: 3). The same heavy pressures on fish and game have been increasing steadily in Lapland. Large-scale tourism and sports fishing and hunting have been slower in coming to
arctic Canada, but the mid-1970s have seen sharp increases in organized tours and "safaris."

My focus on the process of de-localization has not been intended as a full explanatory theoretical system. Rather, I have concentrated on an exploration of one major dimension of ecological systems - a dimension that can be quantified for comparative purposes, and that is certainly cross-cultural in application. The precise manifestations of de-localization can be extremely varied cross-nationally and in different kinds of physical environments, but the underlying processes linked to de-localized energy flow can be systematically compared. And I suggest that some very important aspects of economic developments, expected and unexpected, and certain predictable trends about the future, can be examined in terms of this general concept.

The massive de-localization now going on in most parts of the world does not eliminate the theoretical usefulness of an ecological frame of reference. It does, however, require an expansion of the ecological perspective far beyond the confines of the local ecosystem. That is, when large quantities of energy, information, and other influences are exchanged widely across ecological boundaries, the concept of local "carrying capacity" no longer has meaning. Ecological studies in the contemporary world require careful attention to microcosm-macrocosm relationships, especially in terms of energy flow. Thus with the expansion of de-localization, attention shifts from the inventory of local physical resources to careful assessment of the socio-political factors in terms of which relationships with "the wider world" are organized. In our contemporary ecological studies, in the circumpolar north as elsewhere, analysis of the local environment and resources is important, but pervasive de-localization requires the development of new methods and expanded theoretical constructs.

Literature


Changes in social habits caused by new elements in material culture

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In 1956, I began a study which I continued between July 1967 and September 1968, as well as in 1970 and 1973, in a small community of hunters on the east coast of Greenland. This investigation was supported by the Netherlands Organization for the Advancement of Pure Research (Z.W.O.). The technique I used was that of participant observation, which in my case meant in particular that I maintained my family and myself as much as possible by hunting, fishing, and collecting. The subject of my research was the processes of change in the settlement of Tiniteqilâq, which on the 1st of January 1968 had 204 inhabitants (cf. Nooter 1972-73).


A. Implements and garments made and used by the Greenlanders, of which the material, form, and function have undergone no change under the impact of Western civilization, i.e. do not differ from similar garments and implements collected by Holm and Petersen (Holm 1914). This group includes the paddles of some hunters; throwing boards of some hunters; bone and ivory parts of most harpoons; talipiat (small bone implement for attaching the harpoon line to the shaft); harpoon heads; most harpoon lines and floats (if not sewn with nylon thread); most women's knives.

B. Implements and garments made and used by the Greenlanders showing changes under Western influence:

1. Changes in the material but not in the form or function.
   This category includes aluminium side-prongs for bird-darts. This new material became available to the inhabitants of Tiniteqilâq after an American plane crashed in the vicinity in the 1940s. Since then, bird-darts have been replaced by
rifles. Kayak skins are sewn with nylon or twine instead of sinew, and kayaks must therefore be classified as B1. All types of implement mentioned under A with the qualification "some" or "most" also occur as B1, for instance harpoon lines and floats made with nails instead of bone pegs.

2. Changes in the form but not in the material and function.
This category includes scraping boards and drying frames for skins as well as men's knives, all of which have become larger. The same tendency is also evident in some women's knives. The availability of imported wood is responsible for this trend. It might be argued that the replacement of scarce driftwood by a relative abundance of imported lumber has also meant a change of material, but an analysis of the species of wood in use then and now would carry us beyond the scope of this paper.

3. Changes in the material and form but not in the function.
This category includes the rectangular tents made of cotton, which have replaced the traditional conical tents made of skins. The shape of the cotton tents is clearly taken from European models. The sledges, once lashed with seal thongs and provided with bone shoes under the wooden runners supporting several cross-beams, are now lashed with nylon cord, carry iron shoes, and have longitudinal boards instead of cross-beams. Both the tents are used much less than in pre-contact times; the form and material have changed considerably. In November 1970, two hunters carried a plastic float on their kayaks because they lacked skins of a quality suitable for making floats.

Theoretically, a total of eight possibilities can be grouped under B, but only the three used above are relevant for the present purposes. All the implements mentioned under A and B can also be qualified as traditional. Traditional implements now used and/or made in Tiniteqilâq can easily be recognized and distinguished from non-traditional elements. Implements which at least in shape and function are unmistakably similar to implements collected by Holm and Petersen are called traditional here. All implements without equivalents described or collected by Holm and Petersen (Holm 1914) are called new or non-traditional.

C. Non-traditional implements and garments used and made by the Greenlanders, having a construction based on imported materials. The white cotton screen mounted on the foredeck of most kayaks is a good example of this category. Three of the hunters used two screens, the customary rather large one and a smaller one placed far forward on the bow. The large cotton screen mounted on a miniature sledge provided with a support for a rifle barrel, may also be assigned to C.

D. Imported European implements only useful to the Greenlander after modification. The sights of all rifles are filed down and the weight of the rifle is reduced by removal of some of
the wooden butt. They say: "We need such small sights because the seal's head is too small for a killing shot with a normal rifle."

E. Imported European implements or objects used unmodified for the original purpose. This category includes chairs, tables, beds, houses, boats, tools, radios, and tape recorders, and such materials as cloth and linoleum, but also nylon-made seal nets.

Here, we are concerned mainly with the elements of the material culture classified under C, D, and E.

The importation of cord (C) led to the introduction of the production of nets, which were used to catch both seals and fish, mainly arctic char (Salvelinus alpinus L.). But the later introduction of commercially manufactured nets (E) brought new and rather marked changes. The cooperation between a number of seal hunters who had to keep a watch on as many breathing-holes as possible and also the long waiting of lone hunters at a breathing-hole were no longer necessary. The elements of the material culture belonging to this form of hunting - for instance the long harpoons (A) and the three-legged stools (A) - disappeared.

The introduction of these nets made hunting more comfortable, because the endless waiting in the cold could now be avoided. The hunters own from two to ten nets, which they stake out on ice-locked icebergs or projecting points along the coast. When this work is done, they ride home on their sleds (B3) to eat and sleep. On the following day or soon after that, they return to the nets to see whether any seals have been caught in them. If a net remains empty after it has been checked several times, it is moved. When the nets are placed, certain rules are observed with respect to the distance from others' nets. The distance to be maintained between nets is not fixed but depends on the local situation. Usually, only one net is set on an iceberg unless it is very large and can accommodate a second one belonging to another hunter. It is clear that the unwritten rules concerning the placing of the nets cannot be based on any traditional (pre-contact) customs (Nooter 1972-73). The hunters never cooperate in the checking of the nets. As an exception, a hunter who happens to pass by the net of a close relative (brother) will stop his sled, chop away the ice, and check the net. If he finds a seal in the net he will tell his brother when he returns to the settlement. If the weather is bad the next day and the hunters cannot go out, all or most of the seal may be lost, because after a day or two a small crustacean (kapiai, Amphipoda spec.) which appears in large numbers will start to eat it, damaging the pelt and the meat.

Once the seal is attacked by the kapiai it usually starts to bleed, which means that sharks can find it easily and consume it. When this happens, the net is usually lost too. Several times
each winter every hunter finds that the pelt of a seal caught in a net has been made worthless by the kapiaq and that large amounts of the meat have been lost.

In March 1968, 22 Tiniteqilâq hunters had 73 nets staked out in the Sermilik fjord. Almost daily, each of them passed nets of other hunters without examining them. The absence of any form of social organization in this type of hunting cannot be explained on the basis of the traditionally highly atomistic and individualized Inuit society, since the use of nets for seal hunting is a recent innovation which led to a number of new rules for those who owned them. The adoption of these nets put an end to a form of hunting on the winter ice that knew at least some form of social organization.

The introduction of the nets had still another very important consequence. The best time for this kind of seal hunting is in the dark period of the winter, when little could be caught in earlier times. The introduction of the nets made much more meat available in a period which was traditionally a bad time for catching seals. Furthermore, the meat of seals caught in the winter is distributed in the settlement according to a reciprocity system (Spencer 1959: 164).

The introduction of fish nets (E) - originally made of cotton and later of nylon - also put an end to a form of social organization. In earlier times, arctic char were caught in a weir. Stone dams which were covered with water at high tide were built at the mouth of a river. Throughout the entire Inuit region, these places are called sapulit. When the tide went out, the arctic char trapped between the dams were taken with harpoons or spears (A). Although all the participants kept all of the fish they caught in this way, cooperation and organization were necessary for the building and annual repair of the dams. Where the dams were once located, nets are now set out, and these nets are checked and emptied from a kayak (Bl) or boat (E). The women who formerly took an active part so that as many arctic char as possible could be taken while the tide was out, now only receive and attend to the catch. Even when a man goes out to the nets in a rowboat, the women remain on shore.

The distance between the nets of the various hunters are determined, as for the seal nets, by unwritten rules, but certain customs have developed, particularly in relation to the local situation. Some nets are placed close together because the coastline lends itself to this proximity. Most of the nets are staked out with one end on land. In 1973, however, a rather young hunter (born 1940) deviated from this custom by laying a net in the water close to and in front of a number of other nets set out in the usual way. This led to disapproving remarks but not to active resistance. He himself remarked without being questioned, "It may be a rotten thing to do, but I don't care; this time I want to catch a lot of arctic char."
For the inhabitants of Tiniteqilâq the most important arctic char region is Sapulit, an area with extreme fluctuations of the water level at the mouth of a tidal river. The arctic char spend the whole year in a very large long lake further up the river except for the period in which one of the two types inhabiting the lake, a white arctic char, heads for the sea in the spring when the river is fed by melting snow. During August these arctic char head back up the river in order, according to the Greenlanders, to go back to sleep. The population of red arctic char, which never leave the lake, "sleep" until some time around September and can only be caught in September and early in October, even though they are present throughout the year. In July and August, many hunters leave Tiniteqilâq with their families and travel to Sapulit, where they camp in white cotton tents (C) which they make themselves. The catch is usually good and life is carefree despite the fact that the air is dense with millions of mosquitoes. As in early times, the daily rhythm is determined by the tides. There is one difference, however, since formerly the arctic char were caught in the weirs when the tide went out, but the nets work best at high tide.

Because the arctic char take the same route twice a day from the sea to the river mouth when the tide is coming in, it is relatively easy to predict what a net in a given place will catch. In the Sapulit area there is a best place for nets, a second best place, and so on. The hunters know this very well, and act accordingly. When a hunter who has one net in the best place and one in the second best is ready to leave, he often gives these places to a relative who then moves his own nets there. Sometimes, too, a departing hunter will leave his nets in place for a relative. In that case it is customary for the man who took over the nets temporarily to give the owner a small share of the catch. At times there are as many as fifteen nets in the Sapulit region. It might be thought that the hunters would set all of their nets in a line to close off a whole estuary, in other words use a form of cooperation which would require a prior agreement about sharing the entire catch among the participating hunters. This is, however, an inconceivable situation for the East Greenland hunters, even though the traditional method of fishing in the weirs was - at least as far as the preparations went - based on a form of collaboration, since the raising and maintenance of the stone dams had to be done by a group. In this situation it was also possible for those who came later to profit from the efforts of those who had preceded them.

The introduction of nets for catching both seal and arctic char made an existing form of social organization seemingly unnecessary. The predominance of the nuclear family as a producing and consuming unit was increased by this change and the process was accelerated by another innovation, one having to do with house building. During the beginning of the contact phase the East Greenlanders lived in large rectangular houses (A) in which several families each had their own sleeping area and oil lamp. The wooden houses (E) built by the Danes in Tiniteqilâq in
the 1960s are usually occupied by one nuclear family. The daily face-to-face contact between the members of different families, as it occurred in the old type of house, was lost when people moved into the new houses.

All this shows clearly how innovations in a material culture can lead not only to alterations of a technical nature but also to changes in the social structure. As far as the Inuit are concerned, such innovations have strengthened rather than weakened the characteristic, very limited forms of cooperation, organization, and hierarchic structure. Nevertheless, the system of reciprocal division of meat functioning in this society of hunters has not undergone any changes under the influence of these innovations.

Literature


Natural, economic and administrative factors in the development of Lappish reindeer herding (Central Lapland, Finland)

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Over the last few years, rapid modern developments have borne in upon the Lapps, and it is apparent that their subsistence and their way of life are being affected to an increasing extent. In reindeer herding in particular, which for the Lapps in Finland still constitutes an important means of subsistence, rapid technological and socio-economic changes have been taking place. As a result of modern developments in communications, reindeer herding has undergone over the past 10-15 years a change from a subsistence economy to an increasingly pronounced financial economy in which the resources of modern technology are generally applied. A recent concrete example of these developments in the Lapps' settlement area is the plight of the reindeer herders of the Sodankylän Lapin Paliskunta grazing association. For several years they have had to face on the one hand the construction in their area of two man-made lakes, Lokka and Porttipahta, and on the other hand the construction of a tourist centre, Saariselkä, on the edge of the land used for grazing by their reindeer (see contributions by P. Aikio and E. Asp).

Sodankylän Lapin Paliskunta

The reindeer herding district is situated on the southern border of the Lapps' settlement area in Finnish Lapland. The grazing association's total area amounts to 4,490 km². In the reindeer breeding year 1975-76 the number of reindeer (Finn. lukuporot) was 4,430 (Poromies 1977). The natural environment is characterized by the large man-made lakes Lokka and Porttipahta in the south, completed in 1971 with a water surface at its highest level of 631 km² (Waterpower in Finland 1968), and the Nattaset and Saariselkä mountain chain stretching to the northeast, with Kilopää 546 m, Nattaset 544 m and Sokosti 718 m the highest peaks. The climate shows rapid changes in temperature. The annual mean temperature is -1 to 0°C; the coldest month is February (average -13°C) and the warmest July (average +14.5°C). The area is generally covered by snow from
the beginning of October to the end of May, the average depth reaching 68 cm (all data: Finnish Meteorological Institute 1974). The reindeer herding district is very thinly populated (in 1971, 424 persons). Most of the population lives in Vuotso, while only a small number live in Purnumukka and along route no. 4. Before the construction of the man-made lakes, a greater number of the population was settled in small communities in the now inundated area (Figure 1).

Most reindeer herders belong to the ethnic group of the Lapps and are direct descendants of the nomadic reindeer Lapps from Enontekiö (western part of Finnish Lapland), Kautokeino (Norway) and Karesuvanto (Sweden) (Linkola 1967). In the reindeer breeding year 1975-76 there were 159 reindeer owners and the number of active reindeer herders was 34.

Former reindeer herding organisation (1872 to 1950)

Reindeer herding in Sodankylän Lapin Paliskunta has been undertaken by groups of reindeer herders herding their animals jointly on their pastures. The herding organisation was formed when the original nomadic reindeer Lapps settled in the present area in 1872 and later. Their herding system and way of living did not differ from that in their former area (Itkonen 1948). Reindeer were herded throughout the year and families followed the small migrations between summer and winter pastures. When the Lapps settled down in one place and lived in wooden houses, summer herding was discontinued. Their settlement pattern matched the location of good winter pastures for the reindeer (Rosberg 1911). The herding group was based partly on territorial propinquity (Finn. tokkakunta or porokylä; Lapp. sii'da). During herding activities Finnish is the main language (Komiteanmiertö 1973). Members were neighbours and most frequently relatives, so that we may describe these herding groups as being strongly based on kinship ties. Kinship relationships also existed between the groups (Lenstra 1973). It even happened that members of the same family settled with different herding groups. Most herding groups were formed by several households (Finn. kotakunta). The name of the smaller herding groups was usually taken from the largest reindeer owner; larger herding groups of more households were referred to by the name of the dwelling place of the members (Aikio 1974).

The number of herding groups was not always constant. In the 1930s at least 11 herding groups could be distinguished; in 1962-63 there were 8, the largest ones numbering 20-35 reindeer owners. It happened that herding groups which were large in terms of the number of reindeer were divided into smaller herding groups or that small herding groups were combined. This variability was often due to natural circumstances (e.g., too large a herd, the mixing of herds) but a change of dwelling place (especially after the second world war) could also imply removal to another herding group or the foundation of a new one. Very
rarely were conflicts the reason for change in membership of the herding group. Just before the second world war, when about 12,000 reindeer were counted in the herding district, some groups owned a herd (Finn. tokka) of 1,500 to 2,500 animals. A herd of 2,000 reindeer was considered to be the maximum manageable. Wartime decimation of the reindeer stock was overcome in a few years (e.g., in 1946, 1,630 animals; in 1954, 6,535). The decisions in the herding group were regularly taken jointly. There was no leader, but in practice the opinions of the older members evidently carried weight. Younger reindeer herders often lived and worked with older men in order to learn.

A group's reindeer were gathered in a joint herd, but the individual owner kept proprietary rights over his reindeer (the property mark is cut into the reindeer's ear). Every group kept the reindeer on its own pastures, which might be chosen by herders as well as by the reindeer, with pasture size corresponding to herd size. The division of the pastures within the district was based on former verbal agreements among the various groups for whom, until the end of the 1950s, it was common to go with their reindeer beyond the boundaries of the district.

As with the reindeer Lapps in Konkämä and Lainiovuoma (Sweden), the herding group can be described as a group of reindeer owners who cooperate for the purpose of maintaining their herds together as a single working entity and dividing the work of herding among themselves (Whitaker 1955, Pehrson 1957).

Reindeer association systems: transition to administrative forms

Restrictions in the reindeer raising area following the closure of the national border with Sweden (1889) and Norway (1853) and the increased regulation of reindeer herding by decisions of the State authorities culminated in 1898 in the legal obligation for owners to join associations (Finn. paliskunta) and the introduction of the paliskunta system as a condition for herding on State land (Helle 1966). The cooperative paliskunta system, which is not indigenous to the Lapps, was originally practised voluntarily by Finnish farmers in southern Lapland. Herding work on the common pasturage, collective tasks such as gathering reindeer, construction of fences, and compensation for damage caused by reindeer are all carried out jointly and paid for by the grazing association. The individual owner has to pay a subscription per head of reindeer owned. The reindeer herding area in Finland is now divided into 56 grazing associations; 12 are in the Lapp settlement area.

Another example of increasing State interference in reindeer herding was a decree in 1916 by which each owner was asked to pay the Finnish State an annual tax per head for the right to use State land. At the same time the maximum number of reindeer in each herding district was officially established based on the lichen capacity (Alaruikka 1968). At the present time the upper
limit of reindeer is 8,000 in Sodankylä Lapin Paliskunta. More restrictions were placed upon activities in the general reindeer herding legislation of 1932, 1948, and 1968. Still the Finnish paliskunta system allowed the herding groups a considerable measure of local autonomy (Poronhoitolaki 1932, sec. 4). In fact, the herding group system has been developed by the Lapps into a herding method of their own, adjusted to the behaviour of the reindeer and to the natural environment.

Herding cycle under the herding group (Finn. tokkakunta) system

In autumn the reindeer herder went out on his own to gather the draft animals, which were used for gathering the other reindeer as well as for transportation and for wood and hay transport. In October and November, the herding groups would individually bring together some of their reindeer, especially for the purpose of slaughtering animals for their own meat consumption. In December-January, herdsmen formed parties of 3 to 4 persons and started gathering reindeer. On skis, with dogs, draft animals and a decoy animal, they brought the reindeer to the corral at Vuomasekä (Figure 1). For their work the men were paid a small sum of money and reindeer by the grazing association. The round up (Finn. erotus) might consist of 7,000 to 8,000 reindeer, thus counting and dividing the animals involved a lot of work. Usually women would also take part on this occasion. The round-ups, organised 2 to 3 times a winter, were also important social events for the whole population in the area. For 5 to 6 days people enjoyed each other, danced and met meat buyers and peddlers who visited the corral to sell products. Reindeer herders from neighbouring districts would also be present to take care of their own reindeer. The sale of reindeer for slaughter was a lively activity; the price would be settled after long bargaining between reindeer owner and buyer, an elaborate affair that went beyond mere commercial aspects and that was often the basis of friendship between Lapps and Finns winter after winter. Before World War II, the reindeer were not slaughtered in the corral but were led in a herd to slaughter houses outside the herding district (e.g., to Sodankylä and Kittilä) or taken to the main highway. After the round-up, the herd was led to the winter pastures. Other herdsmen went off again to collect reindeer for the next round-up. The winter pastures were in the neighbourhood of the reindeer herders' dwellings, not further than 20 to 30 km. Once they had arrived at the traditional pastures, the reindeer were watched continuously. At the beginning of this century women were also active in gathering and herding the reindeer. As long as the snow cover was not frozen, it was easy to keep the animals on the spot and it was sufficient to see to the herd a few times a week. In March and April, herding activity was very intensive and strenuous; men, young and old, would spend several weeks with the herd.

Before World War II, it was quite usual for an individual reindeer owner to have a servant (Finn. renki). Lapps as well as
Finns worked as servants paid by the owners. Very often they were young men from another herding group though some would even come from another area. It happened that servants became reindeer herders in the herding group where they had been in service. After the number of reindeer had diminished seriously during wartime, the owners could no longer afford to pay servants.

The herding groups allowed calves to be born on the pastures near the dwelling place of the reindeer herder from the end of April to the beginning of June. The pregnant female reindeer was tied to a tree; the spot was changed daily. As soon as the calf was born, it was earmarked and released with the mother animal. After the intensive calving period, during which the help of household members was necessary, the reindeer were no longer kept, but would run instinctively to the higher mountain areas in the northeastern part of the district. Throughout the summer the reindeer wandered freely in the district, leading unavoidably to a situation in which the reindeer damaged the natural hay meadows or roamed across the boundaries of the district. Conflicts over damage to property very rarely arose between farmers and reindeer herders as the few Finnish farmers were usually reindeer owners as well.

Recent changes in the herding district

In all, 31 reindeer herders forming five herding groups had to leave their former houses because of the construction of the man-made lakes Lokka and Porttipahta after 1968. The forced removal resulted in three herders changing their occupation. The greater number of evacuated families settled in the village of Vuotso, where the Finnish State undertook a resettlement program which included among other things the allocation of 19 small farms.

The construction of the Lokka and Porttipahta lakes, which already started with survey and deforestation schemes between 1954 and 1958, resulted in the loss of 11.5% or 512 km² of the district’s pasture, two corrals, and more than 25 km of reindeer fences. According to experts, about 1,284 reindeer were deprived of their pasture land (cf. Pohjois-Suomen 1966/1968). At the same time, the Finnish Ministry of Forestry was carrying out an experimental project to improve the forest and to drain marshland in the southwestern part of the herding district. This was done without any consultation with the local reindeer herders. Some 3,150 ha of the winter pastures was destroyed too. As a consequence of these changes in the natural environment, the number of herding groups keeping their reindeer on traditional pastures greatly diminished and the herding method was gradually replaced by the paliskunta system.

A large tourist center is to be built north of the herding district at Saariselkä, bordering the pasturage where the reindeer have their rutting season and are kept during the calving period. The concentration of tourists may disturb the peace of the area causing destruction and pollution of the natural environment and
influencing fishing and hunting. These changes in the traditional pasture areas altered the reindeers' grazing behavior as well. Reindeer stray into "strange" areas including other herding districts. Driving reindeer together in autumn and in winter has become more difficult. This can be noticed in the increasing number of round ups. Between 1967 and 1970 the number of stray reindeer from Sodankylän Lapin Paliskunta in neighbouring districts amounted as a percentage of the total number of reindeer to 23.1%, 68.9% and 30.8%.

In 1975 there existed more than 250 km of fences (2 to 2.5 m high) along the national borders in the east and along the neighbouring districts. Construction of the fences was undertaken by the reindeer herders and was partly financed by the Finnish State. Yet in spite of these fences reindeer are still discovered in other herding districts.

The application of the resources of modern technology in reindeer herding has also been taking place in Sodankylän Lapin Paliskunta. There is even reason to suggest that the changes caused to the natural environment have speeded up this process of mechanization. Since the grazing association bought some snowmobiles in 1963 to help with increasing activities in reindeer herding, individual herders, too, have gradually acquired snowmobiles. Nowadays the snowmobile is a commonly used means of transport in reindeer herding (Table 2). Some herders agree that it is employed too much. There was only one reindeer herder in 1975 who continued to use skis. Since summer 1969 private planes were used during June and July, when the calves have to be marked. Also the association chartered planes to track stray reindeer.

Today, mobile slaughter and refrigerator vehicles owned by meat producing companies come to the corrals and make slaughtering more efficient. Apart from his own requirements the herder himself no longer slaughters his reindeer. The meat companies have their own butchers. Some 25-30% of the total number of reindeer is slaughtered yearly including private meat consumption. In the last ten years the slaughter period has increasingly tended to move into the autumn. Also reindeer calves are now slaughtered to a greater extent than earlier. This change in slaughtering patterns is mainly based on the assertion that by this method winter pastures can be protected from over-grazing. The grazing association makes sales contracts with the meat company long before the slaughter period. This new method of sale guarantees the reindeer owner a stable price during the whole winter. The price is determined by the animal's exact weight. Over the last five years, the number of active reindeer herders has shown a decrease because many reindeer herders, mainly young people, have found work elsewhere in forestry, roadwork or surveying. Former reindeer herders take a holiday from their work when a round-up is announced so that they can look after their reindeer. Other ex-reindeer herders have someone who will take care of the animals during the round ups. Further, during the winter period their reindeer are kept in the
joint herd of all members of the grazing association.

A majority of the reindeer herders have applied for the farm allocation program established by the Finnish government in 1969 (Finn. porotila). These new farms will be built in Sodankylä at Vuotso, far from the reindeer pasturage (Figure 1). The Finnish State offers the reindeer owners to improve housing conditions by lending money on favourable terms (Porontilalaki 1969). The concentration of new farms will consequently result in emigration of reindeer herding families from the Lappish village Purnmukka.

Modern paliskunta system

In the new system gathering reindeer during autumn is done by herders in regionally composed groups (e.g., the reindeer herders living in the northern part of the district form one group). There are 3 to 4 groups, each consisting of 6 to 12 herders. Every group has an elected leader whose main task is to note the number of days which each member of the group has worked (Poronhoitolaki 1968). The gathering activities last about 1.5 to 2 weeks and as soon as the snow cover is sufficient snowmobiles are used intensively. The average number of reindeer for a round-up in autumn varies from 500 to 1,000 animals. Shortly before the turn of the year, the first winter round up is organised. Reindeer are then gathered again, up to 2,000 reindeer, and led to the corral in Vuomaselkä or Sakiaselkä. Nowadays, the number of round-ups strongly depends upon the success of the previous round-ups - that is to say, having as many animals as possible within the corral.

After the winter round up the reindeer have to be led to the winter pastures. Up to 1975 and in spite of different efforts, the herders have not succeeded in developing a herding pattern to make best use of the available pastures. Factors which influence the choice of the winter pastures are the size of the herd, climatological conditions and the presence of beasts of prey. As a rule 6 to 7 reindeer herders, each with a snowmobile, lead the herd to the winter pastures. The reindeer are watched less intensively (a few times a week). The men pass the night in wooden cabins or return home every night. Every reindeer herder is free to take part in the herding activities. But if he does he looks after the herd as a whole. Wages are paid by the association.

Less intensive herding has resulted in reindeer being very easy prey for predation, especially for wolverines, wolves, bears and foxes. Serious losses of animals over the last decade have led to the decision by the members of the association to intensify their herding activities and to extend them into April. Every month, four groups of two men each are sent out to repair the fences. Also, representatives elected at the biannual association meetings have the right to search for their own reindeer in other districts. For all these activities, the
association pays compensation per workday to the herder. In consequence, the average labor costs per reindeer have increased strikingly during the last two decades (Figure 2).

With the disappearance of the tokkakunta system, the method of spring calf marking is no longer practised. The calves are born on open pastures. After midsummer, every herder marks his calves. In the past few years the association has regularly used portable iron fences, which make it possible to gather stray reindeer wherever they are found in large numbers. Nevertheless, some of the calves remain unmarked. When reindeer calves do not receive the owner's mark of the mother reindeer during the round ups in the next autumn and winter, they are, if found, the property of the association. Usually these animals (Finn. peurat) are sold at auctions for a relatively low price, or the association pays the herder a number of peurat.

Conclusion

The Sodankylän Lapin Paliskunta association with a budget of nearly 300,000 Fmk in 1975-76, has gradually developed from a loose federation of reindeer herding groups into a reindeer meat producing enterprise, mainly as a result of developments occurring outside the district. More than ever before the Lapps are confronted with the growing pressures of a monetary economy. Their own herding system, relying on a relatively stable form of resource utilization, has already been abandoned. Moreover, reindeer herding in Sodankylän Lapin Paliskunta has not yet found a form of adaptation suitable to modern developments, a situation which will continue as long as subsistence economy, primarily based on the utilization of natural resources, is not given the protection of constructive legislation.
Figure 1

Sodankylän Lapin Paliskunta grazing association in Central Lapland, Finland
Figure 2

Labor costs in fmk/reindeer in Sodankylän Lapin Paliskunta grazing association (1956-1976)

Source: Sodankylän Lapin Paliskunta archives
Table 2


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<tr>
<th>Year</th>
<th>Snowmobile Workdays</th>
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<td>606</td>
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<tr>
<td>1970–1971</td>
<td>837</td>
</tr>
<tr>
<td>1971–1972</td>
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<td>1972–1973</td>
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<td>1974–1975</td>
<td>1,206</td>
</tr>
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<td>1975–1976</td>
<td>1,873</td>
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</tbody>
</table>

Source: Sodankylän Lapin Paliskunta archives.
Literature


Alaruikka, Yrjö. 1968. Suomen porotalous (Finland's reindeer industry). Rovaniemi: Maakuntapaino.


Komiteamnietintö. 1929. Erinaisia poronhoitoa kysymyksiä selvittämään asetettu komitea (Committee to solve various problems in regard to reindeer herding). 1929(8). Helsinki.


Pohjois-Suomen Vesioikeuden päättös (Decision of the Northern Finland Water Court) No. 144/66/1 (1966) and No. 49/68/1 (1968).


Waterpower in Finland. 1968. Helsinki.

Structure of income and livelihood of Lapps and Finns in northern Finland

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Despite the fundamental significance of the total income and livelihood of populations, very little research has been done on the regional income structure. Such data are usually available only as averages for large regions and are of little practical value. The countries where the basic economic conditions vary especially have a great need for detailed information on the subsistence of their inhabitants in their policies for the developing areas and in regional planning. This need is particularly great in countries with mountainous regions, drought areas and marginal arctic or subarctic areas. The same also applies to areas populated by different linguistic, racial or religious minorities. In most cases the minority groups are left behind in the development experienced by the regional majority groups.

The numerous ethnic minorities living along the arctic margins of the northern hemisphere are an excellent example of groups whose material and spiritual culture has been forced to give way to the southern majority culture. The process has generally been a passive withdrawal of the minority culture to an ever diminishing area. Two-way merging and blending has taken place at the boundaries. The minorities have been obliged to adapt themselves more and more to the majority culture as regards language, education and sources of livelihood. The belief of the minorities in an independent future has been shaken, and the people have been losing their original identity. However, public opinion is rapidly becoming more favourable towards regional minority cultures. This change is due to increasing knowledge and humanity, the total or partial unsuitability of the economic functions of the majority cultures to the marginal areas, and the actions of the United Nations based on the Declaration of Human Rights. Having become aware of this development, the ethnic minorities have also become conscious of their position and made a joint effort to define their status and their traditional rights in face of the majority culture. Knowing their responsibility for the future of their minorities, many states
have founded special committees to make proposals for the arrangement of the economic and cultural conditions of these groups.

Lapps - the ethnic minority of northern Fennoscandia

The northern parts of Fennoscandia and Siberia are inhabited by ethnic groups with traditional arctic and subarctic sources of livelihood, such as reindeer herding, hunting and fishing. These groups include for example the Lapps (Sami), Samoyeds, and Eskimos (Inuit).

The Lapps previously lived in a much larger area. When the Finns came to their present territory in about A.D. 100, the Lapps were hunting and fishing in their sii'dâ societies based on local groups throughout the country. As late as the 17th and 18th centuries, Lapps were still encountered in central and eastern Finland (Itkonen 1948: 116-117). The heavy taxation of the Lapps by several states and the expansion of non-Lapp population restricted the Lapps to their present extent in the 19th century, when the previously functionally unified Lappish area was divided by state boundaries between Norway, Sweden, Finland and Russia. The subsequent development of the Lapps has been different in each state in accordance with the majority culture. The expansion of the majority culture to the Lapp areas has weakened the ethnic identity of the Lapps. In 1975, there were 40,000 Lapps in Norway, 15,000 in Sweden, 4,000 in Finland and approximately 2,000 in Russia. The Lappish population extends as a narrow belt from the mountains of central Sweden and Norway to the Finnmark coast and the eastern parts of the Kola peninsula. In Finland, the southern limit of uniform Lappish population coincides with the southern boundaries of the municipalities of Enontekiö and Inari and the northern grazing association of Sodankylä (see contributions by P. Aikio and M. Lenstra).

Physical and ecological background of the Lapp area

The main part of the Lapp population lives north of the Arctic Circle. The area is subarctic and, above the forest line, arctic (Kallio 1971: 95). Coniferous forests grow in its southern parts, while alpine birch grows further north. Only low dwarf shrub and grass vegetation is found on the mountains. The Caledonian folded mountain range of Koli delimits the area in the west at the Norwegian-Swedish boundary. The area of Finnish Lapland consists of gently rolling hills of Pre-Cambrian rock. The great altitude variations and long distances have divided the Lapps into isolated groups.

The profound ecologic adjustment of the Lapps is shown by the classification according to occupation and residence into mountain Lapps, forest Lapps and coast Lapps (Itkonen 1948, 1: 122-125). The migrations along with the reindeer, the summer fishing sites and the fall hunting grounds have determined the annual rhythm
and dwelling places of the people. The snow cover, which stays on the ground for more than 2/3 of the year, the mountains and valleys and the forest line have dictated the places where the reindeer and the herders stop and stay. The profound ecologic adjustment is also apparent in the rich linguistic expressions for natural features and characteristics. It is further reflected in place-names, which often describe activities of the Lapps (Ruong 1971: 16-18; Nickul 1959: 6; Tanner 1928: 3-36). The sophisticated culture of an aboriginal people has been apparent in their ability to manage the natural resources throughout the centuries.

The present population of the Finnish Lapp area

The development of the population in the Lapp area from the 1750s onwards is shown by the church registers. The population, both Lappish and Finnish, has greatly increased. In 1860 there were in the present Lapp area about 1,000 Lapps or 56% of its total population. In the county of Utsjoki the proportion of Lapps was 99%, in Inari 71% and in Enontekiö 17%. Owing to the abundant movement of Finns, the relative proportion of the Lapp population has come down to 17% in 1970, though their absolute number has increased to over 4,000. Utsjoki is now the only county in Finland with a Lapp majority.

Despite the increased dominance of Finns in Upper Lapland, the number of Lapps is now greater than ever before. The proportion of young people, which is indicative of vitality, is greater among the Lapps than among the Finns of Lapland and remarkably greater than the average for the whole country.

The regional concentration of Finns is greatest in the municipal centers and the biggest villages, where the Finnish settlers first came to cultivate the land and raise livestock. The frontier guards and customs officials at the boundaries contribute to the Finnish population in the remote regions otherwise inhabited by Lapps. The county of Enontekiö has had a considerable Finnish population since the 17th century (Figure 3).

The age structure of the population (Figure 4) shows that, owing to the Finnish settlers, the population of the Lapp area has clearly been concentrating in the regional centers: Ivalo, the central villages of Inari and Utsjoki, and Hetta in Enontekiö. These villages have attracted working-age population, while the remoter areas have an age structure dominated by children and old people. This development has not, however, advanced so far in Lapland as it has in the more southern counties and municipalities of northern Finland.

Occupational structure of the population

The subsistence of the Lapp population has traditionally been
based on native economy, where hunting and fishing were supplemented by effective reindeer herding as the stock of game began to decline. One of the purposes of the Finnish newcomers was to introduce agriculture and livestock raising to the northern areas. The Finns settled down on the best lake shores and river banks, taking into their possession summer sites of the Lapps and good summertime grazing grounds of the reindeer (Nickul 1959: 10). This first period of Finnish settlement was followed by another, the great "gold rush" of the 19th century. When Petsamo was temporarily united to Finland in 1920, new possibilities opened up for the Finns. Since the Second World War, Upper Lapland has continuously received re-builders, lumbermen, shopkeepers and businessmen as well as administrative personnel. Each stage in the expansion of the Finnish population has had a new influence on the livelihood of the Lapps and brought about increased adjustment to the economic system of the majority population. The economic activities of the Lapps living in and near the centers have become Finnish. The economic life of the Lapps in the marginal reindeer herding areas is based on native economy mixed with agriculture and forestry. The three-part occupational structure shows the marginal focus of primary occupations, the tendency of secondary occupations to concentrate in centers, and the location of tertiary occupations in the biggest service centers (Figure 5). The frequency of other activities, mainly based on pension, is high in the whole area.

General income structure

On the basis of the occupational structure, certain conclusions can be made concerning the income structure of the population. The means of subsistence are drawn from very many different sources, which can be classified in the following way:

1. Income from native economy (hunting and fishing, reindeer herding, and collection of natural products)

2. Income from agriculture and forestry

3. Wages and salaries

4. Income from social security (support for children, old people, incapacitated and other deviating groups, municipal social allowances, and unemployment benefits)

Nearly every family has income from more than one source. Moreover, the structure of the sources of income varies annually because of the random distribution of jobs. When there is no work available, minimum subsistence is provided by unemployment benefits and municipal social allowances. It is very difficult to determine the total annual income, for in addition to the official taxation documents, reindeer catalogues and different social maintenance data there is income from barter and other sources particularly in native economy. The monetary value of
the products used by the family should also be estimated. The traditional Lapp worked to meet the basic needs of his family like housing, food, clothes and other necessary utilities. The salaried Finn further aims at the numerous commodities required for a standard of living in the majority culture. The differences in the requirement level between the two population groups have, however, rapidly decreased - the Lapps have been approaching the Finns.

The following account of the volume and structure of the income of the population is based on detailed data obtained from primary sources on the income of each of the approximately 11,200 inhabitants of the area.

Income from native economy

The Lapps originally lived on hunting and fishing. As the stock of wild reindeer rapidly dwindled starting from western Lapland (Linkola 1972: 224-226), reindeer herding was adopted as the main source of livelihood. A state committee founded in 1905 already stated that hunting no longer had any great significance in the economy of Lapland (Komiteamietintö 1905: 122-123). Game was usually consumed by the family, part of the products were sold, and money was obtained as bounties for predators. The economically significant game bird in Upper Lapland is ptarmigan. A family may annually catch and sell over 1,000 birds (Nickul 1953: 40; Valonen 1956: 164). At present, outsiders come to Lapland for sport hunting, which increases the pressure on areas traditionally exploited by the Lapps.

Fishing is noticeably more important as a source of livelihood than hunting. Previously, fishing on the Arctic Ocean was part of the economic cycle of the Lapp population. Nowadays most of the fishing is done in lakes and rivers, and species of the salmon family are mainly caught. As late as 1970, 47 heads of families, 70% of them Lapps, reported fishing to be their main occupation. The fishermen were generally elderly people who live near Lake Inari or the River Teno and got their livelihood from different sources. In 1970, the income from hunting and fishing was approximately 140 mk per family (U.S. $1 = 4 fmk in 1970). This accounts for 4.4% of the monetary income of the Lapps. The non-Lapp population only got 0.3% of their total income from fishing. Compared with other findings in 1948 the relative significance of this income has declined (Nickul 1953: 42).

Wild berries and mushrooms belong to the nutritional economy of the Lapps. They are gathered and sold in the whole area. About half of the Lapp families and one third of the Finn families have income from this source. The amount of this income was 600 mk per family in 1970. This accounts for approximately 5% of the total income. The most important trade articles are the cloudberry (Rubus idaeus) and the red whortleberry (Vaccinium vitis-idaea).
Lappish culture and livelihood have been based on reindeer herding. At first the reindeer was used for hauling and carrying things in the seasonal migrations, but later on it developed into a meat animal adapted to the system of grazing associations. In 1970, about 84% of the reindeer herds in the Lapp area were owned by Lapps. When classified according to the owner's occupation, 80% of the reindeer were possessed by "reindeer men," 6% by farmers, and the remaining 14% by people with some other occupation. The regional distribution of the reindeer is fairly even in northern Finland. Finns own reindeer in Ivalo, the central village of Inari, and Peltovuoma and Nunnamen in Enontekiö. It has been estimated that 200 to 250 head of reindeer are needed to maintain a family (Komiteamnietintö 1973: 48). According to the calculations, the average income from reindeer herding during the year 1970-1971 was 4,500 mk for a Lapp family and about 1,700 for a Finn family. In the former group this sum was equivalent to about one third of the total income.

Lapps acquire about one third of their monetary income from native economy. For the Finns the corresponding proportion is approximately 15%. When this income is divided according to occupational groups, it appears that the main part is earned by keepers of reindeer, fishermen, and farmers. In a regional classification, the income from native resources is greatest in the remote parts of the Lapp area.

Income from agriculture and forestry

The Lapp area in Finland lies north of 68°N latitude, which means that the growing season is only about 120 days long and the effective temperature sum is 400-800°C. Owing to the long day of the growing season, the amount of radiation is about 80% of that in southern Finland. The precipitation and humidity conditions in Lapland are suited to agriculture aimed at fodder production (Varjo 1974: 9).

The Finnish settlers brought agriculture to Lapland; farming and livestock raising were even more effective at the beginning of the century than they are now (Komiteamnietintö 1905: 43-75). The development of agriculture was hindered by the infertile land and the movement of the labor force to other areas. The farms had too little arable land and were poorly tended. In addition to this, Finland's recent agricultural policy, which aims at a reduction of agricultural production, has greatly diminished the agricultural activity in Lapland. Only 12% of the families were working in agriculture and forestry in 1970.

Most of the Lapp area belongs to the state-owned zone of protected forests, where forestry has no great economic significance, except in the Inari basin and the northern parts of Sodankylä. The local population gets wood for building and firewood from the forests. Income from lumbering which is important for the farms of northern Finland is lacking almost completely in this area (Siuruvainen
1974: 103). About 10% of the families had income from domestic animals, the annual average being 1,000 mk. About the same number of farms acquired an average 1,800 mk by selling forest. This income is mainly concentrated in Ivalo, Inari, Vuotso, and western Utsjoki, which are the districts of most intensive farming in the Lapp area.

Income from wages and salaries

The Lapps got used to the monetary economy of the majority culture at a relatively late stage of Finnish settlement. The breaking up of the former siidá society signified an abandonment of the seasonal rhythm of migration and an orientation of the Lapps towards employment by others. Because of the significance of native economy, Lapps work for wages less frequently than Finns. The educational level of the Lapps is lower and they live farther away from salaried jobs. In 1970, about 60% of the Lapp families and 80% of the Finn families earned money by working for an employer.

Other than the permanent posts and offices generally held by Finns, the jobs in Lapland tend to be casual and of short duration. Unemployment is worst at midwinter. In spring and summer the economic life becomes more vigorous as tourism and other kinds of seasonal work begin. Farm work also requires working power at that time. Owing to less Finnish education and the sporadic nature of the work, the average monthly earnings of a Lapp are about one-fourth lower than the corresponding earnings of a Finn.

The income of a family consists of the earnings of the head, his spouse and their children. The average income of the heads of families in 1970 was approximately 6,000 mk among the Lapps and 11,100 mk among the Finns. The difference is due to the nearly full-time paid work of the Finnish men throughout the year. The Lapps mainly work in reindeer herding, where the pay has traditionally been only nominal. The jobs available for women are mostly work in services at the centers, which are out of reach of most Lappish women. Lappish children work for money more often than Finnish children do. This is at least partly due to the more general education of the Finnish children and their subsequent movement to work outside the Lapp area.

The Finns in the Lapp area mostly base their subsistence on wage earnings and salaries. Especially the office-holders in the municipal centers live on their salaries alone. Among the Lapps, such earnings account for approximately 40% of the total income.

Income from social support

The Finnish legislation on social security is nearly faultless. Minimum subsistence is provided by the state for old and incapacitated people. The position of families with children is
facilitated by family and maternity allowances. When the legitimate social support is inadequate, the municipalities may further assist their inhabitants upon consideration. The social support applies equally to the Finns and the Lapps, though some differences can be seen in practice.

The mobility of the working-age population has greatly increased the proportion of people in need of social support in the marginal regions of the whole of northern Finland. Various pensions, family allowances, etc. were granted to 83% of the Lappish families and 67% of the Finnish families for 1970. In the former group this signified social benefits annually of 3,300 mk per family, while in the latter group the income was 2,400 mk per family. According to this, the Lapps receive this type of income more frequently because of the greater proportion of children and old people, but their average income is smaller. In the Finnish group, the average number of children is smaller and old people are lacking, as the office-holding personnel come alone from the south to the Lapp area. Employment pensions, which are more common among the Finns than among the Lapps, bring up the average. This type of income accounts for one-fourth of the total monetary income of the Lapps, the corresponding figure for the Finns being 12%.

The Lapps utilize communal support more frequently than the Finns, but the amount per family is smaller. This support, which is granted upon consideration, accounts for 3% of the income among the Lapps and 4.3% among the Finns. The families of farmers, fishermen and lumbermen receive this support most often. The Finns get unemployment benefits more often than the Lapps. Their significance for the total income is small, though they are important as a guarantee of minimum subsistence at times of unemployment.

Summary

The income structure and livelihood of the population in the Lapp area in Finland are part of the more general question concerning the contemporary conditions in the marginal regions of national states. There is, however, one special feature here: the Lapp population accustomed to the culture and economic self-sufficiency of a subarctic area can be compared with the success of the Finnish settlement and the Finnish majority culture and economy in this marginal area. Owing to the cultural interaction continued for centuries, adaptation has taken place on both sides. The Lapps have adopted the Finnish mode of economy, which has supplemented and superseded their native economy. Correspondingly, many newcomers later resorted to reindeer herding, hunting and fishing. The average income of Lappish families is smaller than that of Finnish families. The income structure of the Finn population is fairly uniform regionally. Among the Lapps, the income values in different unit areas are noticeably different. Their income structure is also very heterogeneous.
The income structure of the Lapps clearly reflects their present mode of subsistence. Subsistence economy has continuously been losing ground. The education of the Lapps and the solutions given to employment problems have had aims other than native economy. Technology has changed the character of native economy (Pelto 1973: 67-75; Müller-Wille 1974: 916). Requirements for a higher standard of living have also increased among the Lapps, and their orientation towards centers, where the services are closer at hand, has increased. When native economy is given up unemployment increases both in extent and in volume. It is exceedingly difficult to create industrial jobs in northern Finland in general, to say nothing of Lapland. Moreover, their location in those parts of the country is questionable. The marginal districts of northern Finland are rapidly being depopulated. Unless some real decision is soon made to secure and develop the native economy of the Lapp area, it is probable that the Lapps, who have a culture in balance with nature, and a moderate subsistence, will become involved in the movement which is draining our northern regions and will end up as labor force in the industry and services of southern Finland.
Figure 3
Number of families per unit area in Lapp area, Northern Finland (A quarter of a basic map sheet with a scale of 1:20,000 = ca. 5 km x 5 km). 1 = Lapp families, 2 = non-Lapp families.
Figure 4

Proportion of different age-classes in total population per unit area in 1970 (Lapp area, Northern Finland). 1 = children under 16 years, 2 = working-age people from 16 to 64 years, and 3 = old people above 65 years. Size of circle shows volume of total population.
Figure 5

Occupational structure of all heads of families in Lapp area, Northern Finland in 1970. 1 = primary occupation, 2 = secondary occupation, 3 = tertiary occupation, 4 = pensioners and people with unknown occupation. Size of circle shows number of heads of families.
Literature


Linkola, Martti. 1972. Peurasta poroksi ja porosta poroeloksi (From wild reindeer to reindeer and from reindeer to reindeer fortune). In Suomen luonto 1972: 224-226.


Tanner, Väinö. 1928. Petsamon alueen paikanumiä (Place names of the Petsamo District). Fennia 49(2).


Part III

Implications of disturbance of northern ecology: the hydroelectric experiment

Unlike the economic intrusion of earlier periods, the economic developments now occurring in the northern regions frequently include large-scale transformations of the natural environment. Don Gill discussed the physical transformation of the shoreline areas down stream from man-made lakes and its impact on local food resources. The consequences of hydroelectric projects are extremely severe in parts of northern Fennoscandia, where reindeer pasturage is already seriously limited by the northward spread of farming as discussed by Erkki Asp. Pekka Aikio commented from the Sámi people's own point of view on these disturbances of the ecosystem.

Effects of rapid acculturation or adjustment by native peoples include varying degrees of psychological stress, as John W. Berry observed in his baseline study, the goal of which is to examine long-term implications of new projects in northern Québec.
Some ecological and human consequences of hydroelectric projects in the Mackenzie River drainage system, northwestern Canada

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Introduction

In Canada, much public and professional interest has recently focussed on environmental problems caused by hydroelectric development on northern rivers. For example, the impoundment of the Peace River in northern British Columbia by the Bennett Dam, and the subsequent environmental problems experienced downstream in the Peace-Athabasca Delta of northeastern Alberta (Figure 6), initiated a number of investigations aimed at determining the extent of environmental alterations created by this type of development. However, little research of a similar nature has been done in other northern areas, thus not much is known about how most alluvial habitats of northern Canada may be degraded by impoundment, or how the riverine wildlife resources that are still used by native peoples may be likewise affected. The purpose of this paper is therefore to call attention to the following:

1. Ecological alterations can and have already occurred below large hydroelectric projects on northern rivers;

2. Northern floodplains and deltas are most subject to downstream regulation-caused damage. Those that remain undisturbed by man create highly productive habitats that are utilized by a significant number and variety of fish and wildlife; it is argued that regulation creates a complex array of mostly detrimental alterations to alluvial habitats, and consequently to the people who still harvest species of wildlife that base their reproductive success on such habitats.

The flow regime of rivers in the Mackenzie Basin

The natural annual flow regime of most northern rivers is characterized by extremely variable seasonal runoff. This variation is
especially amplified in rivers that derive most of their flow from low natural-storage regions such as the mountains along the western half of the Mackenzie Basin. The snowmelt period of May through June usually provides the peak flow, with volumes gradually declining during late summer and winter to reach a minimum in early April.

The operative word concerning the flow of northern rivers is thus variation, and this is best exemplified by the annual spring flood. The physical and biological environment of northern floodplains and deltas has evolved in response to this variable pattern of annual flow, particularly the spring flood.

Ecological effects of regulation

Regulation of rivers for hydro development has the effect of forcing the volume of flow below impoundments to follow the demand pattern, resulting in flow regimes that have an altered annual pattern. Most significant to the riverine environment below dams, the spring flood peak is greatly reduced; this has far-reaching ecological consequences.

Primary plant succession along northern rivers

The dynamic interaction of flooding and sedimentation that shapes the surface of floodplains and deltas is reflected in the distribution of their successional plant communities. Plant succession refers to any unidirectional change that can be measured in the proportions of species in a stand, or, as is more often the case, the complete replacement of one plant community by another. Primary plant succession begins on a bare area soon after it has been created. An initial group of pioneer plants becomes established on the new site, and this group is replaced in turn by other communities until the location comes under the control of species that are capable of reproducing themselves indefinitely (the climax association). In northern floodplains, this sequence normally culminates in a closed-crown coniferous forest within 100 to 150 years.

Along rivers, the process of plant succession is usually initiated on new alluvium deposited during the flood-stage. It follows that to have new space for sediment to be laid down, older sections of the floodplain must periodically be destroyed. It is this constant replacement of older soil-vegetation complexes by new successional units that gives the northern floodplain its high primary productivity.

Successional floodplain communities occupy one point in space for a relatively short time. Physically influenced (allogetic) succession rapidly prepares a site for the later seres, and the trend is toward a stable, more complex, but less productive ecosystem. If older portions of the floodplain are not
periodically destroyed by lateral erosion, plant succession along northern rivers ultimately creates a closed-crown coniferous forest. Through the build-up of organic debris, this group of plants becomes increasingly separated from the nutrient supply offered by flooding and siltation. As the organic mantle increases in thickness it retains more moisture and a colder soil environment results; the closed canopy reduces solar radiation at the forest floor to cool the soil further. The slow decomposition of organic material yields acid products and lowers the pH of the soil to make it less productive. This sequence of deteriorating ecologic conditions may be observed along most northern rivers by making a transect from a river's edge to the adjacent uplands.

The early seres in a successional sequence are nearly always the most productive for wildlife; biomass accumulation is rapid and proportionately more usable energy is fixed than in mature ecosystems. As a result, northern floodplains and deltas form belts and islands of high productivity set within the less productive boreal forest and tundra landscapes. If a northern river with low natural storage is regulated, the perturbing effect of spring floods is reduced or eliminated, and succession soon begins to reduce the productivity of the alluvial habitat. Without continued initiation of primary plant succession, the biological productivity of any northern floodplain or delta soon diminishes and the resource base of people living off the land is likewise reduced.

Alluvial wildlife habitats - waterfowl

There is no lack of water in the northern landscape, but much of the water is of little use to waterfowl. A large proportion of the smaller lakes are of the bog type - cold, deep, low in nutrients, often acidic - and support only limited aquatic vegetation; they are therefore avoided by many waterfowl.

The most productive waterfowl habitat is along rivers and floodplains, primarily because of the annual placement of nutrients by flowing water and by the continued initiation of productive successional vegetation. Although northern floodplains and deltas constitute a relatively small part of the total waterfowl production area of North America, they produce a great percentage of the annual waterfowl crop. A normal breeding population is assured only as long as northern floodplains and deltas are able to maintain normal water levels and normal flow regimes. As stated by Lynch (1947), northern rivers "are a factor of disturbance in vegetative succession. Meandering of river channels is continually bringing about replacement of climax forest by channel lakes ... river activity is constantly producing new lakes to replace those lost to the invasion of muskeg. High timbered banks are cut away each season by floods, and their soils carried to newly forming islands where the whole cycle of development and recession is reenacted."
The operative word in Lynch's observation is flooding. Without the annual flood, a river's ability to create the physical disturbance necessary for biological renewal would diminish. When a northern river is regulated, the alluvial environment begins to deteriorate as waterfowl habitat as soon as the first spring flood is eliminated. When essential habitat deteriorates, waterfowl numbers must decline, and a still-important native resource base is reduced. Traditionally, waterfowl have produced a much-welcome change in the annual diet of native peoples, and this is still the case: for example at Tuktoyaktuk on the Beaufort Sea coast, the Inuit people still harvest some 2,000 snow geese (Chen caerulescens) every spring. At Aklavik, in the western Mackenzie River Delta (Figure 1), Indian people harvest approximately the same number every autumn (Barry 1975). At an average weight of 2.25 kilograms per snow goose, this is a significant amount of locally available animal protein. This harvest represents only one species of waterfowl; large numbers of others are taken as well throughout the Mackenzie Basin every year. During the fall of 1968 and spring of 1969, 3,000 geese and 10,000 ducks were harvested by hunters of Mackenzie Valley communities, for a total of 16,500 kilograms of edible meat (Economic Staff Group 1973).

Alluvial wildlife habitats - aquatic furbearers

Many of the statements made concerning the value of northern floodplains to waterfowl hold equally for aquatic furbearers. They too depend on the spring flood to maintain the alluvial habitat in a state of high biological productivity. Following are a number of aquatic furbearers that natives have traditionally exploited for fur and as a food source; an illustration of habitat loss by river development is given for each.

1. Muskrat (Ondatra zibethicus). The mammal that most characterizes northern river systems is the muskrat. Its numbers in the Mackenzie system reaches well in excess of 1,000,000 animals during cyclic peaks in its population (Fuller 1951; Dirschl and Goodman 1967; Stevens 1971a; Hawley 1972). In areas of suitable habitat, muskrats have shown remarkable adaptability to the northern environment. They become established in water bodies that, although ice-covered during winter, do not freeze to the bottom. According to Stevens (1971b), a depth of 1.2 m of water is necessary for muskrats in northern Canada to survive the winter. Surrendi and Jorgenson (1971) suggest that the optimum lake depth for the overwintering of muskrats in the Peace-Athabasca Delta is 1.4 m. Lakes much deeper than this are not used by muskrats because they do not produce the quantity of preferred aquatic vegetation necessary to support the animals over winter. The ice depth on lakes occupied by muskrats averages some 75 cm; thus only a shallow layer of water remains under the ice for the animal's feeding activities. Even a minor lowering of water levels will cause such lakes to freeze to the bottom and the animals to perish. This apparently happened in the Wood
Buffalo National Park section of the Peace–Athabasca Delta. Between 1960 and 1968 the annual muskrat harvest averaged 65,000 pelts. This decreased to 38,000 in 1969–70 after closure of the Bennett Dam. During 1970–71, Stevens (1971b) reports that because of lowered water levels only 3,300 muskrats wintered over in the delta; this is reflected in a greatly reduced 1970–71 harvest of 2,000 muskrat pelts.

Muskrats nevertheless remain an important source of revenue for native trappers in other parts of the Mackenzie system. Between 1968 and 1971, the value of muskrat pelts taken in the Northwest Territories portion of the Mackenzie Basin totaled $657,000 (Statistics Canada n.d.). Since northern muskrat reproduction depends on undisturbed alluvial habitats, it is fair to predict that this revenue source will be depleted where rivers are regulated for hydro power, as shown in the Peace–Athabasca Delta.

2. Beaver (Castor canadensis). Beavers in northern Canada also utilize floodplains and deltas as their primary habitat. Like the muskrat, they too use these waterways for travel, and the successional floodplain vegetation as a food source. Aleksiuik (1968) and Gill (1972) found that the food of beavers in the Mackenzie Delta consists primarily of feltleaf willow (Salix alaxensis) and balsam poplar (Populus balsamifera). Each is a member of a successional community, and if flooding and siltation no longer took place, these communities would soon be replaced by a white spruce (Picea glauca) climax forest that would be virtually unusable by beaver.

Beaver also continues to provide a revenue for native trappers. Between 1968 and 1971, the value of beaver pelts taken in the Northwest Territories portion of the Mackenzie Basin was approximately $417,000 (Statistics Canada n.d.).

Alluvial wildlife habitats – big game animals

Two species of northern big game animals, moose and bison, use alluvial habitats extensively.

1. Moose (Alces alces). Moose are browsing animals, particularly in winter, and depend on early successional shrubs and aquatic vegetation for most of their food. Moose prosper if there is an abundance of "edge effect" created by the close proximity of several plant communities; different communities are required for such activities as feeding and resting, and the different-aged successional stands that are close together on floodplains and deltas provide ideal habitat.

Moose remain an important source of meat for natives in the Mackenzie Basin; for example, in the hunting year 1968–69, 111,000 kilograms of edible moose meat were harvested by hunter–trappers living in Mackenzie Valley and Delta
communities. In 1969-70, only slightly less was harvested (Economic Staff Group 1973). Moose meat taken during both years represents an approximate local value of $250,000 per year (Gemini North Ltd. 1974).

Where northern rivers are regulated, the extent and quality of moose habitat is reduced by the rapid succession of less valuable vegetation and moose populations are reduced.

2. Bison (Bison bison). The bison (buffalo) of Wood Buffalo National Park (some 8500 animals) use the sedge meadows of the Peace-Athabasca Delta extensively for summer and winter range (Novakowski 1967). One highly nutritious sedge (Carex atherodes) provides a large part of their diet. Prior to closure of the Bennett Dam, this sedge was maintained as a major component of the shallow marsh successional vegetation by periodic inundation (Fuller and LaRoi 1971). Reduced water levels have resulted in the succession of nutritionally inferior reedgrass (Calamagrostis spp.) and willow (Salix spp.) over much of this preferred habitat, which has reduced the delta's carrying capacity for bison.

Natives of the Wood Buffalo National Park area harvest a number of bison each year; in 1973, about 200 head were used as a meat source (Edmonton Journal 1974). Bison are likely to decline as a resource in the Peace-Athabasca Delta area, however, unless remedial measures are effective in restoring the productivity of the delta's environment.

Aquatic habitats - fish

Flood elimination can immediately alter the quality of northern floodplain and deltaic fish spawning habitats. Spring-spawning fish such as northern pike (Esox lucius) are among the most numerous and important species of northern river systems. During the flood-stage, adult pike take advantage of the high water to enter many of the otherwise inaccessible delta and floodplain lakes where they spawn. From mid-summer to fall the fry return to the main distributaries via small drainage outlets (Gill 1971). Elimination of flooding reduces the number of accessible lakes, and fish populations decrease as a result of the reduction in normal recruitment by loss of a suitable spawning habitat.

Bidgood (1971) documents that the lowered water level in the Peace-Athabasca Delta following closure of the Bennett Dam was detrimental to the walleye (Stizostedion vitreum), another spring-spawning fish of considerable food value. The temperature in shallow delta lakes used by post-spawning walleyes was increased. After spawning, these fish are in weakened physiological condition, and when they are subjected to warm water, fungus infection causes an increase in mortality.

Autumn-spawning species, such as the lake whitefish (Coregonus
cloupeaformis), round whitefish (Prosopium cylindraceum), and
inconnu (Stenodus leucichthys), are somewhat less affected by
flood elimination, but lowered water levels created by impoundment
reduces the extent of spawning habitat for these fish also (Gill
1971); more importantly, the young-of-the-year suffer winter-kill
by freezing in the shallow water bodies.

Throughout the Mackenzie system domestic fishing, chiefly by gill
netting, is still a major source of protein during the summer
when trapping has ceased and hunting is difficult. Autumn and
winter fishing are also important food sources for trappers and
their dogs. During 1972, Peterson et al. (1974) estimate that
the domestic fish harvest in the Mackenzie Basin was approximately
375,000 kilograms, representing a local value of some $400,000.
Use of fish does not appear to be greatly declining; Jessop et al.
(1974) illustrate that during 1973 fish consumption by humans and
dogs in Aklavik alone totalled 134,000 kilograms, for an estimated
local value of $145,000.

Repeating what was said earlier, where the spawning and nursery
habitats are degraded by upstream regulation of flow, this very
significant resource base is diminished, and people who still
utilize this resource must seek an alternate which may or may not
be available in the north.

Conclusion

In terms of the significant number and variety of fish and
wildlife that occupy northern floodplains, the productivity of
this type of environment depends on the continued maintenance of
normal flow regimes and successional vegetation. Since the
initial stages of natural succession in the alluvial environment
are "driven" by the physical effects of flooding and sedimentera-
tion, it follows that many animals are ultimately dependent upon
these two fundamental components of the unaltered river regime.

Fish and wildlife still have a significant value to the native
peoples of the Canadian north, not only as a source of revenue
and protein, but also as a medium by which they are able to help
maintain their cultural traditions. If we continue to dam
northern rivers for power developments, then it will be
impossible to maintain natural flow patterns below reservoirs,
and alluvial habitats will deteriorate for most fish and wildlife
species. This will result not only in a loss of biological
diversity, but it will also have a negative influence on the
native peoples who still depend on wildlife resources for a part
of their livelihood.
Figure 6
Physical and hydrological characteristics of Canada
Literature


Gemini North Ltd. 1974. Social and economic impact of proposed Arctic gas pipeline in northern Canada 3(5-6). Canadian Arctic Gas Pipeline Ltd.


Man-made lakes and their social consequences in Finnish Lapland

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In Finnish Lapland two big man-made lakes were built during the 1960s, namely Lokka (417 km²) and Porttipahta (229 km²). The regulation of water specifically brought about for the power needs of the whole country has significantly changed conditions and opportunities for the local residents (about 640 persons) of the basin areas of Lokka and Porttipahta. Research concerning this population sector has revealed many problems that were stirred up already at the planning stage of the basins, became intensified while the basins were being built and reached their full scale only after the completion of the basins and the resettling of the area.

Reaction to the lakes

The villages in the basin areas of Lokka and Porttipahta are quite remote. The population depended mostly on subsistence economy, primarily agriculture. Particularly the Lapps, but also many others, lived by reindeer herding. Money was earned from the sale of milk, reindeer meat and hides as well as forestry. Their diet was supplemented by hunting, fishing and berry picking.

Because of the reservoir construction, more than 560 people had to leave their homes. The occupational structure of the population has clearly changed since they moved away; a transition from subsistence economy to monetary economy has occurred. In some households the transition has been complete, in other only partial. This trend is illustrated by the fact that the households are not engaged in many different activities as regularly as they were before. In particular, the importance of agriculture has decisively diminished because of the shortage of land. Nearly every household was engaged in agriculture before the reservoirs were built; after moving, only one-third of the households were engaged in some kind of agricultural activity. In general, people have given up agriculture as a subsidiary source of income. There has also been a decrease in the number of reindeer herders, although not nearly as great as in the case
of farmers. Some have retired because of old age. The reason for the decline of agriculture and reindeer herding can be explained by the giving up of the subsidiary sources of income as well as the retirement of the older generation from these occupations and the transition of the younger generation into secondary and tertiary occupations.

The occupation most affected by the construction of the reservoirs has been reindeer herding. The grazing land for reindeer has decreased; reindeer ran away to areas belonging to other reindeer owners' associations when the old grazing areas were covered by water. These damages were compensated financially but the reindeer herdsmen have not been very satisfied with these compensations (cf. Lenstra 1973). The effect of the reservoirs on agriculture has been more indirectly occasioned by moving away. Those who wanted to continue reindeer herding settled near their old homesteads. The farming prospects in the settlement areas offered to the farmers were not as good as in their former habitation. Neither were there natural meadows, from which a part of the cattle fodder had been acquired up to the 1960s.

Various opinions have been expressed about fishing. However, it is evident that a substantially larger amount of fish is obtained from the Lokka reservoir than from all the areas previously covered by water. It is also true that the relative proportion of some valuable fish has declined.

The attitude towards the reservoirs appears to depend to a large extent on occupational and economic activity. Mainly the Lapps, but also others engaged in reindeer herding wanted to keep their occupational combination as before, i.e. herding as their main occupation supported by a host of other activities based on natural resources. The occupational combination was, however, shaken when agriculture was left out or diminished in significance, and when difficulties appeared in reindeer herding. This is the section of the population that has been most dissatisfied with the reservoir projects. Another factor that has caused dissatisfaction is the fact that there was a delay of a few years before the settlement of new farms could be arranged. Further inconveniences have arisen in the considerable change in living environment, and weak adjustment to the new conditions, and in many cases the compensations paid (Järvikoski 1973). It is extremely bold to attempt to crystallize the results of an interview study involving more than 70 questions but it is possible in this case specifically in regard to the dissatisfaction of the inhabitants. It seems that dissatisfaction is mainly associated with the changes that have occurred in the lifestyle, and with the transition from subsistence to monetary economy. Most of the persons concerned live close to their former homesteads but in areas where cattle breeding has been found to be unprofitable. The new way of life is accompanied by a feeling of insecurity and economic uncertainty. It seems that most of the families maintain at least a satisfactory livelihood, but in safeguarding and improving the standard of living, there is a
need for continuity of the sources of income on the one hand, and for rapid adjustment to the demand for effectiveness by the modern society on the other.

Many of those who stayed to live near the reservoirs are Lapps whose life style is traditionally different from that of the Finns. For them ownership and written agreements have not been so important as they are for the modern bureaucratic society. Two different forms of life have dashed against each other and the weaker one, which is very small in size and lives by a subsistence economy, has usually lost. This losing out, in turn, has caused bitterness and frustration for which the reservoirs have been the suitable target for outbursts even when the main source of difficulties was elsewhere.

The bitterness is also caused by the belief that the profit derived from the reservoirs goes entirely to the benefit of southern Finland; it is said that the consequences for the local inhabitants are only disadvantageous. It is generally agreed that information concerning the building of the reservoirs was inadequate at the time when it was most needed.

Various studies were made during the planning of Lokka and Porttipahta reservoirs, but sociological studies were not represented among them. Extensive studies of the natural environment were carried out. These were mainly due to strong pressure from the nature protection association, which obtained funds for this purpose from the State and from private foundations. A sociology student, on his own initiative, studied the Lokka Reservoir area for his graduate work. His study, carried out before the official decision to construct the reservoir was made, examines the reactions of people living in the area of the Lokka reservoir project (Leskelä 1962).

The Lapps who were engaged in reindeer herding in the area did not, however, form the majority of the population. It is evident that the Lapps also had influence on the discussion about the reservoirs. Hence, it was shown in the study that people engaged in the traditional means of Lappish economy felt that the reservoirs reduced the reindeer herding area (Asp 1965). Resistance to the reservoir project was then observed both among the inhabitants of the area and among Lapps living elsewhere, but this did not have any practical consequence. No movement opposing the reservoirs was launched, nor even any kind of collaborative action among the inhabitants.

The criticisms were presently mainly by the same circle of people who had opposed the construction of the reservoirs from the very beginning. The criticism against the completion of the Lokka Reservoir grew stronger also because of other developments. Conservationists became stronger in Finland, as they evidently did in the whole world during the 1960s. At the same time this movement became partially radical when the new generation of students joined it.
An increase of political activism also took place among the Lapps. Since World War II a trend can be observed, in which the Lapps gradually proceeded – due to the influence of increased contact and education – from individual action to collaboration, from adjustment to the dominant culture to its rejection (Asp 1965). In very recent years there has been a strengthening of a movement among the Lapps strongly emphasizing their own culture. This movement has sought contact with minority groups elsewhere in the world. From this direction also there has been strong opposition towards the reservoirs. The groups which criticized and opposed the projects were exactly equivalent to the opponents of the James Bay project in Québec, Canada. These were the Indians on whose territory the reservoir would be built, the Eskimos whose sources of livelihood would be affected by the reservoirs, and the environmentalists. These groups have naturally been supported by "outsiders" (Salisbury et al. 1972). Ecologists are, in general, prone to have a critical attitude towards reservoir projects; this has been revealed, e.g. in the discussion in the Soviet Union (Rutkevich and Shvarts 1972). The fact that the problems of racial minorities often come up in connection with such projects cannot be considered mere chance. This happened, e.g. in the United States, where reservoirs have been built in Indian territories. Land in the possession of people living in a subsistence economy does not seem to outsiders to be in effective use. Its value is minor compared to the value of land in built-up areas. This is why it is tempting to construct man-made lakes in these areas, although certainly the intentional violation of the rights of a minority is not justified (Asp and Järvikoski 1974).

Research on reactions to a proposed reservoir

At the moment, the Kemihaara reservoir is being planned in Finnish Lapland. With this, the flow of the Kemi river will also be regulated. In this new reservoir project, sociological research has been taken into consideration already at the planning stage. Also regarding other aspects a more comprehensive approach is being attempted than in the planning of Lokka and Porttipahta lakes. Altogether more than ten different studies serving the development are being carried out. It is hoped that disturbing effects may be avoided by such an approach.

The population study of Kemihaara, which was performed under my direction during the early spring of 1973, was primarily based on interviews with members of over 300 households. The interviewed persons can be divided into the following groups: 1) persons living in the actual reservoir area who would have to move if the reservoir were constructed; 2) persons owning land in the reservoir area who would not have to move; 3) persons living in the vicinity not owning land in the reservoir area; and 4) persons living outside the area and not affected by the construction, the so-called control group.

The purpose of the study was as follows: a) to examine the
attitude of the inhabitants in and near the area towards the reservoir project. No decision on the construction has yet been made and the intention has been to use the opinions of the population as one argument when the decision is being made; b) factors serving the planning of the reservoir were examined in the study. It made an account of the occupational structure of the population and other related circumstances. People were also asked about their plans in case the reservoir were built. Their wishes were examined, e.g. with regard to the compensation procedure; c) the possibility that the reservoir actually would be constructed was taken into account and one goal was to be prepared for carrying out a follow-up study. This was the reason for interviewing the control group. Three villages not affected by the construction but having as far as possible circumstances similar to the villages in the concerned area were chosen for comparison. Over a hundred interviews were performed in the control study area mainly using the same questionnaire form as in the other areas.

An attempt was made to take into account the views of the local population when outlining the study. A working group was established specifically for the purpose of supervising the population study. This working group consisted of the researchers, the constructors and planners, and representatives of the local population. All research activities concerning the reservoir are supervised by a consultation board, which includes representatives of various interest groups. The working group supervising the study revised the interview form and received interim reports about the progress of the study. The research plan and results of the study have been presented to the consultation board.

As regards this population study, I wish to emphasize that it is the first time in Finland that sociological research has been included from the beginning in the planning process of a reservoir. If it is decided to construct the lakes, good basic data exist for the study of the reservoir's social consequences.

It is somewhat surprising that, for example, in the case of man-made lakes, it is necessary even today to emphasize their social aspect. By this is meant that man-made lakes are connected with activities that are important for society and that the achieved results have had and will have extremely far-reaching consequences in the future. Many of these consequences are desirable but they also have many dysfunctions about which - as has been observed earlier - as far as the man-made lakes in Lapland are concerned, an adequate amount of written material is available. Thus, it is justified to consider man-made lakes, in the same way as other corresponding technical solutions, as social phenomena, particularly regarding the influence of their consequences.

By a social phenomenon is meant a process which includes many different phases. Such a social process as the construction of a man-made lake consists of careful analysis of needs, planning,
the actual technical implementation and the consequences after implementation. Thus the process starts very early, already at the stage when the idea is introduced. Very seldom, however, in research and in other connections, has attention been given to those social implications which are caused by the introduction of a new idea in the persons or groups primarily affected after the innovation has been carried out. The most painful consequences are suffered by the group of persons whose livelihood is based on natural economy. This group is, generally, both as regards occupations and psychic factors, most strongly attached to its home area, and adjustment to new circumstances is difficult for it.

In a way innovation causes disruption in the equilibrium of nature and thus totally affects people engaged in occupations based on natural resources, whereas it does not have the same strong influence and effect concerning the total society in the cases where persons represent urbanized occupations already detached from nature. It does not make such a great difference for people engaged in service or marketing occupations, where they practise their occupation, but innovation primarily affects their leisure time activities and recreation. On the contrary, for those having a stronger attachment to nature this question is of vital importance.

Conclusion and recommendation

Research examining the entire range of consequences caused by a change is needed in order to find out these fundamental kinds of influence relations. Research should be carried out already at the beginning of the planning stage and it should be continued even after the innovation is achieved. This type of concept of linking research activity with an innovation is already fairly generally accepted, whereas the idea of pursuing the consequences resulting from an innovation for a long time even after the technical completion seems to be still new. However, in many cases it could be shown that for the final part consequences were revealed only after many years. The economic and material consequences can often be quite accurately estimated already at the planning stage, but surprises may occur even in these matters. On the other hand, it is quite evident that psychic, cultural and social factors can not be estimated and measured at any one instant, rather changes related with these are the result of a long chain of influence. Therefore, it is possible only through a follow-up study to find out the actual effects caused by a technical innovation.

Innovation activity, such as the construction of man-made lakes, is in a way, a social test, a research situation which should be examined in all its phases. From the point of view of social research it is a rare opportunity to observe how the changes of nature affect the society. Nature is changed suddenly and consciously, therefore the consequences are observed more clearly
than in the case of gradual changes. However, advantage has not been taken of these possibilities in connection with man-made lake projects, no more than in connection with many other major innovations. Although the importance of research has continuously increased, the funds used for it form only a minor proportion of the total costs. Funds have usually not been granted for a follow-up study. However, the revealing of disadvantages by a late study would give the society an opportunity to redress affairs to the extent as they are considered to be needed and necessary, even before the malfunctions become really great and problematic.

Literature


The breakdown of a Lappish ecosystem in northern Finland

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Man and nature in the north

The dependence of man on nature has changed only ostensibly. In reality, even the most modern mode of human life is exactly as dependent on chlorophyll energy as was life at the earliest developmental stages of Homo sapiens (Kallio 1971). Ecologists, in particular, have recently begun to claim that the economy of man should be adjusted to the economy of nature. This claim is closely associated with the idea that energy supply in human economy should be independent of sources outside the local ecosystem. Especially in the northern regions, where practicable alternatives are few, the adjustment of human economy to the economy of nature is a difficult endeavor.

The aboriginal peoples inhabiting the northern circumpolar areas, the Indians, the Inuit, the Sámi people (or Lapps) and the northern Eurasian peoples have, however, solved the problem in a highly consistent manner; they have adapted themselves to the surrounding ecosystem. This adaptation has occasionally even resulted in the emergence of well adapted genetic structures, of which Kallio (1971) gives the Naskapi Indians of Labrador as an example.

Hence it is quite justifiable to invite attention to the cultural crises taking place in the circumpolar areas, particularly now that the giant strike of technological development is taking place, which even further obscure the dependence of man on nature. These phenomena are specially interesting for the biologist in the light of the following bold assertion of mine: it is very likely that the type of human economy which has been successfully practised by aboriginal peoples for a long time is, in fact, the only way of keeping the marginal areas of the ecumene inhabited by mankind (cf. Okko 1969).

The Lapp culture utilizes local resources which I define as those
modes of human economy which adapt to the ecosystem so as to use nature ecologically on a permanently long-term basis. The aim of such activities is not great regional effectiveness but long temporal duration. Subarctic subsistence economy requires large areas of land to be worked prudently and not all concurrently. In reality there are no large wilderness areas and the whole area is perhaps under the most effective use possible. The annual production of the tundra maintains only 5% of the number of people supported by the production of the coniferous forest zone (Kallio 1971). The life in the subsistence economy was almost self-sufficient. It is only at a very late stage that the energy supply of northern peoples has become independent of local production. One of the most noticeable examples of that is the use of the snowmobiles.

The Lapps have been able to live at the margin of the polar ecumene for centuries subsisting on the local means. In these areas, above the forest line, agriculture has not provided a basis for self-sufficiency, mainly because of the severe natural conditions. The length of the winter makes it difficult to keep livestock, and cereal plants do not grow. With reindeer, however, it is possible to raise livestock without interior feeding. Kallio (1971) is justified in describing the domestication of the reindeer as the greatest achievement of the northern Eurasian peoples for stabilizing the basis of their life. The reindeer obtains all its energy from nature and it provides man with more or less the only way of getting his share from the production of the land ecosystem, with the exception of some cattle, sheep, ptarmigan, and berries, which so far account for only a minor proportion of livelihood. The Lappish culture and subsistence economy comprised ecologically versatile activities. Though the reindeer was the dominant connection with the land ecosystem, the economy also included many other connections to land and water ecosystems. One is justified in talking about the Lappish ecosystem which I understand as a human economy well adapted to the subarctic natural environment.

According to current opinion (Siivonen 1972), the reindeer used by the Lapps was domesticated from the wild mountain reindeer. The domestication was accomplished so recently that there has apparently not been much biological adaptation to the new conditions and, e.g. totally new surroundings. The problem of adaptation still remains without explanation. It can be supposed that the influence of man is probably essential in the adaptation to new conditions. Before this process the wild reindeer was mainly a game animal. It neither became an entirely domestic animal nor a purely utilitarian one, but acquired a much more versatile role in human culture. The situation can well be compared to biological mutualism. Man got his food, clothing, means of transport, etc. from the reindeer without imperilling the functions of the ecosystem, while the reindeer got help from man in its adaptation to new ecologic circumstances; foremost of these are the danger of preying animals in the forest zone, the continuous use of shifting grazing grounds in an area with small
basic production and many physical factors changing according to the season. According to reindeer keepers, herding was the most important factor in the elimination of preying animals (Aikio 1972 and other reindeer Lapps).

Lapin paliskunta reindeer association, situated in the Lapp populated areas of Finland, is an example of a human subarctic ecosystem (Figure 7; also cf. contribution by M. Lenstra). During the last 20 years this paliskunta (reindeer association) has made a biologically huge transition from reindeer herding in accordance with the ecosystem to a reindeer meat industry detached from the ecosystem. Strictly speaking, Lapin paliskunta was not a nomadic or semi-nomadic system after it was established in the early 20th century, but as late as the 1950s the reindeer herding culture was still associated to subsistence economy well adapted to the ecosystem. I consider this to have been a totally new form of nomadism. As a biologist, I have been collecting material since the end of the 1960s, but the analysis is unfortunately as yet unfinished. In the following I shall describe the reindeer herding in Lapin paliskunta and the significance of the changes in it generally from the viewpoint of nature. I have also utilized material collected by Linkola (1961) as well as by Nissilä (1970) and Lenstra (1973).

Lapin paliskunta reindeer association as part of the ecosystem

As late as the 19th century, reindeer herding in the area of present Lapin paliskunta was probably still "small-scale" herding. At the end of the century, reindeer-keeping Lapps from Karesuando, Kautokeino and Enontekiö moved to the area. Nickul (1970) mentions that there was a transfer of mountain reindeer to central Finnish Lapland. The closing of the boundary between Finland and Norway (1852) and later Sweden (1889) for reindeer migrations forced part of the Lapps to search for new grazing grounds deep in the Finnish area.

It is evident that the transfer entailed some adaptation problems for the reindeer in the new and different area. Man helped the reindeer wherever difficulties arose. There is, however, oral information on runaway reindeer in the summers of the late 19th century when herding had temporarily been discontinued. The herding mechanism which maintained the annual rhythm of the reindeer and man had already developed at that time; there evolved "herding groups," which Lenstra discusses in more detail (see above). These herding groups partly existed up until the 1960s.

Figure 7 shows Lapin paliskunta in the 1950s, at a time when reindeer herding was an almost independent part of the ecosystem. The most important mating and calving areas, individual and common grazing grounds, and migration routes of herds are shown.
I divide the herding principles of that time into the following three groups:

1. A rational and functional division of the available land area for the various events of the annual cycle, with the biological needs of the reindeer as the presumption;

2. The nearly continuous presence of man as a supervisor and controller of the systemic functions;

3. The mutual cooperation of reindeer herders in different herding groups and across association boundaries.

The first of these principles implies constant use of the meager subarctic nature. At the different phases of the annual cycle there is a systematic choice of biotopes differentiated according to, e.g. sex. The most important reproductive functions, mating and calving, require quite special surroundings. There is conclusive evidence of small-scale reindeer migrations, and Lapin paliskunta even had principal migration routes, where the reindeer seem to have migrated according to a "schedule." The midsummer schedule of migration was so precise that the herders on their way to the summer marking went according to the calendar to get their reindeer from a certain point of the migration route. The connection of the midsummer migrations to the annual rhythm in general has not been explained yet (Figure 8). The total stock of reindeer in the association concerned had a balanced herd structure. There was, however, cooperation between Lapin paliskunta and the neighboring associations. A part of the calving and mating grounds is located at the boundaries or in other association areas.

The original Lappish manner of keeping reindeer was not based on the "paliskunta" system. The Lapps started from the needs of the reindeer, while the "paliskunta" organization is more of an administrative institution (see M. Lenstra above). The paliskunta boundaries disrupt many natural migration routes. Sweden and Norway, where reindeer herding is a monopoly of the Lapps, have no such organization. In Sweden and Norway, the corresponding reindeer villages (Lapp villages) traverse several ecological zones in area, permitting the shifting of grazing grounds.

The situation in the Lapin paliskunta association in 1974

The change which has taken place in reindeer herding in Lapin paliskunta has been both rapid and complex. It is connected with considerable environmental change within the association's area. The changes cannot be described in any great detail here. I only briefly sketch some biological outlines of the changes. Other descriptions already exist (Aikio and Jaakkola 1970; Järvikoski 1971; Lenstra 1973). I will here concentrate on those factors of the change which have previously received less attention. The factors are interrelated in a highly complex manner, and their
The economic expansion of the state of Finland resulted in the building of the artificial lakes of Lokka and Porttipahta after 1960 (see contribution by E. Asp). Their construction was preceded by tree felling in the basin beginning in the 1950s; at some points the completely cut area even reached above the shore line of the basin. Forests were also leveled extensively outside the basin area, and violent measures were applied by plowing and furrowing the soil surface. Local deciduous trees were similarly destroyed by spraying herbicides from planes (Figure 9). At their widest, the lakes cover about 630 km² of land, of which 80% belongs to Lapin paliskunta, accounting for 11% of its total area. This indicates that the area is broken up even more widely than the natural features of the basin already show. This makes the use of many parts difficult; the newly built roads also have effects similar to those mentioned above.

The grazing grounds of the "paliskunta" are not completely homogeneous. Through the absolute loss, grazing grounds of many different kinds were lost, among them some vitally important winter pastures. As a multiplied effect, there is an increased pressure on the other grounds and possible over-grazing. There was also a clear escape effect; immediately after the filling of the Lokka basin in October 1968, about 6,000 reindeer from Lapin paliskunta moved north to the area of the neighboring paliskunta.

As regards the remaining grazing grounds, the situation is complicated and chaotic. The felled and plowed wintering lichen areas have changed into weak late-summer ranges. Tree-lichen forests, on which the feeding of the reindeer was based during the hard snow cover time, vanished. On the open areas the snow conditions are different from those in a sheltered forest, so the digging for food turns much more difficult. The change in the grazing circumstances has above all made the wintering of the reindeer difficult. From the point of view of the total reindeer stock in the association area the two winter ranges on the eastern and western side seem to have the only practical importance. Between these two main wintering areas there seems to have formed a vacuum almost one hundred kilometer wide. Since the latter part of the 1960s herders have been forced - to ensure that the reindeer will have enough food - to transport animals to the western parts which can be grazed by over 1,000 reindeer for several months, or to the eastern parts which can be grazed by the rest of the reindeer, but the large predators are also concentrated there.

The biological changes follow the law "everything affects everything." As the rhythm of reindeer herding broke down, the balanced relationship between man and the reindeer was disturbed. In practice this was manifested as a cessation of the systematic shifting of grazing grounds, a termination of the herding group system, and a general obscuring of man's role in the annual rhythm common to man and reindeer. Man's role has continuously
been decreasing in significance, and the reindeer correspondingly spend more of their time "wild" in nature. In the 1970s herders participated in less than half of the reindeer year (Siuruainen 1975).

The significance of man in the elimination of predators has already been emphasized. The wild forest reindeer living at the eastern boundary of Finland take the possibility of preying animals into account in their behavior, differing noticeably from the domesticated reindeer in this respect (Helle 1974). In the early 1960s the average percentage in loss of reindeer was only 5%, while in the late 1960s it was 15% and in the 1970s as much as 20% (Figure 10). Despite the variation in the number of predators and their regional frequency, an unherded "wild" reindeer without man's protection is always very liable to this peril.

The changes in the grazing conditions and rhythm have further resulted in unbalanced herd structures. There are occasionally excessively big herds, where the weak individuals succumb. During the reindeer herding years 1965/1966 and 1966/1967, 500 reindeer died because of high population pressure (Lenstra 1974). In the 1960s, general instructions were given to increase the proportion of calves and male reindeer for slaughtering, a practice which may have led to the present unbalanced sex structures of the herds. It is possible that owing to the shortage of male reindeer, a portion of the female reindeer have remained unfertilized, in turn causing a reduced number of calves born. Indications of such a decline have been noted in other associations (Niemelä 1973). The Lapps traditionally appear to have avoided killing calves. The existence of vital stock of calves is one of the key points in reindeer herding. Poor calf years were experienced in Lapin paliskunta in the 1970s (Table 3). The figures are not representative, but give some indication of a possible trend, which should be investigated further. It is worth noticing that only about half of the marked calves were found in the following spring.

The eastern mountain area of Lapin paliskunta is one of the last stretches of wilderness in Europe, where the number of hikers and tourists has increased annually. At this moment the major part of the hiking takes place in the northeastern part. The main hiking trails are old reindeer paths which have been given up by the reindeer as the number of hikers has increased. The great pressure from hiking easily damages the sensitive subarctic nature where it is a malfunctional factor. The hikers disturb the annual rhythm of the reindeer by pursuing bearing females on skis during the spring season or mating herds in the fall.

According to one plan, the whole eastern mountain district of Lapin paliskunta should be made an area for effective recreational activities (Saastamoinen 1972). Towards the eastern border lies the only remaining grazing area which still is in the natural state (Figure 9). If realized, this development would be a
deadly blow to Lappish reindeer herding.

In summary, the main point of the change in the man-reindeer relationship is the transition from an equal relationship to a man-dominated relationship. Prior to the change, reindeer herding was the dominant feature of the Lappish mode of life. Since the transition, reindeer economy has become an occupation. The change is remarkable from the viewpoint of the Lappish ecosystem. In practice it signifies among other things a control of reindeer herding in accordance with administrative and external needs. A business-economic "development" of reindeer herding has been started. The herding activities have become mechanical; the effects of snowmobiles have already been discussed extensively (Pelto et al. 1968; Müller-Wille and Aikio 1971).

Summary

The breakdown of the ecosystem based on Lappish reindeer herding in Lapin paliskunta is a highly complex process which is still under way and which involves a number of biological and socio-cultural factors mutually affecting each other. I consider the triggering factor to have been the considerable environmental change. Reindeer herding had to face conditions where a quarter of the association's area was flooded by reservoirs; the lumber industry "occupied" areas west and east of the main highway for which there are plans to develop into a recreational district. On the eastern border there is one of the densest predator populations in Finland. These simultaneous interrelated factors seem to be making a rapid end to the natural reindeer herding culture.
Figure 7

Lapin Paliskunta reindeer association (northern Finland) in the 1950s
Figure 8

Summertime migration routes of reindeer in Lapin Paliskunta association up to the early 1960s
Figure 9
Lapin Paliskunta association (northern Finland) after 1970

- Main winter pasture areas
- F F Felled (or planned to be felled) area
- P P Plowed area
- H H Herbicides on deciduous trees
- Border of the planned recreational use area
- Mostly used hiking routes
Figure 10

The proportion of Lapin Paliskunta association's reindeer lost through predators between 1953 and 1973.
Table 3

Reindeer reproduction in Lapin Paliskunta association between 1970 and 1974

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of females in spring</th>
<th>Proportion of males from females</th>
<th>Calves marked in summer</th>
<th>Calves found in the following spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>3108</td>
<td>17%</td>
<td>4293</td>
<td>2039  66%</td>
</tr>
<tr>
<td>1971</td>
<td>4195</td>
<td>15%</td>
<td>3462</td>
<td>1638  39%</td>
</tr>
<tr>
<td>1972</td>
<td>4537</td>
<td>15%</td>
<td>3036</td>
<td>1637  36%</td>
</tr>
<tr>
<td>1973</td>
<td>5307</td>
<td>10%</td>
<td>772</td>
<td>394   7%</td>
</tr>
<tr>
<td>1974</td>
<td>3187</td>
<td>5%</td>
<td>1014</td>
<td>unknown</td>
</tr>
</tbody>
</table>
Literature


Acculturative stress among James Bay Cree: prelude to a hydroelectric project in northern Québec, Canada

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Introduction

The notion of acculturative stress (Berry 1974; Berry and Annis 1974a) has had many precursors in the psychological literature on social change. During the examination of individual stress reactions to acculturative pressures many writers (e.g. Chance and Foster 1962; Chance 1965; Cawte et al. 1968; Vallee 1968; Wintonb 1969), have employed many terms to refer to the psychological response of the individual (e.g. mental health, personality adjustment, person discomfort and psychosomatic stress). And just as many terms have been used to refer to the sociocultural change (e.g. social change, acculturation, modernization, education, mass media exposure, etc.) which is thought to bring about these psychological responses.

In the present research, the term acculturative stress has been coined to refer to that limited range of states or individual behaviors which are difficult for the individual and disruptive for his social group; further, the term is limited to those states or behaviors which develop as a function of acculturation.

Previous reports on this research have been concerned with its general patterning among some Northern Canadian populations (Berry 1971; Berry 1974) and with its correlates among some cultural and psychological variables (Berry and Annis 1974a, b). This paper is concerned with its specific manifestations within a single group, the Eastern Cree of James Bay, and with its relation to a massive hydroelectric project taking place on their traditional hunting territories.

In addition to describing this phenomenon with this particular population, a methodological issue will receive attention; the basic point is that most studies of changes in mental health as
a function of social change in the North have either been single case studies or comparative studies, both at one point in time. The second point is that, if we are ever to really come to grips with the problem of understanding this relationship, studies must be longitudinal and must approximate the pre-test - post-test experimental paradigm.

Although correlational studies, examining economic, cultural, social, and psychological covariates of acculturative stress abound in the literature, it is fair to say that they cannot address the basic question: what is the course of acculturative stress, as two groups come in contact, increase in relations, and eventually accommodate to each other? Logically, only a study over time is able to answer this question, even though well-controlled comparative study might yield some reasonable clues.

Still on this issue we may ask: at what points in time should such longitudinal study begin and end, given that acculturation is a process that extends, without cessation, into the past and into the future? The answer will depend on the purposes of the study, of course; but a general principle might be to begin a study prior to major social change (so that "resting levels" might be gauged), continue it during the period of large-scale engagement, and end it after some evidence of long-term adaptation has been found. However, a major difficulty is that very often the researcher has no prior knowledge about large-scale economic change in the North, and thus is not in a position to engage in "pre-test" research.

Increasingly, however, such advance warning is available, at least in Canada. The Mackenzie Valley corridor is almost certainly to be subjected to some kind of major economic change within the next decade, and numerous known mineral deposits in other parts of northern Canada will receive similar attention over a longer period into the future. And in the case of the present research, quite fortuitously, a programme of work on the psychological correlates of acculturation had begun two years prior to the surprise announcement of the James Bay Hydroelectric Project.

Briefly, this project is a massive (in terms of area, power output and cost) construction of dams, reservoirs, roads, transmission lines and construction camps. This is all taking place to the east of James Bay, in the Province of Québec, on the hunting and trapping territory of 10,000 Cree and Inuit people. In 1975, its costs were estimated to be over nine billion dollars, by far the largest project in the North, larger even than the various Mackenzie Valley proposals.

Such a project cannot proceed without grave ecological, cultural and psychological consequences for the inhabitants of the area, and so an interim court injunction was sought by them against the project. First opposition to the project was announced by them in July 1971, court hearings began in December 1972, and an
interim injunction was granted in November 1973. Work on the project stopped for one week, after which another court lifted the injunction. Immediately negotiations between the Native peoples of the area and the Government of Québec began, and in November 1974 an agreement in principle was reached setting aside lands for them, as well as relocating the most contentious dam site. During all this time, work continued, and even though the present agreement removes some of the more obvious pressures from the people of the area, project work in the future will continue to exert strong acculturative pressures on these peoples. We thus have an opportunity to monitor the course of psychological adaptation, an opportunity which started with the chance collection of information prior to initiation of major social change in the area.

Research design

The Eastern Cree of James Bay were and to a large extent still are inland hunters and trappers during the winter and coastal fishers during the summer (Skinner 1911). Thus, a large territory is essential to their well-being, and any ecological intrusion is likely to require direct cultural and psychological adjustments.

Two communities were selected for study in 1969: Paint Hills (Wemindji) and Fort George. They represent different levels of prior contact, with Paint Hills being lower on most indices of acculturation (education, wage employment, language use) than Fort George. It was estimated during testimony at the injunction hearings that a full 80% of the food supply in Paint Hills came "off the land," while it was somewhat less in Fort George. In Paint Hills there is a nursing station (with Eurocanadian nurses), a primary school (with Eurocanadian teachers) and two churches; the Anglican Church has a Eurocanadian priest from time to time, while the Catholic Church has not had a resident priest for a few years. A Government of Québec administrator at the time of the research was a band member, but the Hudson's Bay Company employed two Eurocanadian staff. Finally, the mean level of education was 3.8 years in the sample. Thus the village was clearly oriented toward a traditional economy, and had only a few Eurocanadian residents among its population of 600 persons.

In contrast, Fort George had a nursing station (federal) and a regional hospital (provincial), two primary schools (one federal, teaching in English, and one Parochial, teaching in French), a residential secondary school (federal), provincial and federal administrators, a large Hudson's Bay store and an all-weather landing strip. Most of the personnel operating these institutions were Eurocanadian, and these numbered around 140 out of a population of 1,200 persons. Finally, the mean level of education in the sample was 6.3 years. Thus in Fort George, there is a higher level of acculturation to the Eurocanadian life style.

Samples of sixty persons were sought in each community, with ten
persons in each of the six sampling cells of: male/female; age 18-25 years, 26-40 years and over 40 years. This stratified sampling procedure permits one to obtain a diverse, if not representative sample, in order to examine age and sex differences in the population.

Among many other variables which were included in the overall study, the two indices of acculturative stress were a measure of psychosomatic symptoms (stress), and an estimate of feelings of marginality. The first of these derives from work by Cawte et al. (1968) based on the longer Cornell Medical Index (Brodman et al. 1952), and contains 20 items. The second derives from Mann (1958), and contains 14 items. Variants of both had been presented with pilot samples in the area, and had been employed earlier with other acculturating samples in Australia (Berry 1970).

The findings

Results for these two inventories are indicated in Table 4, along with their correlations with age, sex and education (as an estimate of acculturation). Mean scores are the number of items (out of 20 for Stress and 14 for Marginality) which were agreed to by the sample. For total lists see Tables 5 and 6. It is clear from Table 4 that the two inventories are very similar (with an inter correlation of +.71 and +.76 in the two communities). It is also clear that age and education, and to a lesser extent, sex, are factors in the community responses. What follows is a demographic exploration of the patterning of responses to these two inventories.

Comparative level: In comparison to other communities in which the same stress inventory has been employed (Berry and Annis 1974a), the two Cree communities exhibit a very high level of psychosomatic stress. In four other Amerindian samples (Carrier and Tsimshian) mean levels in the range of 4.0 to 5.7 were observed, and in two non-Native Canadian samples, sample means were in the 1.8 to 2.9 range. We are encountering, then, an extremely high level of stress in these two samples.

Education: As an index of acculturation, educational experience is the single most appropriate one for these two communities, where wage employment and major non-Native settlement has been minimal. It is also the most highly correlated with both stress and marginality scores in the two communities (less stress being related to more education). In Tables 5 and 6, correlations of items in both inventories with education are indicated along with those for age and sex; these data exhibit some degree of internal variation.

Age: Given that age and education are highly correlated in both samples (with older persons having less experience of education) it is not surprising to find in general very similar levels of
correlations item by item. And given that it is usual for somatic complaints to increase with age (especially after the age of 40), it is important to parcel out these two independent variables when examining their relationships with responses to the stress and marginality inventories (Table 7).

It is apparent that differential effects are taking place in the two communities: in Paint Hills, where experience of education is lower, age emerges as the more significant correlate of both stress and marginality; for education, coefficients drop from -29 and -36 to -07 and -19 respectively with stress and marginality, while for age, coefficients decline less from +37 and +35 to +25 and +17 respectively. However in Fort George, where the education level is higher, age becomes an irrelevant factor (dropping to zero level) and education remains as a highly significant element in the variance of both stress and marginality (-30 and -43 respectively).

Sex: Finally, given the usual finding of greater stress for females than for males in both the intracultural and acculturation literature, it is worthwhile to examine its relationships with both of our psychological variables (Table 5).

Discussion

We have now presented, in some detail, the patterning of acculturative stress in two Cree communities just prior to the initiation of major technological and sociocultural changes. We may now ask: what are the essential features in this patterning, and what is the likely short and long term course of acculturative stress for this population?

Firstly, we have noted that the levels of stress and marginality are high in both samples, in comparison to other Amerindian samples. This generally high level has been interpreted as a function of the degree of acculturation which has already taken place (Berry and Anis 1974a). That the less acculturated of the two samples (Paint Hills) has a lower stress level than Fort George, suggests that in this general range of acculturation level, increased contact will lead to increased stress. However, evidence from other Amerindian samples suggests that even further acculturation will lead to lower stress (Berry and Anis 1974a). Thus the course may be curvilinear, with lower levels of stress being present during relatively traditional and relatively acculturated periods in a community, and higher levels being present during transition through moderate levels of acculturation.

With respect to marginality Fort George has a lower mean than Paint Hills if our tentative analysis is correct, then we may find levels of marginality beginning to decline earlier in the course of acculturation. This general idea, of course, was at the base of marginality theory (Park 1928), where the greatest personal
dislocation was thought to occur during transition from one psychocultural system to another ("being poised in psychological uncertainty" between two cultural groups) (Fig. 11).

If this hypothetical course of acculturative stress (examined across samples) is valid, we should be able to discover support for it by examining our data across individuals within samples. Firstly, we have noted (in Table 4) that in both samples education (as an index of acculturation) is negatively related to responses on both inventories; that is, in general, as acculturation increases, stress and marginality decrease; but when age was partialled out (in Table 7), this relationship nearly disappeared in Paint Hills, but stood up well in Fort George. However, the correlation was stronger in Paint Hills for marginality than for stress. Thus, looking at the individual patterning we have an interpretation consistent with the hypothetical course on the basis of the sample patterning (Fig. 11). This interpretation is that on stress, the Paint Hills sample is nearing asymptote, while on marginality it has begun a decline; but in Fort George, both are now on the decline. The short term course then, is for stress to increase on the average in Paint Hills, but marginality will decline; and in Fort George both on the average should continue to decline. However, for those individuals in both communities, but particularly in Paint Hills, who are still relatively unacculturated, both stress and marginality will increase in the short term.

Further support for this interpretation derives from the age patterning. We have noted that is the youngest members of the sample who have had the greatest experience of education (about equally for males and females, with a slight tendency for females to have more). In Paint Hills, stress is higher for the 18-25 group than for the 26-40 group, whereas this is not the case in Fort George. Thus, the process of acculturation is again associated with higher stress in Paint Hills, but not in Fort George. However, the pattern for marginality is similar for both samples supporting the argument that both are in the same phase.

Turning to the patterning by sex, in Fort George we find generally slightly higher stress and marginality means for males; the one exception (out of six comparisons) is for marginality to be higher in females in Fort George. This may simply be a function of the slightly higher education of females (sex and education r = -.14) in this sample, or it may be due to difficulties being experienced by males in the wider work roles which they encounter. Although there is no sex difference in stress, there is a slight tendency for marginality to be higher for males in Paint Hills, especially among the younger age group. Since females also have somewhat more education in this sample and age group as well, this finding is consistent with our earlier interpretation.

Thus our analysis by education, age, and sex tends to support the course of acculturative stress which was proposed on the basis of
patterns across means. In general, there is considered to be a curvilinear relationship between acculturative stress and degree of acculturation, with the highest levels being experienced during a mid-period of transition. However, the evidence suggests that feelings of marginality will rise, level and fall earlier in the course of acculturation than will psychosomatic stress. In particular for the two samples in this study, the more acculturated sample of Fort George provides mean indications of both stress and marginality being in the decline, while the less acculturated sample of Paint Hills provides mean indications of a further rise in stress followed by decline, while marginality may already be in the decline. However, for individuals who are less acculturated in both samples, a severe increase in both stress and marginality may be expected. Since it is these more traditional individuals who are going to be most severely dislocated by flooding of hunting territories and by general technological disruption, the problem is a serious one; it is precisely those who are most susceptible who are going to be hit the hardest.

At least two further points require some attention here. The first is whether the high levels of stress found among these two Cree samples are due primarily to "traditional" sociocultural sources of stress, or to the pressures of acculturation. Insofar as these stress data are systematically related to acculturation (mainly education) levels, it is possible to assert that they exist as some function of acculturation. However it is equally possible to relate the differential stress levels found among Amerindian groups to their traditional ecological and cultural situation; indeed such an alternative has been considered (Berry and Annis 1974a) in relation to the degree of sociocultural stratification and authority pressures which vary across these Amerindian cultures. However it is probably the case that these two sets of factors interact in complex ways to induce the observed stress levels. Only further research and analysis will be able to clarify their relative contribution to the problem.

Secondly, we may consider the generality of this proposed course of acculturative stress. The present analysis and proposal are for the James Bay area only, where ecological, cultural and acculturative factors are being observed; in other areas, other factors will almost certainly have to be taken into account. In particular, the presence of a prejudiced non-Native population is not considered in the James Bay area, because such a feature is largely absent now, and the agreement in principle places a limit on the growth of non-Native towns in the area. If such a population does develop, then stress induced by this source may very well override the proposed reduction in acculturative stress. And, more generally, in areas where such a factor is already present or is likely to develop, the stress due to negative intergroup relations will certainly have to be taken into account.
Conclusion

These, then, are the expected consequences of major economic and technological change in the James Bay area. The short-term course is not pleasant, but the long-term course may be less problematic. Given the negative attitudes toward assimilation expressed by both Cree samples (Berry 1975; Berry and Annis 1974a) however, there could very well be a strong reaction to further acculturation in the area. If this indeed takes place, there will be an increase in acculturative stress which will push these people to even higher levels, well above those found in other Amerindian groups. If, however, the legal agreement with the hydroelectric authorities proves to be generally acceptable among the people, and major ecological and cultural pressures are drastically reduced, then the immediate course of acculturative stress will largely ameliorate their present position.

Only future research, of course, can tell. The opportunity provided by this fortuitous study with two samples about to undergo major economic and cultural change should not be lost. Only with such longitudinal work will the hypothesis emerging from this, and many other correlational studies, be open to test. Without them, the course of acculturative stress will remain, I believe, a matter of conjecture.
Table 4

Stress and marginality means and correlates (age, sex and education)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Paint Hills</th>
<th>Fort George</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STRESS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Mean</td>
<td>6.43</td>
<td></td>
<td>7.03</td>
</tr>
<tr>
<td>sd</td>
<td>4.13</td>
<td>4.20</td>
<td></td>
</tr>
<tr>
<td>Age r</td>
<td>+.37</td>
<td></td>
<td>+.33</td>
</tr>
<tr>
<td>Sex r</td>
<td>+.01</td>
<td></td>
<td>-.18</td>
</tr>
<tr>
<td>Educ r</td>
<td>-.29</td>
<td></td>
<td>-.43</td>
</tr>
<tr>
<td><strong>MARGINALITY</strong></td>
<td></td>
<td>6.30</td>
<td>5.20</td>
</tr>
<tr>
<td>Mdn</td>
<td>3.37</td>
<td></td>
<td>2.96</td>
</tr>
<tr>
<td>Age r</td>
<td>+.35</td>
<td></td>
<td>+.48</td>
</tr>
<tr>
<td>Sex r</td>
<td>-.07</td>
<td></td>
<td>-.10</td>
</tr>
<tr>
<td>Educ r</td>
<td>-.36</td>
<td></td>
<td>-.61</td>
</tr>
<tr>
<td><strong>STRESS x MARGINALITY</strong></td>
<td></td>
<td>+.71</td>
<td>+.76</td>
</tr>
<tr>
<td>Age x Education</td>
<td>r</td>
<td>-.64</td>
<td>-.77</td>
</tr>
<tr>
<td>Sex x Education</td>
<td>r</td>
<td>-.06</td>
<td>-.14</td>
</tr>
</tbody>
</table>
Table 5

Stress correlations with education, age and sex

<table>
<thead>
<tr>
<th>STRESS ITEM</th>
<th>BRIEF CONTENT DESCRIPTION</th>
<th>PAINT HILLS EDUC</th>
<th>AGE</th>
<th>SEX</th>
<th>FORT GEORGE EDUC</th>
<th>AGE</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pains Heart and Chest</td>
<td>-29</td>
<td>+01</td>
<td>-20</td>
<td>-47</td>
<td>+49</td>
<td>-20</td>
</tr>
<tr>
<td>2.</td>
<td>Belch After Eating</td>
<td>-44</td>
<td>+28</td>
<td>+13</td>
<td>-48</td>
<td>-49</td>
<td>-07</td>
</tr>
<tr>
<td>3.</td>
<td>Bad Constipation</td>
<td>-24</td>
<td>+20</td>
<td>+05</td>
<td>-16</td>
<td>+16</td>
<td>-22</td>
</tr>
<tr>
<td>5.</td>
<td>Sensitive Tender Skin</td>
<td>+34</td>
<td>-24</td>
<td>-47</td>
<td>-02</td>
<td>-01</td>
<td>-07</td>
</tr>
<tr>
<td>6.</td>
<td>Severe Headaches</td>
<td>-21</td>
<td>+26</td>
<td>+28</td>
<td>-41</td>
<td>+32</td>
<td>-04</td>
</tr>
<tr>
<td>7.</td>
<td>Severe Dizziness</td>
<td>-27</td>
<td>+31</td>
<td>+02</td>
<td>-10</td>
<td>+02</td>
<td>-20</td>
</tr>
<tr>
<td>8.</td>
<td>Tired in Morning</td>
<td>-11</td>
<td>-03</td>
<td>+08</td>
<td>-15</td>
<td>+21</td>
<td>+03</td>
</tr>
<tr>
<td>10.</td>
<td>Difficulty Sleeping</td>
<td>-15</td>
<td>+19</td>
<td>-10</td>
<td>-04</td>
<td>+03</td>
<td>-11</td>
</tr>
<tr>
<td>11.</td>
<td>Afraid of Strangers</td>
<td>-24</td>
<td>+21</td>
<td>+08</td>
<td>-32</td>
<td>+28</td>
<td>+08</td>
</tr>
<tr>
<td>12.</td>
<td>Wish Someone to Advise</td>
<td>-28</td>
<td>+33</td>
<td>-11</td>
<td>-41</td>
<td>+44</td>
<td>+10</td>
</tr>
<tr>
<td>13.</td>
<td>Unhappy &amp; Depressed</td>
<td>0</td>
<td>+14</td>
<td>+15</td>
<td>-25</td>
<td>+11</td>
<td>-07</td>
</tr>
<tr>
<td>14.</td>
<td>Dead &amp; Away From It All</td>
<td>+04</td>
<td>+05</td>
<td>+05</td>
<td>+04</td>
<td>-14</td>
<td>0</td>
</tr>
<tr>
<td>15.</td>
<td>Continual Worry</td>
<td>-04</td>
<td>+04</td>
<td>-07</td>
<td>-31</td>
<td>+19</td>
<td>-11</td>
</tr>
<tr>
<td>16.</td>
<td>Shy or Sensitive</td>
<td>+10</td>
<td>+02</td>
<td>-06</td>
<td>+10</td>
<td>-12</td>
<td>+11</td>
</tr>
<tr>
<td>17.</td>
<td>Angry When Told What To Do</td>
<td>+41</td>
<td>-18</td>
<td>0</td>
<td>+20</td>
<td>-42</td>
<td>+12</td>
</tr>
<tr>
<td>18.</td>
<td>People Annoy You</td>
<td>+14</td>
<td>+11</td>
<td>+12</td>
<td>-10</td>
<td>-06</td>
<td>-10</td>
</tr>
<tr>
<td>19.</td>
<td>Shake or Tremble</td>
<td>+01</td>
<td>+07</td>
<td>+08</td>
<td>-19</td>
<td>+08</td>
<td>-12</td>
</tr>
<tr>
<td>20.</td>
<td>Cold Sweat</td>
<td>-35</td>
<td>+36</td>
<td>-07</td>
<td>-34</td>
<td>+34</td>
<td>-08</td>
</tr>
</tbody>
</table>

Note: Sex Correlations are point biserial: Female coded 1; Male coded 2.
Table 6
Marginality correlations with education, age and sex

<table>
<thead>
<tr>
<th>MARG. ITEM</th>
<th>ITEM CONTENT</th>
<th>PAINT HILLS EDUC</th>
<th>PAINT HILLS AGE</th>
<th>PAINT HILLS SEX</th>
<th>FORT GEORGE EDUC</th>
<th>FORT GEORGE AGE</th>
<th>FORT GEORGE SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Successful people do their best to prevent others from being successful too.</td>
<td>-01</td>
<td>-08</td>
<td>-27</td>
<td>-35</td>
<td>+22</td>
<td>+13</td>
</tr>
<tr>
<td>2.</td>
<td>I feel that nobody really understands me.</td>
<td>+07</td>
<td>+07</td>
<td>-28</td>
<td>-62</td>
<td>+43</td>
<td>+03</td>
</tr>
<tr>
<td>3.</td>
<td>I am so restless that I cannot sit in a chair for very long.</td>
<td>-29</td>
<td>+49</td>
<td>-05</td>
<td>-47</td>
<td>+45</td>
<td>-10</td>
</tr>
<tr>
<td>4.</td>
<td>People seem to change from day to day in the way they treat me.</td>
<td>+07</td>
<td>0</td>
<td>+05</td>
<td>-20</td>
<td>+07</td>
<td>-04</td>
</tr>
<tr>
<td>5.</td>
<td>Life is a strain for me.</td>
<td>-12</td>
<td>+23</td>
<td>+22</td>
<td>-46</td>
<td>+38</td>
<td>+11</td>
</tr>
<tr>
<td>6.</td>
<td>I suddenly dislike something that I liked very much before.</td>
<td>-30</td>
<td>+09</td>
<td>+18</td>
<td>-15</td>
<td>0</td>
<td>+27</td>
</tr>
<tr>
<td>7.</td>
<td>If others hadn't prevented me, I would be far better off than I am now.</td>
<td>-15</td>
<td>+23</td>
<td>-05</td>
<td>-20</td>
<td>+21</td>
<td>-20</td>
</tr>
<tr>
<td>8.</td>
<td>I feel that I don't belong anywhere.</td>
<td>-20</td>
<td>+06</td>
<td>0</td>
<td>-34</td>
<td>+28</td>
<td>-18</td>
</tr>
<tr>
<td>9.</td>
<td>I wish I could be as happy as others.</td>
<td>-45</td>
<td>+25</td>
<td>+03</td>
<td>-46</td>
<td>+44</td>
<td>-13</td>
</tr>
<tr>
<td>10.</td>
<td>I let myself go when I am angry.</td>
<td>-17</td>
<td>+19</td>
<td>-09</td>
<td>-02</td>
<td>+01</td>
<td>+4</td>
</tr>
<tr>
<td>11.</td>
<td>I am more nervous than most people.</td>
<td>-26</td>
<td>+34</td>
<td>-06</td>
<td>+08</td>
<td>-12</td>
<td>-14</td>
</tr>
<tr>
<td>12.</td>
<td>I feel that I am somehow apart from the people around me.</td>
<td>+07</td>
<td>0</td>
<td>+12</td>
<td>+06</td>
<td>-15</td>
<td>-08</td>
</tr>
<tr>
<td>13.</td>
<td>I regret the decisions I have made.</td>
<td>-41</td>
<td>+26</td>
<td>-12</td>
<td>-24</td>
<td>+36</td>
<td>-30</td>
</tr>
<tr>
<td>14.</td>
<td>The world is a dangerous place full of evil men and women.</td>
<td>-41</td>
<td>+31</td>
<td>-15</td>
<td>-36</td>
<td>+35</td>
<td>-07</td>
</tr>
</tbody>
</table>

TOTAL       |                                                                  | -36              | +35             | -07             | -61              | +48             | -10             |

Note: Sex correlations are point biserial: Female coded 1; Male coded 2.
Table 7

Partial education and age correlations with stress and marginality

<table>
<thead>
<tr>
<th></th>
<th>Paint Hills</th>
<th>Fort George</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stress</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress x Education</td>
<td>-.07</td>
<td>-.30</td>
</tr>
<tr>
<td>Stress x Age</td>
<td>+.25</td>
<td>+.01</td>
</tr>
<tr>
<td><strong>Marginality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginality x Education</td>
<td>-.19</td>
<td>-.43</td>
</tr>
<tr>
<td>Marginality x Age</td>
<td>+.17</td>
<td>+.02</td>
</tr>
</tbody>
</table>
Figure 11

Hypothetical course of acculturative stress
Literature


Note

Grateful acknowledgement is given to Queen's University (1969) and to the Canada Council (1970-72) for financial support, to Bob Annis, Reg Mark and Margery Mark for research assistance and to Hugo Georgekish and John Murdock for hospitality and advice in the field.
Part IV

Emerging new settlement patterns and their consequences

Everywhere in the north the trends are toward concentration of population in larger settlements, which can serve as administrative centers, and where facilities such as schools, health services, and stores can be located. Ludger Müller-Wille compared three cases of population concentration - one in Finnish Lapland and two in northern Canada - noting certain general processes and consequences. David S. Moyer, the author of "The Logic of the Laws" (The Hague 1975), concentrated his attention on processes of social solidarity and factors producing fragmentation in an Inuit community in the Canadian eastern arctic. John J. Honigmann examined the effects of nucleation in larger urbanized settlements - Inuvik and Frobisher Bay in northern Canada.

All of these cases illustrate variations in adaptive styles and situations as well as broad similarities.
Population concentration in arctic and subarctic ethnic groups

Ludger Müller-Wille

Bonn-Bad Godesberg, Federal Republic of Germany (1975-76)

Department of Geography
McGill University
Montréal, Québec, Canada

General view on population distribution in the North

In this essay I would like to give a picture of the recent changes in population distribution and settlement patterns among the Sabmi (Lapps; Sami = Lappish) of northern Finland, the Déné (Chipewyan) in the mid-Canada belt in Saskatchewan, and the Aivilingmiut (Inuit) living north of Hudson Bay in the Northwest Territories of Canada. After describing the development of the three case settlements, Utsjoki (Ohcijohka), Fond du Lac and Repulse Bay (Naujaa), I concentrate on the environmental and ecological implications as well as on the economic, cultural and socio-political significance inherent in the current situation of constant transition.

Concentration of people in a geographically limited space has always been with mankind in its development. This does not exclude the North, which is experiencing the phenomenon with the advent of new, small urban settlements, most of which are planned rather than developed naturally. The constant chain of differently evolved settlement patterns has resulted in a cultural landscape, an irreversible print that mankind has put on the earth. The thinly populated circumpolar regions have just recently been touched by these changes, mainly through mineral and hydroelectric exploitation, and military installations that were spurred by interests lying outside the native peoples' perimeter. Mankind's social and economic behavior had to accommodate to these settlement patterns. Different social structures and organizations of production had to be established. At times the course of utilization of the physical environment went according to rules set forth by nature. But technological development with its many facets has left peoples wavering in establishing adjustments appropriate to the situation. The combination of constricted settlement centers, uncontrolled population dynamics, technology and often unreflective
exploitation of renewable and particularly unrenewable resources in a finite environment has put man into a perplexing position of not knowing how things could continue. No one really dares project development ahead even a decade or so. Compare, for example, 18th century central Europe and the intentions of forestry designed to serve several generations to come. People taken out of the context of their own society and environment have no frame of reference. If there is to be balanced and just occupancy and usage of the environment, and if there is to be an effective human society with acknowledgement and integrity of the individual, then interacting cultures must overcome the apparent imbalance of distribution of power in political and socio-economic realms and the disproportion of access to the resources necessary to survive in a perpetually changing surrounding.

The circumpolar regions, because of their loose engagement with neighboring regions so far, present a good example of how change has occurred both differently and similarly in places with diverse historical background. The three modern settlements chosen for comparison have in common that their development was initiated by interests in the South, beyond the control of the indigenous societies, which could not have foreseen the impending, not necessarily desirable, development.

The three cases in Scandinavia and northern Canada are places where I carried out field research between 1968 and 1974 (see note). The criteria for choosing these settlements were their geographical location in arctic and subarctic regions, defined by natural factors like climate and vegetation, and aspects of human utilization of natural resources (cf. Hustich 1973).

According to an estimate by Hustich (1973), the area north of 60°, some 14.5 million km², which includes almost all of the arctic and subarctic (ca. 19 million km²), had a population of 15,225,000 inhabitants in 1970. Because of climatic and other physical circumstances, the concentration of population is greatest in Scandinavia and the adjacent Soviet regions of Murmansk, Archangelsk and Karelia. The average density for the entire circumpolar area is about one person per square kilometer. This could be considered a vacuum compared to the high population densities in other regions; in fact, the "push north" is now very noticeable in the northern Soviet Union, as well as in Alaska and Canada. The recent rapid economic development in the arctic has created a need for larger settlements and service centers with high population densities. These settlements put a strong pressure on their immediate environs (cf. Rohmer 1973). The three selected settlement areas show a very high density of people: Utsjoki - 125 inhabitants per km² (1969); Fon du Lac - 350/km²; Repulse Bay - 200/km² (both in 1973). This agglomeration is not a natural result of the local economic and social needs, but rather is directed by the administrative and political interests of the ruling national state. These interests are also reflected in the choice of settlement sites, which often are not chosen according to geographical factors in congruence with the
given local possibilities and prospects. Control in educational, economic and political matters were main aspects in the development of central places for the scattered native populations.

The unnatural structure of these settlements can be strikingly seen from a table of the age distribution. The situation in the center of Utsjoki is not so apparent as in the other two settlements, since the composition of the population is different. The figures include Sámi, Finns and ethnically mixed persons. The immigrated Finns - often unmarried - represent a large percentage of the second age group. But the Sámi taken alone show a picture similar to the Déné and Inuit whose youngest generation up to 15 years old, represents between 50 and 60% of the whole group, thus reflecting the effects of changed material style of life and modern medicine (Table 8). This could happen only in the sheltered settlements where services and facilities are readily available to a larger group of people than among a country-based population.

Development of arctic and subarctic settlements

The establishment of "Western-type" settlements in the northern fringe of the ecumene is recent. The cases presented here should characterize the historical development of each settlement. These settlements symbolize elements of material culture which were hitherto unknown to the native population in these areas.

Case 1: Utsjoki, Finland (69° 55'N, 27° 4' E)

The name Utsjoki refers generally to the northernmost county of Finland, but also to a populated area located on the western terraces of the Utsjoki River at its confluence with the Teno River, which here forms the border between Finland and Norway. After the settlement of Utsjoki had grown into an agglomeration of a few farmhouses, a school, and health center, it was made the administrative center of the county (some 5,000 km²). By the 1960s Finnish planners deemed it necessary to zone the inhabited area to regulate its future development. Apparently it was expected that this area should grow in the same manner as Finnish rural settlements of the same size and function in the South, and the building plan was designed accordingly. Disregarded or minimized in their importance were local cultural, economic and geographical factors essential for creating social cohesion in the new and growing community.

Utsjoki is the only county in Finland with a Sámi majority. But by 1969, the indigenous population, the Sámi, was already numerically inferior in the interethnic community at the administrative center, where Finns had also settled. The adjacent dispersed settlements were and still are predominantly
Sami. The administrative center, an area of less than 2 km², had a population of 167 in 1969 and ca. 250 in 1974. In 1900, not more than 20 persons lived in that very area. In 1969 it comprised Sabmi (30%), Finns immigrated from the South (36%), and persons of mixed Sami-Finnish origin (34%). These figures include temporary inhabitants like the border army soldiers and their dependents and the students in the boarding school.

The historical process from which this situation arose was characterized by intercultural contact between the nomadic Sabmi, who relied heavily on reindeer and fish as their resources, and neighbor groups to the south (Finns and Swedes) and east (Karelians and Russians). From the 16th to the 18th century, the interest of the Swedish court in this region became great enough to justify the foundation of a church and a homestead whose occupants, the priest and his family, were to administer the Sami population. In 1746, the church farm was founded in the Utajoki valley; gradually new homesteads were established by local Sabmi and a few immigrated Finns in the Utajoki and Teno river valleys. By 1920 there were at the confluence four homesteads inside the present building area. Establishment of a school (1930) and health center (1936) made the area a logical choice for the administrative center; it was finally linked to the south by a road in 1957. This decisive event caused Lapps from nearby homesteads as well as Finns from the South to move to this place where soon stores, banks, and other services appeared.

Noticing the rapid growth and concentration of the community, the Finnish authorities thought it necessary to control development by regulating property rights and construction codes in the area. This happened in 1963 when the administrative center was divided into residential lots set up according to Finnish standards of community development. This type of plan did not give much leeway to local, Sami requirements. The physical frame of this new settlement rather caused social friction, to say nothing of the problems arising from the interethnic situation.

Today the modern settlement includes all essential facilities required by the rationalized and functional living standard developed in other non-subarctic geographical areas than the subarctic. The residential area has some 15 houses next to each other and a new 12 apartment bungalow-style building. None of this fits into the social and material landscape developed by Sabmi, whose dispersed settlement pattern gave priority to broad economic activities in an environment limited in its exploitation only by natural factors. Besides the residential area in the settlement, other residences are located in the various governmental institutions (school, post office, workshops, etc.) interspersed among the older homesteads still existing within the center that stretches along the main road for more than two kilometers. The scattered distribution of such a road settlement establishes several focal points of socio-economic and cultural importance to the population. But the rigidity of the lots in the building area prevents development according to the special
needs of an interethnically mixed community. For example, plans for a much needed central recreation area had to be postponed because there had been no such lot assignments from the beginning. Also the segregation of the residences and the business district tends to support disintegration of the community.

Besides these factors, the settlement is a showcase of conflicts between the Sabmi and the mostly transient Finns. Although Utsjoki county has a Sami majority (70 to 80%), the distribution of power in economic, educational and political fields is put to the disadvantage of the Sabmi. In the county administration, most important positions are occupied by Finns, whose educational training is usually higher than that of Sabmi. This situation causes tensions that are magnified by the frequent transfer and change of Finnish personnel, particularly among the teachers and government and county employees.

The recent development of settlements like Utsjoki made possible communities in northern Finland in which Sabmi and Finns were brought closer together spatially. The type of life and the goals of progress were dictated more by the Finns than by the local Sabmi. Besides adjusting to the new material environment of a "rural town," Sabmi had to struggle with the attitudes of Finnish newcomers. Utsjoki as it stands today also puts a high pressure on the immediate high subarctic natural surroundings because population density in the settlement areas is too high for this region. (Data based on: Müller-Wille 1974a.)

Case 2: Fond du Lac, Saskatchewan, Canada (59° 19' N, 107° 12' W)

This "Indian Reserve" settlement lies on the northern shore of the Fond du Lac River where it joins Lake Athabasca. The Fond du Lac band of the Déné signatories to Treaty No. 8 of July 25 and 27, 1899 with the Dominion of Canada (Canada 1899: 15), have gradually settled down in this area during the last few decades. These Déné (or Caribou Eaters, as they are called by neighbor Déné groups), are also referred to as Northern Indians in various regions and sources.

The natural environment of Fond du Lac is of a subarctic type; dense coniferous forests that thin towards the tree-line some 200 km north, very cold winter, discontinuous permafrost, and short warm summers. The settlement of Fond du Lac had 361 permanent Déné residents, 10 Euro-Canadian transient inhabitants, and consisted of some 60 households in 1973. The bulk of the houses lie in an ecologically unfortunate location, a sandy peninsula projecting into the lake. The choice of this site was not taken by the Déné themselves. Around 1800, when Franco-Canadian fur trade expanded into the northern fringes of the Prairies, a trading post occupied only periodically was founded at this site. After 1850, the Hudson's Bay Company and the Oblate Catholic Mission found it safe and profitable enough to establish posts. After that the institutions tied the indigenous Déné
economically as well as spiritually more and more to these establishments. Gradually some Métis (French-Indian) families were persuaded to erect a small settlement on the southern shore across from Fond du Lac. This settlement was abandoned in the 1960s when the last family moved across the river to have better access to store and school.

After the Treaty of 1899, Fond du Lac also became the meeting place for Treaty Day (annuity payments to the Indians by Government) in June or July every year; a focal point of economic and social importance for the still seasonally migrating Déné family groups, which followed a rhythm in accordance with caribou migrations, fishing, gathering, and fur trapping. The last activity was superimposed by the outside. After a few years, families deemed it advantageous to maintain permanent houses at the trading post and mission which, in turn, tried to attach the population closer to the growing settlement. The families that settled in Fond du Lac also established a pattern of various winter camps in the north to keep up their seasonal cycle of caribou hunting and fur trapping in the "bush." This settlement pattern still continues today; in 1972/73, more than one-third of the Déné population stayed in camps between October and March.

In the 1920s, white traders and trappers moved into Fond du Lac. Their main objective was to exploit the fur market, but they withdrew after a while when the fur trade business became less profitable. After that the H.B. Co. kept the trading monopoly as much as possible, although recently it has been receiving some competition from mail order transactions with department stores and from other stores in Uranium City, a mining town 80 km to the west, because of the regular air service.

A decisive factor in establishing the physical shape of the Fond du Lac settlement was the Canadian Government's responsibility taken in the Treaty of 1899 for the indigenous population in regard to housing, social welfare, and other matters. For example, construction material for houses was supplied during the first decades after 1900. A more normative, standardized plan for modernizing the reserve settlement did not take place until the 1950s and 1960s when a school was built and a housing program started in 1965 which now brings 6 to 8 new houses (value Can $10,000 to 16,000 in 1973) to the settlement each year until the apparent housing shortage is overcome. An interesting deviation from the regular patterns was the home for the aged which was built during the early stages of the program. Unfortunately again, the ideas of Government's architects seldom matched the local needs. A few examples are lack of anterooms in a climate with severe winters; failure to allow for periodical variation in permafrost when building the water system which froze constantly, causing tremendous additional expenses and repairs under extreme conditions. Also, sewage was directed into a small lagoon in the middle of the settlement.

In general, a settlement was sought which would overcome the
severe housing shortage and raise the material style of life, but not the level of social conditions. All this was designed without allowance for the formidable population explosion among the Déné. In Fond du Lac the houses are grouped around the "institutions," church, mission, school, teacherages, and store which are occupied by Euro-Canadians. This cluster of houses lies along the shore line, thus separating a large part of the local residents' houses from the important water source.

The most impelling cause for population centralization at Fond du Lac was the school. Children were required to attend the Canadian school between September and May, making it impossible for the families to stay together in the bush as in former days. Another factor was the ever increasing dependence on money and thus on the Hudson's Bay Company store for goods. That meant a withdrawal from the traditional occupation or streamlining it down to a few members of the society, on whom, however, a large majority still depend for native products and for confirmation of their own ethnic identity. This is important in a situation where members of the disadvantaged minority group have to deal with the superimposed structure of the majority as far as their economic pursuits are concerned while remaining within their own social system.

Along with the concentration of people in a compact settlement, came modern medical services and various goods, which led to lowered infant mortality and hence more rapid population increase among the Déné than among the white Canadians in the South. The ideas of the Catholic Church, naturally varying according to the personalities of each priest, did their share in undermining the efforts of health authorities to initiate family planning on small isolated reserves. Today, the available residential area at Fond du Lac, which does not leave much room for economic expansion, consists of some 60 houses with 400 residents and some other buildings in an area less than two square kilometer. This type of concentration causes many problems. The particular situation of the reserve land's status in Canada also does not clarify property rights and other matters which would have to be developed in a physically closely-knit community in order to establish a communal sense for living patterns required in such a situation. Here, it might be said that the step towards year-round population concentration was a detrimental one for the Déné population. (Data based on Müller-Wille 1973, 1974b.)

Case 3: Repulse Bay, Northwest Territories, Canada
(66° 32'N, 86° 13'W)

Perhaps the most outstanding of the three examples of "planned" settlement development and induced population concentration in the arctic and subarctic is the establishment of Repulse Bay lying on the northwestern shore of the bay carrying the same name. It was planned as a relief settlement for the Aivilingmiut (Inuit) families living in numerous campsites in
the Melville Peninsula and Wager Bay area. The results of this "crash" program by the Canadian Government to create a permanent "Eskimo" settlement was a grouping of some 60 frame houses and additional facilities such as airfield, school, community hall, administrative office, electric power house. The choice of the location for a larger settlement was guided, as in most cases in the Canadian arctic, by an existing trading post of the Hudson's Bay Company. In Repulse Bay, the H.B. Co. established a post in 1920, achieving better access to a seemingly inexhaustible supply of arctic fox and sea mammals furnished by Inuit hunters for the Company's fur trade. Interestingly, the post was placed only 2 km to the west of the famous archaeological site of Nauja, consisting of several sod house complexes older than 800 years.

The coastal area was the traditional region of the Aivilingmiut, who became slowly attached to the trading post and the Catholic Mission, which founded a station there in 1932. These institutions represented a focal point for introducing new elements of Canada South and Western world to the Inuit. These establishments, over the years, drew the attention of more and more Aivilingmiut families, who before had only seasonal contact with the outside through whalers who sailed the Hudson Bay and its numerous inlets until the early 20th century. In the 1940s and 1950s families started erecting - seasonally and temporarily - tents, sod houses, or shacks at these outposts. A slow development towards acceptance and interdependence between Whites and local population finally led to an unbalanced dependence of the Inuit on these agents of southern institutions.

The next step of change came with full force when in 1955 a relay station for the DEW line was supposed to be built at Repulse Bay. Construction work was called off a few weeks after materials and supplies were landed, leaving huge piles of wood and other stuff behind which gradually was integrated into shacks housing Inuit families. This development led to an ugly agglomeration of houses clustered around the Catholic Mission on "Mission Beach," a sloping, sandy, fluvial area. When the situation became unbearable for the Inuit and after long discussions about inadequate living conditions and other needs arising settlement life, the Government designed a settlement within its "Northern Low Rental Housing Program" on drawing boards in the south. The location of the site was chosen in the same manner, based on much too little knowledge of the physical state of the landscape. Today, most of the settlement's houses lie in an extremely unfortunate location on a fluvial beach terrace through which water drains during break-up time and summer, making the streets unpleasant to use and rendering it necessary to level and/or raise the ground with gravel fill. But this is not a sensible remedy in an environment like the arctic tundra. In addition, the natural landscape at that site restricts access from the houses to the shore line, an essential requirement for the Inuit pursuing hunting and fishing on the sea. The only buildings close to the beach are those of the H.B. Co.; the mission was originally there also but was moved farther inland after the
earlier buildings burned.

Already by 1963 some 150 persons were nearly year-round residents in the make-shift settlement. Between then and 1974 the Government supplied new houses and other equipment, accommodating nearly 250 people in August 1973. These buildings did not include the establishments by the H.B. Co., Catholic Mission and the Naujat Co-operative founded in 1968, with its store, garage and trailer. The Government's intention was to provide the new settlement with a nucleus including school, shop, and other institutions so that the Inuit would be able to adjust to it. Besides the restrictions inherent in the physical structure of the site, the lay-out did not always suit the local social needs of the Inuit families, who used to live in camps with perhaps up to 20 persons. Their type of settlement and living pattern was based on close economic and social cooperation between family affines. In the new settlement, the system was disturbed and a reshuffling of residences took place to achieve less physical distance between the families. This is particularly noticeable among Inuit families that still rely mostly on economic activities like hunting, but with people who found their livelihood or sustenance right in the settlement, there has been little tendency to cluster close together because there seems to be not much need for cooperation.

The settlement plan and housing program were clearly aimed at economical feasibility and material convenience overcoming urgent immediate needs among people who had been through times of distress and famine. That aim was successfully achieved, naturally with the restrictions inherent in an overall dependence on supplies from the south. But the social dimensions and requirements were not much taken into account in such a situation of transition. The consequences are seen in the problems of adaptation and adjustment of the younger generation, pulled between old and new standards which seemingly cannot well be united. (Data based on Müller-Wille 1974c.)

Implications of population concentration

The centralization and concentration of small ethnic groups in the thinly populated areas of the arctic and subarctic have shown that unexpected problems are connected with such developments and changes which are generally initiated by the intruding agents of the more powerful societies interested in the North. It is not only that the small, thus far independent and self-sufficient, cultural groups are thrown out of balance with their traditional social and natural environment, but also that the sudden and overwhelming contact with larger and economically and politically more predominant social systems includes an uncertainty inherent in the uncontrollable effects of modern technological development on the social situation as well as on the ecosystem. In the next paragraphs, the impact on the environmental and ecological, economic, cultural and socio-political conditions of the Sabmi
(Lapps), Déné and Inuit is summarized in general. This refers particularly to the current state of these groups in the newly developed settlements with high population densities hitherto unknown to these regions.

Environmental and ecological conditions

The Government's plans for agglomerations of houses (along with all the accompanying technical accessories supposedly necessary for a high living standard) were not based on a thorough knowledge of the physical and social environments in which they were located. This caused unnecessarily high monetary spending which could have been avoided, e.g., in Fond du Lac and Repulse Bay. The latter is clearly an example of an artificial settlement without real connections with its surroundings. In northern Finland, the development of dispersed agricultural homesteads into the northern fringe of the ecumene utilized those sources naturally available in the landscape. Only upon arrival of modern roads, etc., was the environment basically disturbed in certain areas.

The influx of new, settlement-based economic activities requires a different utilization of the immediate surrounding as well as the areas farther beyond. Thus, exploitation of natural resources like water, wood, gravel, wildlife, etc., spread constantly and continuously outward around the settlement. As a result, the limitation in availability of animals within a certain area was reached; on the other hand, discharge of used and seemingly useless material waste often disturbs and destroys the ecosystem into which the settlement has been built. This is just in regard to settlements, not to other exploitation, such as mineral and oil exploration, which involves far more disturbance of nature (Rohmer 1973).

It is clear that mankind cannot survive in an untouched, virgin environment, but because of knowledge available to us it is possible to safeguard natural values in order to avoid unpleasant surprises for which we ourselves are alone answerable.

Economic conditions

The locally based traditional economic fields are still pursued and impart a certain value to a part of the indigenous population, but development of these fields is totally dependent on the economic situation outside. As examples might be mentioned, the reindeer meat industry, fishing, commercialized handicrafts and arts, the fur market, etc. These fields can only be taken care of by a marginal group which has to rely on the support by the settlement's residents who are oriented toward wage labor.

Although the new settlements created new possibilities for work, they concentrated more people than they could provide with jobs.
There are restrictions to expansion of traditional fields as well as of the new economic alternatives such as technician, handyman, or administrator. Since these fields often require skills that the local people did not possess and could not acquire unless they complied to the standards of the ruling society, the latter filled these positions with its own members. This created an imbalance in the "settlement communities" in which each member was to find his new position. This situation does not hold in the whole for Fond du Lac where the status of the settlement as a reserve sets a different base. This asymmetry between minority and majority called for subsidization of the indigenous population to bring it up to the arbitrary standard of living set by the economically more powerful majority.

There is not enough work for the growing local population and, although people not belonging to this area immigrated and stayed, the members of these ethnic groups are asked to become educated in a school system that inculcates ideas of different values than those in their own culture. Many of these people become educated and have nowhere to use it, nowhere to go. The result is an idle generation of trained people in a settlement where they cannot be correspondingly employed if they do not want to move away. Alternatively, there is emigration of useful labor to the outside, draining the strength of their own ethnic group. This holds particularly for the Lappish areas of northern Scandinavia.

Cultural conditions

As shown above, these three settlements were founded on the intruding society's assumption to disseminate its own advancements. Therefore, the settlements were nodal points for spreading these particular ideas. When the local population was settled, the process of breakdown of its culture started. Besides changes in the economic base, weakening of the cultural identity occurred along with a growing distance from its own history and heritage, which was based on oral tradition. In addition, a switch to a biased bilingualism was introduced by institutions like administration and school aimed at establishing the majority's language as a lingua franca. The situation of the Sámi seems to be stronger than that of the Inuit and the Déné, although Sámi areas have been infiltrated constantly by other cultural groups as can be seen in the advanced stages of acculturation in some regions. But how fast this process has gone can be noticed in Repulse Bay and Fond du Lac where English-speaking schools and other institutions were able to wipe out the tradition and language in the youngest generations within merely the last two decades.

The fast-expanding modern settlements certainly will not be a help in accommodating easily to a new cultural situation. It seems that the smaller partner in the inter-ethnic contact situation is constantly losing ground without actually being
given a chance to sort out his own position and determine his direction of progress for himself. Quite a large number of the younger people are very much aware of this loss of their own cultural background. These are the persons who try to fill the gap between their past cultural heritage and the modern influences, which have to be adjusted to their own goals, too.

Socio-political conditions

The centralization of migrating groups brought together various elements and facets of each ethnic group, Inuit, Déné, and Sabmi, who had populated vast areas before, thus providing an opportunity to exchange ideas and experiences intraethnically, bringing about a broader sense of unity. Single members who went outside to be educated and later returned also had new ideas and guidelines to offer. These processes surely culminated in a new pronunciation and awareness of their origins and, in the end, in a new formulation of the majority-minority relationship. This is apparent in organizations and other representative bodies of these ethnic groups, which ask for respect and better treatment by the ruling majority in such an asymmetric situation. The central problem is how ethnic groups can rule themselves and participate under a superimposed umbrella of development and progress in regard to their own natural and social environment. Can power and influence be distributed among uneven partners in a framework set by the standards of the ruling society, particularly in a time when the survival of mankind is based on exploitation of resources in the weaker partner's realm?

Note

The field research in Scandinavia and Canada (1968 to 1974) was helpfully and at times enduringly supported by Sabmi, Finns, Déné, Inuit, Euro-Canadians and my own family's presence in the field. The Finnish Ministry of Education, German Academic Exchange Service (DAAD), German Research Association (DFG) were able to foot the bill by grants drawn from sources provided by the taxpayer. I am thankful for useful comments on this paper by John G. McConnell, Linna L. Müller-Wille and Pertti J. Pelto.
Table 8
Age groups of native peoples in arctic and subarctic settlements

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Source: Müller-Wille 1974a-c.
Literature

Canada 1899. Treaty No. 8 made June 21, 1899 and adhesions, reports, etc. Ottawa.


Fragmentation and functional differentiation in the Eastern Canadian Arctic

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"Si nous séparons avec soin les problèmes théoriques des problèmes pratiques, ce n'est pas pour négliger ces derniers: c'est au contraire, pour nous mettre en état de les mieux résoudre."

Emile Durkheim,
De la division du travail social.

The last decade and one-half has been a period of rapid social and economic change in the Eastern Canadian Arctic. Formerly dynamic social institutions have proved, and are proving, unequal to the task of maintaining social solidarity. On the other hand, new institutions have arisen which are fulfilling many of the functions that were previously handled by traditional forms of social organization, as well as providing solutions to many of the problems created in the process of social and economic change. One of the most significant features of the contemporary situation is the changing nature of the mechanisms by which social solidarity is achieved and maintained.

The modern Eskimo population on Southampton Island, N.W.T., provides an excellent case study for the examination of the processes by which social solidarity in the traditional setting became fragmented as a result of certain demographic and economic pressures, and has begun to be reestablished through the creation and evolution of new institutions. The key factor that makes Southampton Island interesting as a case study is its history. With the extinction of the original Sadlermiut population at the end of the nineteenth century, Southampton Island remained relatively unoccupied until the establishment of a Hudson's Bay
Company Post at Coral Harbour in 1924. This event marked the influx of a new population consisting of Okomit from the east and Aivilingmiut from the west as well as a few Netsilingmiut. Though the exact details of the manner in which these groups of substantially unrelated individuals established social relations with each other must be largely conjectural, our knowledge of Eskimo social organization pioneered by Guemple's brilliant study of the Belcher Islanders (Guemple 1966) allows us to formulate a reasonable hypothesis. The essential characteristic of the Eskimo kinship system is that there exists a system of ancillary mechanisms for transforming strangers into kin or distant kin into closer kin, thus creating alliance relationships between individuals and groups of individuals. One of the most important of these mechanisms is adoption. Eskimo adoption is such that though an individual is incorporated into a new family (household), he is able to maintain a bond of affinity with his family of origin. One young adopted Eskimo phrased it this way: "I have two sets of brothers."

Dunning's data (1962) on adoption collected in 1957, indicates that it was extensively used in the initial stages of the modern settlement of Southampton Island. Dunning divides his data into "old" and "current" populations. The "old" population clearly refers to those groups who settled on the island in the late twenties and early thirties. Among the "old" population the adoption rate was 40.8%, but in the "current" population this rate had dropped to 21.0% (Dunning 1962: 165). Thus, in the older population it appears that adoption practices substantially contributed to the formation of social solidarity. Dunning's material also indicates that adoption had a profound economic significance in the "old" population. In this group 77% of the adoptees were males, thus indicated a substantial rearrangement of the productive capacity in the population. In his "current" population, productive relations had apparently stabilized and thus only 37.5% of the adoptees were males. Though one might wish to question the frequency of non-kin adoptions in Eskimo populations, Dunning's data for "current families" indicate that 31.25% of the adoptees were between non-kin (Dunning 1962: 166). It is also worth noting that Guemple indicates a similar pattern in Great Whale River where "adoption, namesake and ritual sponsorship are increasingly exploited to create bridges to link social segments that are only tenuously connected by traditional ties" (Guemple 1969: 478).

Thus, it seems reasonable to conclude that these ancillary kinship mechanisms allowed co-resident individuals to establish and reinforce communal solidarity. Indeed, our knowledge of Eskimo social organization seems to suggest that kinship was the rhetoric of all social relations. However, the characteristics of the individual settlements on Southampton Island have changed and are continuing to change. In 1951 there were six settlements on the island. The largest, consisting of 104 individuals, was at the Hudson's Bay Company Post. The others had populations of 44, 32, 26, 13, and 12 (Bird 1953: 56). By the spring of 1959 there were
four settlements with populations of 92, 39, 38 and 18. And finally, in 1968 there was for all practical purposes only one settlement on the island with a population of 280, twenty-five percent of whom were under five years old. Thus, the effective size of the co-resident group had dramatically increased by 1968. This represented and continues to represent a serious problem for those kin-based mechanisms that contributed to the maintenance of social solidarity. The number of individuals who had to be related by means of the basic kinship system and its ancillary mechanisms had increased to such an extent that at certain times there was a discontinuity between solidarity with one's kin and with the community at large. In other words, there is evidence that the kinship system could not form the basis of social cohesion in the co-residential group.

During the summer of 1968 I witnessed three major public distributions of caribou meat that revealed the nature of the discontinuity between kin and community. Though in the late twenties caribou were plentiful on Southampton Island, they quickly disappeared. Since then the main source of caribou meat has been the herd on nearby Coats Island. However, to reach this island a ten-hour boat trip is necessary. In 1967, a community-sponsored hunt was organized to harvest the government quota. But seven of this number were not taken. Early in the summer of 1968 a trip was organized at private expense by Okomiut to obtain these seven caribou. When the boat returned a public distribution of meat took place. As soon as the boat had been made fast to the end of the dock, two young married men, both Okomiut but not directly related to the crew, boarded the boat and removed the hatch covers. Having climbed down into the hold, they proceeded to throw nearly 750 pounds of meat onto the dock. The boat's crew, all Okomiut, looked on with studied disinterest. As the size of the pile on the dock grew, the tension mounted. Gradually, people began to grab for the smaller pieces. Then knives appeared and there was a general scramble to carve up the meat. However, all of the Okomiut present stood by and watched. Only once did one of the Okomiut participate directly; the wife of the captain received a stomach bundle which had been passed to her. As soon as all of the meat had been taken from the dock, the crew dispersed to their homes. The Okomiut received portions of meat through the kin network which linked them with the crew. Indeed, meat was moving through this network continuously for two or three days after the return of the boat.

The only white persons present at the distribution were my wife and myself. Since I had gone on the hunt, I was standing on the boat with the crew during the entire transaction. My wife was on the dock. During the distribution she commented that she would like to take some of the meat. However, she was specifically told by a young Okomiut not to take any and that she would get some later, thus affirming our temporary association with the meat-giving Okomiut. The pattern of meat distribution reveals a clear discontinuity between kin and non-kin within the confines of a single co-resident group. The kin of the crew received
their share of the meat privately through the kin network. The people who were situationally defined as non-kin received meat publicly at the dock.

By way of contrast, the meat distribution which followed the officially sponsored and financed community caribou hunt emphasized community solidarity at the expense of specific kin ties. Indeed, these public distributions were the greatest visible statements of communal solidarity I witnessed on Southampton Island. The details of the hunt were discussed and worked out at a public meeting which filled the Community Association Hall. Though the boats left together, they hunted separately and returned in two groups. The first distribution of meat associated with the hunt occurred when a single boat returned. All of the meat was removed from the boat and piled on the dock. Other than the removal of small bits of fat for immediate consumption, no one made a move to take any meat. Then two old men, one of the Aivilingmiut and one of the Okomiut, both unassociated with the boat that had just returned, carefully cut the meat into smaller portions and handed it publicly to the women from the various households. The undistributed portion was later removed to the community freezer. During the distribution the various Whites present were asked several times if they got their "share," thus indicating that in this case the community included everyone who lived together: Eskimos and Whites.

A few days later the two other boats returned. The meat was removed from the boats but no meat was distributed immediately. Instead it was taken to the community freezer. Outside the freezer, the long and arduous work of preparing the meat for storage took most of the afternoon. The actual cutting up of the meat for storage was supervised by four old men, two Aivilingmiut and two Okomiut, while the heavier work was done by younger men. During the course of the afternoon a large group of women assembled and patiently awaited the distribution of some of the meat. When it finally came, the four old men carefully handed out portions to the various women.

The comparison of the two types of distribution indicates that when kin ties were emphasized there was a division of the community along ethnic lines, i.e., fragmentation. On the contrary, when community solidarity was emphasized, largely through the intermediary of the Community Association, kin ties receded into the background. Thus there is evidence that the kinship system which formerly functioned to increase social cohesion was beginning to produce the opposite effect. On the other hand, the Community Association, which I will discuss below, seems to have taken over the function of producing mechanical solidarity in the community.

Though certain demographic features like community size have made communal solidarity difficult to achieve, the changing nature of the economic base has tended to exacerbate the situation. The most dramatic change that has occurred is the release from
dependency on the natural environment that was brought about initially by the availability of wage income and more recently by handicraft earnings. For example, in the Keewatin Region, N.W.T., in 1968, less than 6% of the total cash incomes of Eskimos was derived from direct exploitation of the natural environment. On Southampton Island, which at the time was known as a hunting community, the figure was nearly 11% (Keewatin Manpower Survey 1969).

Though I have analyzed elsewhere in detail and consequences that this pattern has had on the operation of large wooden boats (Moyer 1971), I would like to recall some of the conclusions here. Wage income provided a new means for financially supporting boats. Coincident with the release from dependence on the walrus-hunting, fox-trapping cycle, two new social categories have emerged: the non-using owner and the non-owning user. While crew recruitment still involves activation of both consanguineal and affinal ties, the pattern of financial support of the boat is strictly confined to consanguines. The evidence suggests that the availability of wage income has contributed to the decreasing significance of affinal ties as a means of achieving or maintaining social solidarity.

In another article, I have analyzed the relationship between snowmobile ownership and wage income (Moyer 1973). From the data available it appeared that there was a strong statistical correlation between wage income (more than $1,000) and snowmobile ownership in 1968. However, there was a considerably weaker statistical correlation between this same level of income and the absence of dog ownership. Thus, I concluded that the decision to purchase a snowmobile was a positive one that represented an adaptation to the wage employment situation. Though I do not believe that the acceptance of snowmobiles on Southampton Island represented an innovation to the venatic (i.e., hunting and trapping) economy, the snowmobile has certainly replaced the dog team as the primary means of land transportation. The passing of dogs has meant another opportunity for expressing social solidarity between individuals or small groups of individuals has been lost. Dog teams consumed an enormous amount of meat, and meat for the Eskimo is the item of exchange par excellence. Thus an individual needed and used his kin ties in order to obtain meat. And reciprocally, kin ties to him were exploited by others. With snowmobiles, however, money is what is needed to purchase and maintain the machine. And as my evidence suggests, this money is not derived primarily from the venatic economy. Furthermore, money does not have the strong cultural values associated with it that meat has. While the exchange of money is difficult to view and measure, I have the impression that it is exchanged much less readily than meat. But even if money were exchanged as frequently as meat, it would not have the same effects on social solidarity as the exchange of meat. In contrast to meat, money is anonymous and readily concealed. This means that the exchange of money tends to be socially invisible. The results of hunting, on the other hand, tend to be
generally known. If a certain household has fresh meat it will be known whether the meat was obtained by a member of the household or not. Additionally, it is sometimes possible, when knowing the sort of meat and recent hunting results, also to know where the meat was obtained without asking any questions. Also, if meat is moved from one house to another, all but the very smallest amounts are visible to anyone around. By way of contrast, it is possible to carry in one's pocket enough money to buy a skidoo.

Though it is extremely difficult to obtain accurate measures of the pattern of the exchange of money within the community, largely because such exchange tends to be socially invisible, the presence and degree of such exchange is extremely important. In 1968 the total cash income of all individuals in the Eskimo community on Southampton Island was unequally distributed (Table 9). The pattern is largely determined by the heavy percentage of wage and salary income in the total income of the community. This means that the pattern is largely set by external forces, i.e., employment by White institutions. And further, the degree to which exchange patterns fail to remove this inequality results in a serious potential for social differentiation and further fragmentation.

From these examples it is apparent that the kinship system, the primary mechanism for creating social solidarity in the traditional setting, has proved unable to overcome effectively the pressures of the modern setting. On the one hand, the changes in the population dimensions of the community and the creation of a new economic base have changed the nature of the problems to be solved. And, on the other hand, certain economic changes have directly affected the manner in which the kinship system was able to maintain solidarity. Thus, by focusing on the fate of the kinship system in the contemporary situation one perceives a fragmentation of social groups at a variety of levels. I believe that the failure of the kinship system to maintain solidarity at the community level is due in a large part to the fact that, as an institution, kinship was functionally undifferentiated. As the rhetoric of virtually all social relations, kinship had economic, ritual, social and political functions. Given the nature of the traditional situation, kinship was extremely well-adapted to integrating all of these functions into a single coherent system. However, in the modern setting the kinship system has not been able to fulfill all of these functions. At the same time, the kinship system itself seems to have become more specialized, satisfying a smaller range of needs or functions. On the other hand, however, new institutions have arisen to fulfill these functional needs.

During my stay on Southampton Island in 1968 I had the opportunity to observe the manner in which a new institution operated and directly contributed to the formation of social cohesion. This was the Community Association. In the operation of this institution one could perceive two distinct functions. One was purely political, the other of a more general social and cultural
nature. The main political function of the Association was the handling of official relations between the government and the Eskimo community. This function becomes especially clear if one examines the results of the first three elections to the Community Council, the official board of the Association. The first Council was made up of the "traditional" leaders of the community, i.e., respected old men who often headed identifiable kin groups. However, by the third election these older men had been replaced by younger men more skilled at managing relations with the Whites and at handling the economic affairs of the Association. The socio-cultural function satisfied a variety of distinct needs in the community. First, by organizing dances and Bingo and by showing films, the Association provided an important alternative to visiting the recreation club at the nearby Department of Transport airfield. In the same domain, the Association organized the community caribou hunt. Though one might be tempted to view the caribou hunt as an economic activity, the means by which it was organized and its effects on social solidarity were such that I believe that the essential significance of the hunt was in its social and not its economic nature. First, there was an explicit, conscious effort to dissociate money from the hunt. While in 1967, there was a direct levy on the individual households to collect money to finance the hunt, in 1968 the hunt was financed indirectly out of the profits from showing movies and organizing Bingo games. The direct expenses for the hunt (i.e., food, fuel, ammunition, insurance, etc.) were met by the Association but the captains received neither compensation for depreciation on the boat nor any profit. And further, the individual hunters received only their expenses but no wages or other financial compensation. This latter is significant in that it meant that the hunters suffered considerable financial loss because the hunt coincided with the peak of wage employment opportunities. Secondly, as pointed out above, the distribution of meat associated with the hunt produced a high degree of social solidarity in the community. Indeed, it was the single event that I observed that produced a high degree of social cohesion within the community by emphasizing traditional Eskimo values.

Though these two functions (the political and socio-cultural) tended to be distinct, they occasionally came into direct contact, with interesting results. At the public meeting at which the caribou hunt was organized, there was a curious situation. The Council chaired the meeting, while the captains and the older men sat to one side in the front of the room. Due to the technical nature of the problems involved it was often necessary for the Council to negotiate directly with the captains concerning such matters as how much fuel and oil were necessary and the crew composition of the various boats. This occurred with the rest of the community as observers. Indeed, the discussions between the Council and the captains were often so quiet that the general public saw the process of decision making. For the most part, the public was only informed of the decisions after they had been taken. The procedure reveals the importance of the social solidarity associated with the hunt. Though in all
probability the decisions could have been taken privately between the captains and the Council, it was deemed necessary that these discussions take place publicly. People were participating in the decision making process by their presence and not by their ability to influence the decisions taken. Actually, in the end, the public nature of the meeting was more important than the decisions taken, because later substantial changes were made without calling a second meeting.

Another institution that was just being formed when I was on Southampton Island was the Carving Association which later took the form of a co-operative. Initially, this institution restricted itself to fulfilling certain very specific needs with regard to the production and marketing of handicraft materials. Since then, I understand that it has expanded substantially, providing a broad-based institution whose main goal is satisfying as many economic needs as possible.

These new institutions are capable of producing or evoking social solidarity not fundamentally different from that found in association with the kinship system. The clearest example of this is the community caribou hunt. Additionally, in the process of organizing these institutions, the appeal of an association based on certain common needs certainly evoked a degree of solidarity. This particular type of solidarity is generated from a conscious emphasis on similarity or likeness, in other words what Durkheim called mechanical solidarity. Looking back on the forms of solidarity found in the traditional setting one notes a strong tendency for this type of solidarity to predominate. For example, meat distribution practices tend to operate as a leveling mechanism by removing inequalities of production and thereby making individuals more similar with regard to consumption patterns. However, in the newer institutions one finds evidence for the emergence of a new type of solidarity, i.e., one based not on likeness but on dissimilarity. This second type of solidarity is what Durkheim calls organic solidarity and is based on functional differentiation.

At the institutional level one can see a limited degree of functional differentiation. The Community Association and the Co-op are fulfilling distinct and different needs. This is in direct contrast to the kinship system in traditional social organization, which was functionally undifferentiated and fulfilled a large number of different needs by using the same mechanisms. At the individual level there is a growing pressure for differentiation. As the new institutions proceed to fulfill certain specific needs in increasingly specialized ways, it becomes necessary for individuals to become more specialized in the tasks that they carry out if the institution is to remain free of White participation. To cite only one example, a co-op needs a full time Eskimo bookkeeper. Thus, organic solidarity promotes social cohesion by emphasizing the fundamental dissimilarity of all individuals in the community.
In the course of social evolution organic solidarity comes to replace mechanical solidarity as the primary means of maintaining social cohesion. The degree to which these two principles are antithetical to each other represents a serious and complex analytical problem. It is worth noting that many of the mechanisms associated with mechanical solidarity are often impediments to economic development. On the other hand, even in the most complex industrial societies appeals to mechanical solidarity still occur and fulfill distinct if limited needs (e.g. political mobilization). In the data that I have presented from Southampton one notices a similar pattern. The mechanisms of mechanical solidarity are becoming more limited. And further, the degree to which such mechanisms fail completely is a direct measure of fragmentation. Concurrently, there is evidence indicating that organic solidarity is playing an increasing role in the maintenance of social cohesion. This is a direct result of functional differentiation at both the individual and institutional levels.
Table 9

Distribution of total cash income, Southampton Island, N.W.T. Canada in 1968*

<table>
<thead>
<tr>
<th>Percent of Population</th>
<th>Both Sexes</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>.5 (.5)</td>
<td>1.2 (1.4)</td>
<td>.7 (.)</td>
</tr>
<tr>
<td>50</td>
<td>5.9 (7.3)</td>
<td>10.2 (13.4)</td>
<td>10.3 (10.1)</td>
</tr>
<tr>
<td>75</td>
<td>21.6 (28.1)</td>
<td>33.5 (39.3)</td>
<td>32.6 (31.1)</td>
</tr>
<tr>
<td>95</td>
<td>69.2 (73.6)</td>
<td>78.9 (80.9)</td>
<td>69.5 (70.1)</td>
</tr>
</tbody>
</table>

* Source: Keewatin Manpower Survey 1969.

Note: The table is to be read as follows: On Southampton Island the lowest 25% of the population earned only 0.5% of the income, the lowest 50% of the population earned only 5.9% of the income, the lowest 75% of the population earned only 21.6% of the income, etc. If there were perfect equality the figures would read as follows: 25% of the population earned 25% of the income, 50% of the population earned 50% of the income etc.
Table 9a

Distribution of income among men

<table>
<thead>
<tr>
<th>Percent of Population</th>
<th>Age 14–29</th>
<th>Age 30–49</th>
<th>Age 50–99</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1.1 (0.0)</td>
<td>3.7 (6.2)</td>
<td>7.5 (5.8)</td>
</tr>
<tr>
<td>50</td>
<td>5.8 (5.8)</td>
<td>14.7 (21.5)</td>
<td>23.8 (19.0)</td>
</tr>
<tr>
<td>75</td>
<td>27.2 (31.6)</td>
<td>41.5 (47.7)</td>
<td>51.7 (42.6)</td>
</tr>
<tr>
<td>95</td>
<td>77.2 (77.0)</td>
<td>83.6 (84.8)</td>
<td>87.2 (80.0)</td>
</tr>
</tbody>
</table>
Literature


Acknowledgement

I would like to thank I.B.F. Galjart, L. Müller-Wille, and C.J.M.A. Smeets for our many useful discussions as this paper developed.
Adaptations in Canadian circumpolar towns

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Introduction

When the towns of Frobisher Bay on Baffin Island and Inuvik in the Mackenzie Delta were planned in the 1950s, the administrators in the federal government's Advisory Committee on Northern Development gave thought to the shift that would follow for the native people who moved into those places. They even planned to assist the populations' shift to an urban-type life, but to a large extent it was left up to the Eskimo, Indians, and Metis to learn by themselves to cope with the many, sometimes unfamiliar facets of their new environment. Between the two towns three thousand adults and children learned to do so or to locate knowledgeable persons to advise them (see Note 1).

I do not propose once again to describe Frobisher Bay and Inuvik ethnographically (several ethnographic studies of each place are available [Note 2]); nevertheless a sketch of their reasons for being and overall organization may be helpful. Both towns were created primarily to provide military, educational, health, conservation, communication, and other services to broad Arctic and Subarctic hinterlands. Maintaining the towns themselves creates other needs, including heat and power; homes for the inhabitants; cleaning, painting, and renovating; snow removal; airport maintenance; garbage and sewage disposal; recreational facilities; and schools. Taxes collected locally from merchants, taxi and construction companies, and small airlines, and similar private businesses provide little financial support for those services. In the main, the towns are governmentally financed, and the government is the major employer. The two communities brought to the North thousands of people from southern Canada, at first mostly men for construction; then teachers, nurses, accountants, and administrators arrived bringing their families. Simultaneously, with both streams of southern migration, natives joined the towns. They quit their land-based careers in a period when fur trapping was becoming uneconomic. Towns attracted them with the promise of jobs, the availability of medical facilities, and the opportunity to be near children in school. Otherwise, in
a day when schools in small settlements were rare and ran to only the lower grades, parents would have to be separated from children who attended distant boarding schools.

Individual relationships between natives and non-natives in the towns tends to be segmentary. Members of the two ethnic groups interact mainly for specific purposes in situations like jobs, school, hospital, and fund-raising events for the benefit of the Scouts or athletic teams that are largely organized by non-natives and patronized by natives.

There are also a few native persons in each community who divide their time between land and town, seasonally exploiting resources in niches belonging to each environment. In summer they look for work in the towns and in the fall return to the bush to trap, hunt, and fish - the traditional occupations most of the native inhabitants formerly practiced. Many more townspeople contrive to visit the land occasionally, in the Delta especially in spring for muskrat hunting and on Baffin Island in summer for extensive vacations and seal hunting. For the land and sea and the traditional foods they provide continue to attract even those families most strongly committed to town life.

Adaptation as social change

I use the term adaptation for the process whereby an individual or group acts to seize opportunities and resources available in the social and physical environment or takes steps to avoid unpleasantness and danger (Note 3). On a gross scale, adaptation is illustrated by the hundreds of native people who came to Frobisher Bay and Inuvik to take advantage of the jobs and other satisfactions promised by town life and to avoid the economic uncertainties of trapping. Once they arrived, the migrants were required to make other adaptations, some of which I will describe.

Individual rather than group adaptation is my topic, whether it follows established patterns of behavior based on well-understood plans widely shared in a community and enduring over a long time or is an ad hoc, short-lived innovation generated from available knowledge and limited to a particular goal pursued in a specific environmental setting. Under certain circumstances short-lived innovations become widely adopted as others perceive their advantages; they become part of culture, according to one definition of the word. As a process, adaptation originates in motivation, perception, and in a more or less explicit plan. Sometimes the knowledge on which the process is founded needs to be revised once adaptation begins to be practiced, i.e., when the strategic stage of the process begins. In this stage, cognition and perception are translated into overt strategies, physical acts, or verbal behavior, through which the actor copes with the environmental conditions as he understands them for the sake of some goal. Adaptation, or coping, does not necessarily mean success. Hence in the final stage of the process the actor
realizes either that his behavior succeeded or that it failed. (Also an observer can independently evaluate the strategy as successful or unsuccessful.) If the strategy fails, a new process may be instituted bringing alternative strategies into play, or an alternative goal may be substituted for the one not achieved. Adaptation sequences may be much more complex than this simple model suggests and can involve a chain of acts, each with an outcome related to a final goal, taking a long time and the cooperation of many individuals to achieve. Nor is the process limited to utilitarian goals but may include mastering problems in play, sport, and adventure.

A comprehensive account of adaptation would attend to all three stages of the process, even evaluating long-term consequences following the achievement of short-term goals. Recent anthropology, however, has emphasized the cognitive elements, i.e., the knowledge and plans followed in coping (for example, Spradley 1970; Wallace 1972) or dwells on the problems people face rather than on how, or if, they solve them. (Graves and Graves [1974] review studies where the major emphasis is on problems faced in adaptation.) Other anthropologists, including myself, have concentrated on the final stage of the adaptation process, on outcomes. In Frobisher Bay and Inuvik I collected information about the number of jobs occupied by native workers, the dwellings they lived in, the number getting into trouble with police, and the performance of children in school. I regarded such information as objective evidence of the degree of success with which individuals met the opportunities and problems presented by town life. In addition, especially in Inuvik, people also subjectively evaluated their abilities to cope with some conditions in the towns. Both types of evaluative criteria - objective and subjective - are referred to later in this chapter. Interviewing provided data on the knowledge available for adaptation and about opportunities and problems as they saw them. Observation likewise revealed conditions demanding adaptation. Informants were generally ready to give information about conditions that had to be coped with - or I was more adept at eliciting such information - than about the actual strategies they followed. Like most anthropologists who have studied adaptation, I did not collect the detailed protocols of behavior that would be required to describe the overt strategies people actually follow as they act to seize opportunities or to avoid unpleasantness and danger.

External environmental factors facilitate and also limit possibilities of adaptation, as do the actor's biological capacities and personal qualifications such as skill, intelligence and psychological adjustment. The northern towns made me aware of two related factors in the social environment capable of advantaging or disadvantaging native people's adaptation: first, the degree of tolerance or flexibility in the way norms are applied; for example, with respect to workers arriving for work on time. Second, the degree of congruence between the norms or values operating with respect to new institutions; for example,
school, and native people's own values. Advantage and disadvantaging social influences need not be the result of conscious discrimination. The school in Inuvik does not deliberately discriminate against native children. It wants young people of all ethnic groups to attend, at least until the official school-leaving age is reached, and to show equal evidence of learning. These goals are partially defeated for children who possess all-native backgrounds - even though they speak English at home - by the fact that the norms and values governing the school are more closely allied to the dominant mainstream culture than the native culture of Inuvik. As a result children from homes with one White parent or guardian adapt successfully to school proportionately more often than children from all-Indian or all-Eskimo homes (Honigmann and Honigmann 1970: Ch. 9).

My definition of adaptation gives notice that I do not employ the term as psychiatrists frequently do to refer to the process - which I call adjustment - whereby an individual copes with disturbed feelings in a purely cognitive way or through defense mechanisms that may be largely unconscious (Note 4). Nevertheless it is often impossible to maintain the sharp analytical distinction between adaptation and adjustment when one is dealing with empirical data. A man in Inuvik sought to deal with his twelve-year old son's truancy by asking the help of the police. Whether his activity is regarded as an effort to reduce anxiety or an attempt to cope with the interpersonal problem of managing his son depends entirely on the aspect we decide to focus on. In this chapter I will regard such behavior as adaptation to a problem of interpersonal relations.

The meaning of adaptive behavior becomes clearer when contrasted with expressive behavior, such as ritual, through which sentiments are made public. Again the distinction is purely analytic; when actual behavior is being considered, the act serving as an adaptive strategy may likewise be an expression of values held by the actor.

Adaptation as I have outlined it represents a perspective for analyzing behavior, not a theory. As an analytic tool the concept's chief value lies in directing attention to actors and the strategies they adopt rather than to cultural patterns precipitated by those strategies. I have also found the concept a helpful antidote against speculative functionalism. With the concept of adaptation, the expected outcomes of behavior are defined by the goals people pursue. Whether those outcomes are achieved, or to what degree, then becomes a strictly empirical question the answer to which will often benefit from measurement.

Arctic towns as settings for adaptive behavior

Prior to 1954, when Frobisher Bay was ready for occupancy, and 1959, the beginning of Inuvik, many of the native people in eastern and western northern Canada spent a large part of the year
on the land in places where they expected to find game, fish, and fur. Families devoted to land-based careers visited the small settlements only for a few weeks in summer to sell accumulated furs and to buy supplies. Eskimo in eastern Canada spent the winter in seacoast camps while in the Mackenzie Delta, whence Inuvik drew a considerable number of its native residents, people worked in the forest where they built comfortable wooden cabins. While the Eskimo, Indians, and Metis no longer derived their livelihood exclusively from the land and sea, as they had done in precontact times, their lives still depended to a large extent on exploiting natural resources. For monetary income they relied heavily on the sale of furs, and for food for themselves and their dogs they looked to fish and, in the east, seal. Ecological patterns of adaptation differed considerably between the eastern and western regions, but the differences are not important for understanding the nature of the adaptational shift required of individuals who seriously adopted town life (Note 5).

Although people lived in a climatically severe environment that permitted relatively few choices, adaptation rested on time-tested knowledge, tools, and routines that generally speaking allowed a secure and comfortable life. Seasonal changes governed their habits much of the time, although occasionally storms, floods, and other natural calamities required special means of coping, for which, however, previously tested routines of coping were often suitable. The same ways of trapping, hunting, avoiding cold, and treating illness were available to everyone of requisite age and sex; there was comparatively little specialization by skill. So too with techniques for securing cooperation or avoiding interpersonal unpleasantness. To be sure, adaptation remained far from perfect. At times traditional strategies for dealing with the natural or social environments proved ineffective, or the individual lacked skill to employ them; at other times control was minimal, and the person felt vulnerable to danger.

It is tempting to see people enjoying a greater degree of personal freedom in adaptation during this period, and native people sometimes described the past in those terms. Nevertheless, it is difficult to defend the proposition. Natural and social pressures limiting personal autonomy existed in the past as well as in the present. There may have been relatively little need to suit one's actions to social norms, but the natural environment imposed many demands. As the social scale of the native people expanded, social constraints increased while people emancipated themselves to some degree from their previous rigid subordination to nature. Informants recognized this when they recalled threats of famine and illness in the past in comparison with which they found town life more satisfying.

Not everything encountered in the towns was totally new for the migrants. In several respects town life intensified trends whose beginnings lie in an earlier phase of circumpolar culture history. Decades before the construction of Frobisher Bay and Inuvik, the northern people, especially in the western Arctic, became
increasingly familiar with stores, churches, and even schools and jobs. Their needs multiplied, and they became more and more dependent on new satisfiers constantly being introduced in greater variety: flour, tea, and other foodstuffs sold by the stores along with guns, ammunition, clothing, utensils, canvas for tents, rope, tools, outboard engines, and other goods. They relied on visiting physicians or on medically knowledgeable missionaries to treat the sick. They came to see value in schools, so that in the west there was scarcely a family that failed to send children to one of the Mackenzie Valley boarding schools. People came to know the White man's law enforced by policemen and magistrates, learned the transcendent promises and threats of Christianity, and discovered the mind-changing potential of alcohol. In the Mackenzie Delta a few men went as far as abandoning trapping for full-time employment with traders and policemen. Summer jobs attracted more men, especially after the Second World War when the price paid for furs fell to a point where income from trapping alone no longer covered the cost of the food and equipment needed to support the trapper's family. Each new experience meant new adaptations. The satisfiers could not be obtained passively and the threats, too, required adaptive effort if they were to be averted or minimized. Even the old and chronically ill had to act if they were to secure the new values in the form of government-issued welfare.

Interpersonal relations and success

In the towns to which the native people have moved, powerful persons of another ethnic and cultural background control many of the most important cultural values to which Eskimo, Indians, and Metis seek access and impose some of the most potent threats, including loss of a job and imprisonment. Coping with those "others" has become the major adaptation of town life.

Jobs, on which town existence depends at least for adults capable of working, illustrate the pattern. Mostly only positions demanding unskilled labor are available to relatively untrained native workers, though in both towns some native persons also carry out administrative or clerical tasks and operate complex heavy machines. Basically, keeping a job requires behaving in ways acceptable to the employer or supervisor and implies the possession of requisite physical strength, skill, motivation, and knowledge. For someone unemployed, finding a job minimally requires knowing when and where hiring is taking place and effectively communicating one's availability to the people in control of hiring. Natives idealize the value of effort and persistence in finding a job. "People musn't give up too easily or start looking too late in the day. Men should go first thing in the morning." People also recognize the importance of interpersonal skills in the interview, and someone with low self-confidence or who is unable to speak English will get someone to intercede with a prospective employer. A reputation for undependability is known to reduce the chance of getting a job,
and in these small northern communities personal knowledge of adults is easily obtained. Conversely an individual is proud of being known as a "good worker," recognizing the value of reputation as a potential strategy for meeting the basic condition of effective town life. Fortunately, the towns contain a variety of employment niches. As the people say, there are strict and not-so-strict employers, and in Frobisher Bay the latter (comprising many government agencies) facilitate adaptation for Eskimo men who prefer occasionally to have time off from work to hunt for traditional foods that they and their families relish.

Interpersonal relations with supervisors and co-workers pose major adaptive problems, especially when the supervisor's manner - offensive, perhaps, even by the standards of the foreign culture he embodies - runs against native values. While workers do succeed in managing their reactions when provoked, knowing they might well be discharged if they show antagonism, my notes contain several incidents in which workers allowed their tempers to run loose or, in Frobisher Bay, where Eskimo quietly withdrew from intolerable work relationships. Unfairness hurts, as an Inuvik Eskimo man revealed when he complained about criticism by a supervisor who had neglected to provide the equipment necessary for doing a job right. Relations with co-workers may be equally hard to endure. The same man, who had secured his job through a competition and liked his work, applied for a transfer because of the intrigues and petty jealousies of the Eskimo men he worked with.

In Frobisher Bay as well as Inuvik I inquired into the degree of success with which men and women of native backgrounds held jobs. (For details see Honigmann and Honigmann 1965: 68-77 and 1970: 71-72.) Fifty percent of the 160 Eskimo male family heads of Frobisher Bay plus a comparatively small number of women were steadily or fairly steadily employed during four sample months. Over half of 108 Eskimo and Metis male family heads in Inuvik were steadily or fairly steadily employed but only about one-third of the 19 Indian male family heads were. A larger number of women in Inuvik than in Frobisher Bay also worked, and I have learned that since 1963 women's employment in Frobisher Bay has also risen (McElroy 1973). Although by my measures Indians in Inuvik show up as comparatively unsuccessful in coping with and for jobs, they are nevertheless firmly attached to town life and not proportionately more represented in the traditional occupation of trapping than the other two ethnic groups. I have no evidence of local prejudice against Indians as a group or of discrimination against them such as Barger (1974) intimates for a Quebec town. Inuvik Indians' adaptive difficulties in the economic sphere seem to be founded on personality factors; their outlook fluctuates between the optimistic idea that experience is manageable and the contrary apprehension that life is overwhelmingly difficult and social relationships potentially dangerous. In the face of unfamiliar demands, such as jobs probably impose, Indians tend to lose the resourcefulness with which they meet familiar situations.
Off the job, in contexts ranging from finding a place to live (in a setting where housing is scarce) to obtaining an appointment with the dentist, the native townspeople are required to deal with people and social structures of a different cultural origin. Appointments must be arranged with people in powerful positions who cannot be freely approached, and sometimes they must be broken without losing the person's favor (a task accomplished by "talking real nice," a woman in Inuvik explained). Cultural brokers must be found, sometimes among native persons who speak English and know administrators or administrative procedures, and sometimes among the non-natives. Coping with people and meeting the norms they enforce even occurs in the taverns where drinkers, although somewhat intoxicated, have learned to watch their behavior lest they appear too drunk to be legally served with more beer or grow too boisterous and be thrown out. To get into a drunken fight with the waiter may lead to being barred from the establishment, or the waiter might call the police. Storekeepers control more vital goods than beer, and have the power to extend or refuse credit against a prospective job or wages not yet collected. In Inuvik where competition exists between stores, people know which storekeeper is likely to be generous even when debts remain unpaid, and they also understand that some storekeepers carry on business more honestly than others.

Adaptations are not always channeled through other people. The towns also confront individuals with paper forms that must be completed if certain benefits are to be obtained and penalties avoided. Filling out such forms is a task for which many, even literate, people seek assistance, turning to native or non-native resource persons who understand the instructions. Applications must be filled out for jobs, for job-training, for unemployment insurance, for a mortgage, for a pension, and for other purposes. Pension applications in turn require a birth certificate or an equivalent document for which expert help is again required. Where the outcome expected from a written application is uncertain, the writer - or someone acting in the applicant's behalf - sees an advantage in presenting the applicant as favorably as possible.

My example of cultural brokers indicates that the people through whom natives adapt in the towns are not always of another cultural background. Nor are intercultural relations involved when parents interact with children to protect them from conditions of town life perceived to be dangerous. Parents set up rules to keep young children from unsavory places (the bar in Inuvik), from companions whose influence is feared, and from motor traffic.

In all societies parents are aware of their responsibility to prepare children for adult careers, but in the northern towns the problem has become complicated. When the northern people lived by trapping and other land-based occupations they socialized their children by themselves, following traditional procedures. With town life, parents no longer expect their children to return to land-based careers. and the traditional modes of socialization
have lost their utility. Therefore parents look to the school to provide the basic training that children will need for jobs, the nature of which they cannot foresee. Instead of adapting to the future needs of a boy or girl by giving instruction in trapping or sewing, parents induce children to attend school regularly or to continue in school after the legal age for leaving is reached. Yet, although endorsing the mission of the school, parents in Frobisher Bay and Inuvik occasionally fear that the education children receive there is too one-sided. What if the child grows up and can't find a salaried job? The problem is not one with which native parents can cope.

More strikingly than anything else, relationships between parents and children reveal that people's knowledge and strategies are far from perfect for meeting all the exigencies of their new life. Not only do they feel ineffectual in preparing children to be effective and successful adults; they also complain about being unable to persuade older children to continue in school and to keep them from reckless drinking and other deviant behavior. Some parents adopt firm discipline with young children, believing they must be strict early or else it will be too late, but the firmness of discipline varies, and in one case an Indian wife objected bitterly when the father chastised the son.

People are also dissatisfied with their limited ability to adapt successfully to the use of alcoholic beverages. Alcohol-related problems have been greatly exacerbated by living in towns - particularly in the eastern Arctic where previously little drinking occurred. Taverns and government-owned beverage stores make beer and whiskey constantly available, and money is regularly provided through wage labor to pay for the beverages. "Most of us don't know how to drink," a Metis said referring to native people in general. Yet he belonged to the western Arctic where familiarity with alcohol and with its potential for affecting behavior began much earlier than among the Eskimo of Frobisher Bay.

Informants who reported that drinking had got out of hand or perceived themselves helpless to cope with the excessive use of alcohol by themselves, relatives, and neighbors were no doubt often thinking of the violent acts and property damage committed by drunken persons, the unedifying spectacle of drunkenness, jobs lost on account of excessive drinking, money needed for food spent on beverages, children neglected by drunken parents, and arrests caused by public intoxication. However, arrest data - and most arrests in Frobisher Bay and Inuvik are for alcohol - do not bear out widespread, reckless use of alcohol. They show deviant behavior related to drinking to be largely localized in the younger age categories. The greater proportion of adults in each town, arrest data as well as direct observation reveal, are generally able to cope with the disruptive properties of alcohol, sometimes by not drinking at all.

Managing money is another area in which people occasionally reveal
their limitations. Existence in town contrasts with bush life in the daily use of money. The importance of money as a key to many other satisfactions, together with the regularity with which workers receive fortnightly salary cheques, creates problems of adaptation not faced by families on relief whose bills are paid by the social welfare department. Families receiving a cash income must set priorities for the things that money can buy, or at least must keep in mind what expenses must be covered before another payday comes around. Householders must see that they will have food, oil, and home delivery of water, money to pay for the monthly electricity and telephone bills, and funds to meet payments due on a government house and the lot on which it sits. Some people hold money aside for saving, or buy goods on credit and then allocate money at regular intervals to pay off the debt. Managing money in a society where it is both vitally necessary and where some people have it while others don't also requires knowing when it can be safely loaned and when it should be refused to people, even kin, whose habits and circumstances one knows well enough to predict that they will be slow in repaying. The value placed on generosity and the ease with which people with funds are apt to become excessively generous in the tavern after beginning to drink poses a special threat on paydays. One anthropologist (Smith n.d.: 32) describes how one Inuvik man adapted to the threat: he asked the anthropologist to keep a portion of his pay so that he would not be induced to spend everything.

Conclusions

Town life, having multiplied the sheer number of circumstances demanding adaptive knowledge and strategies, confronts every adult with the task of choosing between a series of possibilities far in excess of those available to a trapper in the previous, more homogeneous culture (cf. Mead 1928: ch. 14). To live through a year may require a town person to deal with the bank as depositor and borrower; the store to buy goods; the post office to obtain a parcel; the public library; taxi drivers; the housing officer to obtain a house, and later to explain a delay in paying the rent; the garbage and sewage collector and water carrier to obtain service in his new home; the telephone company to obtain a phone and, perhaps, complain about a malfunction or error in the bill; the policeman to obtain a driver's license; and more. Naturally not everyone participates in the town to the extent that I have sketched.

Whereas formerly every man and woman closely resembled another in the adaptive knowledge and techniques he or she possessed, the towns have tended to segregate knowledge. A clerk knows and does things unrelated to the garage mechanic or carpenter; a nurse's aide performs different skills than a laundry worker. The woman on welfare faces other problems than a woman who lives through her own or a husband's income, and the young person in school copes with conditions little resembling those of a youth who is unemployed. Many of these differentiations are associated with
income differences and unequal standards of living. So far the smallness of the communities and the personal knowledge that people possess of one another have prevented socio-economic differences in Frobisher Bay and Inuvik from creating social classes sharply demarcated from one another and following different styles of life.

Life styles related to adaptation do vary between individuals and reflect differences in adaptive ability, psychological or physical, as well as divergences in motivation and preferences. In both towns some adults have adapted to town life by holding a job steadily, investing money in a house, and governing their drinking so as not to get into trouble with police. These individuals closely replicate a stereotype of the middle-class North American life style. Other individuals in healthy physical condition are frequently out of work, rent a home or are behind payments on a house they acquired, drink heavily, and exhibit drunkenness publicly. Sick and aged people and those recovering from serious illness are obviously restricted in their range of adaptation and largely survive through welfare payments and other assistance provided by the social welfare workers.

Varying modes of adaptation are associated with differences in sex and ethnic status. In Frobisher Bay young unmarried women find and hold jobs more frequently than young men. In Inuvik, Metis men are proportionately more often represented in steady jobs than Eskimo men who, in turn, are proportionately more frequently better adapted in that respect than Indian men. The two former ethnic categories also show better ability to cope with alcohol so that even when they heavily patronize the liquor store they do not encounter as much trouble with police as the Indians.

When the towns were being planned in the mid-1950s, the planners appear to have expected that native people would adapt successfully to urban-like conditions. Had anthropologists been consulted, they might, on the basis of then current theory and available empirical information about culture change, have advised the planners to go slowly and to be prepared for many failures in the way people adapted (Note 6). Their predictions would have been wrong. The rapidity with which many northern people learned to adapt comparatively effectively to the new environments surprised me during fieldwork, as much in the western Arctic where, considering the long history of acculturation, I should not have been surprised - as in the east. Within one generation a considerable proportion of people aided by flexible standards and tolerant, sometimes patronizing, administrators have learned to cope effectively with resources and difficulties presented in an urban-type environment.

The next step will be for the native people to reduce the degree of powerlessness and subordination they experience vis-à-vis employers, the government, and other social relationships through which they cope. While labor unions and other forms of political
action may not come soon or acquire any significant degree of influence quickly, signs of the native people becoming more autonomous in their social relationships with non-natives have begun to appear.

Notes

1. A brief and somewhat different version of this chapter was presented at the symposium on Unexpected Consequences of Economic Change in Circumpolar Regions at the 34th Annual Meeting of the Society for Applied Anthropology in Amsterdam, March 21, 1975. It is based on fieldwork in two towns, Frobisher Bay and Inuvik in 1963 and 1967 respectively. The work was supported by the Government of Canada through the Northern Science Research Group (formerly Northern Coordination Research Centre) and a grant (No. GS 939) from the National Science Foundation that also supported work by other anthropologists in three other circumpolar region towns; for a summary report of the project see Honigmann 1975. The present tense used in this chapter refers to the period between 1963 and 1967.


3. My thinking on the subject was greatly stimulated by Gary Palmer (1974).


5. We lack base-line ethnographies covering precisely the regions where Frobisher Bay and Inuvik are located. The material on two-hundred-mile distant Cumberland Sound covered in Boas' The Central Eskimo (1888) and The Eskimo of Baffin Land and Hudson Bay (1901), while predating many later changes in culture, provides some idea of adaptations to nature. For the Mackenzie Delta, see Ferguson (1961) and the geographer Wolforth's (1971) excellent historical ecological account. But one must keep in mind that the towns recruited native populations from a broad region, Frobisher Bay, for example, from the east coast of Hudson Bay (for which region see Willmott 1961) as well as Baffin Island and the Central Arctic.

6. New Lives for Old (Mead 1956), a book showing that rapid and large-scale change could be successfully accomplished in a single generation, was not published until 1956.
Literature


Honigmann, John J. Five northern towns. Anthropological Papers of the University of Alaska 17(1).


Part V

Socio-cultural and political implications of North-South contact

The contacts between native peoples and the "newcomers" from the South take many forms. One dimension that is often overlooked is that of the interrelations among the different types of "newcomers" (teachers, administrators, entrepreneurs, etc.) in northern settlements. Ditte Koster documented some of the negative features of gossip and social interactions among the White in Frobisher Bay, noting that life in the North is frequently full of ambiguity, and individual motives and morals are often suspect.

The adaptations of native northerners to the intensified contacts can take many forms, not the least of which is the development of new occupations such as the production of works of art for the "outside world." Nelson H.H. Graburn observed that commercial art serves as a medium whereby Inuit learn the roles and values of the "outside." He pursued these aspects as editor of and contributor to the book, "Ethnic and Tourist Art. Cultural Expressions from the Fourth World" (University of California 1976).

John G. McConnell's discussion of the "dialect nature" of Inuit adaptations also suggested some successful outcomes. Political and economic conflicts with the "outside" are, of course, a frequent and pervasive occurrence. Two papers, one by Tom G. Svensson and the other by Linda M. Hackman and Milton M.R. Freeman, provided us with case studies of the ways in which these confrontations are dealt with. Tom G. Svensson has enlarged his findings in his book "Ethnicity and Mobilization in Sami Politics" (University of Stockholm 1976) which is an intensive study of political development among the Reindeer Sami of northern Sweden. The paper by Linda M. Hackman and Milton M.R. Freeman noted the patterns in which the search for new sources of energy and other resources creates continual conflicts concerning the land rights. The full weight of native land rights by Inuit has just been exemplified by the three-volume report, "Inuit Land Use and Occupancy Project" (Ottawa 1976), under the auspices of Milton Freeman Research Limited.
Going to the colony: ambiguity and gossip among teachers and other Euro-Canadians in Frobisher Bay, Northwest Territories, 1971

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Introduction

It is unfortunate that with a progressively increasing interest in the Canadian north, both by public and private sectors of Canadian society, so few anthropological studies are available on the various groups of Euro-Canadians who exercise control and direction of much of the development activity at the local as well as the territorial levels. It is not surprising, however. In no colonial situation has the dominant social group ever been subjected to the same detailed investigation by social scientists as the subordinate indigenous group(s).

In 1971 I made a small attempt to redirecting the focus of anthropological inquiry away from its traditional "victims." While living with an Inuit family for most of my five months stay I conducted research among the elementary school teachers in Frobisher Bay. There were twenty-seven teachers at the Sir Martin Frobisher school. The following ethnographic data were gathered among these teachers and other non-native residents of the town (see Note 1).

Conversations with other Euro-Canadians reinforced my belief in the relevance of my interest in the readily observable and entirely obvious fact that so many people from various national, social and cultural backgrounds mingled in Frobisher Bay. I became particularly intrigued by the professional newcomers in town; and their views of the social reality of Frobisher Bay — and how they acquired these views — became a major object of my attention. How did this educated middle-class and highly mobile — transient — group of civil servants adapt to their new social environment? How did they — indeed, did they? — establish relationships with each other and with the old-time Euro-Canadians and the Inuit who were already there? How did they "explain" Frobisher Bay to themselves and to one another?

Approaching these questions theoretically by way of McHugh (1968),
Mead (1970), Paine (1967) and Shibutani (1966), among others, I looked to the pervasive themes of gossip among the Euro-Canadians for one possible answer. Gossip is one phenomenon that cannot fail to strike the visitor to the community. Another is the apparent defensiveness of many Euro-Canadians about their living there. A natural assumption is that the two phenomena may be related; this is something I will try to demonstrate in this paper. In doing so, I hope to provide factual material as well as some theoretical considerations to illustrate what "going up north" signifies to public servants in the Canadian North.

Newcomers and old-timers

As mentioned, a newcomer to Frobisher Bay was struck immediately by the tremendous amount of gossip which occurred, as well as the apparent defensiveness of many Euro-Canadians with regard to their presence in the town, or in the north generally. I learned that Frobisher Bay had a very negative press lately and that many residents were upset about the "unscrupulousness" of southern journalists. One listened to tales about the terrible isolation, the mediocrity of government personnel, and charges of favoritism and nepotism. Then one is initiated into the mythology of "being bushed" (Note 2).

Much of this and similar types of gossip seemed trivial and often incredibly malicious. Although many of the issues raised during gossip sessions may have been unimportant on the surface, they all seemed to be related to peoples' perceptions about living in Frobisher Bay - their definitions of the situation. People generally were concerned with why some people stayed while others left, and why they came "up north" in the first place. I observed many people, especially newcomers, who felt they had to explain and justify their reasons and motivations in this respect. They also frequently evaluated and conjectured about other peoples' reasons and motives.

I was told that between September and Christmas is the time when gossiping is at its highest - September is when many newcomers (especially teachers) arrive in town. This was described as "the sorting-out period." Newcomers meet each other, they meet old-timers, opinions are transmitted and received on a great variety of matters, including peoples' reasons for coming to or staying in or leaving the town. It was said among the teachers, for example, that most of them knew by Christmas whether they planned to sign up for another year in Frobisher Bay, to request a transfer to another community, or to leave the north altogether.

During this period of sorting-out, the quality of life was evaluated while people took stands, and took note of other peoples' positions on controversial or sensitive issues. Newcomers were socialized into current attitudes, values, practices, and modes of behavior considered appropriate by those
already in Frobisher Bay. These included inter-group relations within the Euro-Canadian set as well as relationships with the Inuit community. Specific individuals of both ethnic groups were singled out as examples of what the speakers meant, serving as models or as those "to stay away from."

Both old-timers and newcomers were interested in this communication game; old-timers asserted and protected vested interests in professional and social spheres as well as their "ins" with the Inuit community, while newcomers transmitted indications about the status and influence they brought with them from the outside. In turn they received indications on how much rank and power would likely be accorded to them locally. They had to discover, through gossip very often, who was important in Frobisher Bay, and what constituted their influence and power.

I was told by several people that snap decisions were often made during the first weeks in town, decisions which proved to be crucial for the rest of an individual's stay. This included individuals met and information communicated which influenced definitions of situations leading to certain associations and actions which, in the eyes of others, characterized the individual for the duration of his stay. Newcomers transmitted desires to be included into the existing social networks for their personal and group needs, while old-timers indicated which newcomers were allowed to join in-groups and what the membership entailed in terms of behavior and attitudes; other newcomers were excluded from certain groups because of things they did or said during the initial period. In some instances this process was perceived to be so ruthless that a few people said, a few weeks after their arrival, that they would "never make it" and intended to leave as soon as possible. In connection with this it has to be pointed out that all "orientation" conducted by the territorial administration is done in the north, after recruitment, and also that most departments have no formal orientation programs so that many officials may be quite unprepared when they start work.

In Frobisher Bay, as elsewhere in the western world, there was a strong belief that women gossip more than men; the latter are thought to "discuss" matters, while women gossip. This might be partly due to the fact that few women had senior positions in the various government departments and thus likely to have had less inside information. The secretaries, some of whom lunched together regularly, in this respect performed their function as "grapevine," transmitting information from one department to another.

There were many parties in Frobisher Bay where usually a great deal of liquor was consumed and where people tended to speak more freely than at other times. This might well be one of the reasons for the excessive alcohol consumption among many Euro-Canadians in the north; the various socio-cultural backgrounds and the high personnel turnover, necessitating making new acquaintances and friends constantly, require mechanisms to
facilitate and accelerate social interaction. Also, perceptions regarding shared feelings of isolation, frustration, and culture-shock may well have prompted people to rely on gossip more than they would have in their home environments. Alcohol helped to accomplish this.

One can see much of the social interaction, including the partying and the drinking, as well as the necessity for frequent gossip, in the light of Vallee's (1962: 98) analogy of northern residents with passengers on a cruise:

"The Kabloona form a community rather like one formed by passengers on a long cruise; they are in intimate contact with one another for a period, but are always aware that this contact is likely to be broken once the fellow-passengers leave the ship."

While on the cruise people make snap judgements about one another. They neither know nor care much about each other's backgrounds or plans for the future, and thus they exchange confidences and discuss events and personalities, knowing that soon they will leave, or that the others will. Under those circumstances some conventional social barriers may be broken down, especially when people are reacting to one another's discomfort or frustrations, as was the case in Frobisher Bay.

I was told by several people, "Although we work together now, who knows who will be here next year and what it will be like then." Others said that "so-and-so is quickly working himself out of a job and I just hate to think who they will be sending in next." Several people mentioned that it became very lonely in the north after a number of years because "one loses one's friends so frequently." One woman I spoke with told me repeatedly that her decision to resign at the end of the year was based on the fact that the friends she had made in previous years had all left and she wished not to invest more energy and emotion in making new ones. This point was stressed by several others, especially single people, who had lived in Frobisher Bay for a number of years. They said that they had made friends, "often with the help of partying, drinking or joining social clubs" they were not really interested in. The high psychological cost led some to say, "It is extremely difficult to remain human in an inhuman environment."

Reasons for going up north

As suggested already, many people, especially newcomers, felt they had to justify their reasons for being in Frobisher Bay; and it was in connection with this that the frequent evaluations and conjectures were made concerning other peoples' reasons and motives. Reasons attributed to others were often couched in negative terms and often with a somewhat moralistic overtone. They can be divided into three major categories: 1) financial,
2) professional, and 3) personal reasons.

The reason ascribed to a person - although originally perhaps no more than a loose conjecture - was likely to become accepted as a virtual categorization of the "whole" of that person. If, for example, a professional reason for being in Frobisher Bay was attributed to someone, that reason with all its implicit assumptions and connotations was often felt to explain that person. I found little perception of a possible change in peoples' reasons for being in the north, and there seemed to be a tendency to view others in one-dimensional terms.

1) Financial reasons

In this first category some of the most often heard statements were: "They only came here for the money," and "He is here to make a stake" or "He had debts and had to make some money quick." The implication was that once these financial goals were met, the people would leave to go back to the south. I met several people, and heard about many others, who indeed quite openly stated they were in Frobisher Bay "for the money." They intended to save as much as they could to settle down in the south. Some of their goals were quite specific: a farm in Ontario, a trip around the world, retirement funds or the establishment of a private business. The north seemed to offer people like these a better opportunity to satisfy their material needs than a comparable period working elsewhere would, especially, as they said, "There is nothing here to spend money on anyway." These were often also the people who complained most bitterly about the high food prices since they wanted to avoid spending their salary on daily necessities as they would have done in the south.

A woman who had lived in the western Arctic for many years remarked upon the differences between the residents of the two regions. She found that people in Frobisher Bay "don't spend their money like in the west. There they enjoy life, they buy things, charter planes and, in general, try to have a good time." She was amazed at the number of wives who were working. The ideal of such couples often was to bank one of the salaries, and a favorite pastime therefore was to guess how much people took out when they left; amounts like $20,000 and $30,000 were mentioned. Some were believed to play heavily on the stockmarket via long-distance telephone, while others were thought to make their stakes playing poker.

In addition, several people were "moon-lighting;" selling insurance on a part-time basis, working in the hotel kitchen at night or tending bar. Several wives tried to supplement their husbands' incomes by running small businesses in their homes; selling Avon cosmetics, providing hair-dressing services or operating small boutiques. I was told a supposedly authentic story which illustrates well the type of tales being told in Frobisher Bay. A professional couple came to the Baffin region
on a one-year contract. They had decided to file for divorce, but before doing so they wanted sufficient funds to enable each to go his and her own way. While they were both employed in a small community with a few other Euro-Canadians, personal problems between them were magnified by the isolation, and they had to be flown out before their year was up (Note 3).

2) Professional reasons

These reasons attributed to others were surrounded by a certain amount of uncertainty. Since the change-over of jurisdiction to the territorial government (1967, but effective in the eastern Arctic only in 1971) there has been considerable job insecurity among some employees. I was given the impression that "in the old days of the federal government" firing was practically unheard of. Once one had a northern position one's future in the civil service was secure; the worst which could happen was an unwanted or undesirable transfer, including back to Ottawa. In 1971 the territorial government was felt to be "tightening up" (Note 4). This situation was compounded by the new ideology of "obsolescence." This ideology was first expressed by the Hon. Jean Chrétien, Minister of the Department of Indian Affairs and Northern Development, in a speech to the Yellowknife Board of Trade on November 10, 1969 (Lotz 1970: 148). For a number of years the Commissioner and other senior territorial officials included references to the ideology in their speeches while travelling in the territories. The ideology (I use this term intentionally since it never really became "policy") had as stated goal "to have 75% of all staff positions in the Territories filled by local residents by 1977" (Canada Year Book 1970-71).

For example, on a trip to the eastern Arctic in November 1971, Commissioner S.M. Hodgson said at a community meeting in Grise Fjord: "This means that every settlement manager who is now employed by the government, has to work himself out of a job and that local people have to be trained to take over." The fact that the terms "local people," "northerners" and "native people" were used interchangeably left some ambiguity in the minds of Euro-Canadians, especially since few knew whether the ideology had become official policy and through which programs it was to be implemented (Note 5).

The most-often heard phrase when people were attributing professional reasons to others was, "He couldn't find a job in the south." This referred to rising unemployment in southern Canada as well as the supposed deficient capabilities of the person in question. Either an individual's qualifications were thought to be unacceptable for employment in the south, or his work record was such that the north was the only place left for him: "This was all he could find." Non-Canadians were sometimes singled out in this respect since it was believed that their degrees or diplomas were not valid in most provinces. I met several non-Canadians who admitted this fact: the Province of
Newfoundland and the Northwest Territories were the only places in Canada where they could practice their trade or profession without retraining or rewriting examinations.

Furthermore, it was recognized that for some people a few years of "arctic" or "cross-cultural" experience would be valuable in their specific careers. In those cases a number of years in northern service was viewed as a calculated move and a stepping-stone in a career culminating outside the territories. Transients in Frobisher Bay were sometimes also perceived as "on the way up in the system," since a transfer to another settlement in the north usually meant a promotion (Note 6). Some of these judgements were reserved for men married to Inuit women; these were considered to have an unfair advantage over others because it was believed that "nobody can fire them." It was thought that by "marrying native" some men assured themselves of job security. Inter-ethnic marriages were sometimes described as "political moves" on the part of the men attempting to entrench themselves in the bureaucratic system. It was said that most Inuit women were not able, or not willing, to adjust to life in the south. Their husbands were thus, by virtue of their marriage, condemned to a life of "exile." Opinions of some Euro-Canadians were quite strong on this point but usually not very consistent.

I was told that "These women are dragging their husbands down" or "They can't have anything in common." On the other hand, some of these marriages were perceived as "irresponsible" and the men "married for sex only."

This second category of reasons attributed to others was also the area in which antagonisms between old-timers and newcomers was most prominent. Old-timers viewed the many recent arrivals as interlopers. Their professional ethics and goals, their impatience to get a job done, and their ignorance of (and sometimes lack of interest in) the country and people were likely to destroy the delicate balance between isolation and commitment which some of the old-timers had achieved. The attitude of many old-timers was: "We have seen them come and go. Usually they don't stay long enough to implement the policies and programs they propose." The resentment of old-timers is understandable if one remembers that they have to live with the results or mistakes made by transients, especially the many unanticipated consequences of "experimental" programs initiated by newcomers without proper consultation soon after arrival.

One old-timer, in Frobisher Bay since 1964, told me, "I don't know the teachers this year." He implied that he had seen so many teachers passing through during previous years that he could not be bothered to concern himself with them. His wife knew only the teacher of her school-age son. She was equally disinterested in the others and said to me, "Oh, they are all the same anyway. They are here for the money and if they can't hack it anymore they'll leave." Both these people were vitally concerned with the town but tended to associate mainly with
other residents of some years standing. There was a general tendency among old-timers not to take newcomers very seriously until they had managed to get through their first winter and returned after their first summer holiday. Then it was said: "Perhaps they will do, after all."

To some old-timers, in fact, many of the newcomers may have appeared threatening. They may have had up-to-date degrees and training or higher qualifications. Also they tended to criticize what they failed to understand; they pointed out things which "should have been done long ago" or which "could have been done better." They might say, "From now on things are going to shape up around here." Old-timers said to that, "Let them stay for a while and they'll find out what it's really like" or "They'll pipe down after a while." Of course, this placed some newcomers in difficult positions, particularly if they were under instructions "to shake things up a bit" or "to take care of the trouble up there," as they said themselves.

An old-timer told me that "People are not committed to Frobisher Bay as a community where they plan to stay and bring up their children. The result is that they only take but don't put anything back in." Some of the old-timers liked to see the town, and the north generally, develop in certain ways, and they often had vested interests in this process. They saw transients assume control and newly created impersonal agencies with rapidly changing personnel increasingly take over their former responsibilities. Some told me, "Frobisher Bay is getting too large ... we can't keep our eyes on what happens anymore."

The annual "spring exodus" when people leave for good or to take their holidays in the south was described as "a real strain on those who stay behind." Some said that the high personnel turnover was "offensive." These feelings were intensified among those old-timers who would have liked to leave themselves, but could not. With rising unemployment in Canada many people found it difficult to obtain positions elsewhere equal in rank and salary to the ones they held in the north. It was well-known in town that a department director, in Frobisher Bay for about four years, had been applying for a new job in southern Canada but was unable to find one comparable to the one he had in Frobisher Bay. The view of several people was that "He hates it here, and you should hear his wife .... She can't stand the place." I discovered several similar cases among other old-timers.

As old-timers were quick to point out, a long stay in the north does not necessarily imply commitment or dedication to the region or the people. Indeed, when listening to them, I often heard charges of "stagnation," "becoming parochial," "being bushed" and "out of touch with the world." Talk between old-timers indicated that some actually disliked living in the north but saw no chance "to get out" or that, since salaries were high, they decided "to stick it out as long as possible." One couple, which had lived in a small settlement for several years and were in their first
year in Frobisher Bay, said that they felt they were stagnating: "We don't really care anymore about what happens in the rest of the world. Listening to the news is an effort and we hardly read our newspapers." About other old-timers they remarked, "After a while, all you meet are others in the same boat. They have lost interest, even to do a good job." Similar sentiments were expressed by people when saying, "Just go along, save your neck, that's the way to survive here" and "Just drink with the boys and you'll be O.K. here."

Not surprisingly, to some newcomers old-timers appeared as "those sad people who have given up competing." They were thought to be "unable to make it in the south" and "surviving" in the north because they had "lowered their standards." In many cases adjustments made by old-timers to a "northern" life-style (less emphasis on punctuality, cleanliness, and other features of the southern middle-class image) were condemned by newcomers in terms of lowering standards. I heard that, "They came here when the going was good; they wouldn't be able to get a job now if they applied for it," implying their inferior capacities as well as the fact that they seemed to be "in a rut" and had "given up." Some newcomers felt it best therefore not to stay in the north too long in order not to become like the old-timers, and also because it might lessen their professional opportunities in the south.

3) Personal reasons

The third category of reasons attributed to others was varied. It included perceptions of "problems" and "troubles" which supposedly had driven people to the north. In connection with this I frequently heard the terms "second-raters" and "rejects." The reasons mentioned included marital problems, a criminal record, alcoholism, an irregular work record, and so on. In general, these people were perceived as escapers of some kind, who under normal circumstances would not have dreamt of going north. Often an unhappy or unstable background was assumed or documented, and these people were believed to be running away from difficult situations, from certain people (wives, husbands, lovers, employers, the authorities, etc.), or just because "they had to get away from it all." If one believed what was being said in Frobisher Bay, there must have been hundreds of people who came "to dry out" and a few hundred more with troubled marriage relations or broken love affairs.

Reasons attributed to single women were often sexual in nature. It was said that they came "to find a man" or because they were "running away from a man," while others were believed to have come "to have a good time." Implied was the belief that supervision and social sanctioning of single women was much more relaxed in the north. One girl of my acquaintance must have believed this too; since her arrival in September until Christmas she had a score of different boyfriends, went to as
many parties as she was invited to, drank a lot, and generally behaved in a manner she admitted she would not "have gotten away with at home." Old-timers, commenting on her conduct, explained that they had seen this happen many times; single girls, especially those from rural areas, find the newly found freedom so irresistible that "they go haywire."

While some local matrons felt threatened by the presence of single females, men travelling through town, to and from the settlements, as well as local male residents were quick to take advantage of them. Single women who were disinclined to drink, flirt, and occasionally make themselves available as sexual partners were likely to have a difficult time in Frobisher Bay and find their social life limited and lonely. Reasons for coming north attributed to girls and single women of any age were seldom professional or financial, and it was often remarked that by going north "women put themselves on the market." These views were shared by male and female residents.

Other than escapists, Frobisher Bay was believed to have among the non-native inhabitants a number of drifters, people who travel and move from place to place because they fail "to fit in anywhere." It was said, however, that "they can give a few years of very good service." Although they didn't like to stay anywhere for too long, they were respected because of their "independence." I met a few men who openly stated: "I never stay anywhere longer than a year." Some of them were believed to have come north in the hope of doing a responsible job well, but with little supervision and "no bureaucratic hassles." I was told, "These are the ones who don't like anybody breathing down their neck." Some had histories of "job troubles" but, as one employer explained, they were hired regardless of unstable employment records; the main reason being that their mobility had given them a certain detachment and helped them shed some of the ethnocentrism. They were thus believed to suffer less from culture-shock and to be able "to take things in their stride" without identifying too intensely with the local situation. They were also less likely to be "idealists" or "Peace Corps types," who "want to change everything overnight."

People in the latter category, a few of whom were in Frobisher Bay, usually provoked strong negative reactions from other Euro-Canadians. Those who had been overseas with C.U.S.O. or who belonged to a fundamentalist religious denomination, for example, were often placed in this category. It was said that, "They usually don't last long here." The reasons given were two-fold: either they were ostracized to such a degree that their situation, professionally as well as socially, became untenable and they left, or they themselves could not resolve the conflict between their ideals (these usually included variations of "helping the Eskimos" or "helping the Eskimos help themselves") and the realities of a colonial bureaucratic system which did not support them in the ways they desired, and according to them, the situation warranted. It was said that the idealists "set their
expectations too high," "don't understand the local situation" and become easily impatient and disillusioned. One woman said to me: "I'm going to leave. The problems are so immense and nobody really wants to solve them. So why stay?" Such people were sometimes called "Eskimo lovers" (this term had the same negative connotations as "nigger lover"), and when they left the north it was observed that, "See, they couldn't hack it."

4) The exceptions

It is sad but true that one seldom heard reasons of a positive nature attributed to others. When people reflected about motives which made others come north, one rarely heard that they might have come because they really wanted to, or because they were interested in the country, its development, the fate of the indigenous peoples, and so on. Barger (1972: 9) has said the following of the Euro-Canadians in Great Whale River:

"The Whites appear to possess a somewhat tenuous self-esteem. A sense of guilt and insecurity indicate some self-judgement and lack of self-assuredness. Frequent judgement and condemnation of others might reflect an outward projection of a tenuous self-image."

If this was so in Frobisher Bay — and I am not qualified to say whether it was — the usually negative reasons attributed to others may have reflected attributes and motives the individuals questioned in themselves, and thus may have been conscious or subconscious rationalizations of their own motivations for being in the north. One person told me shortly before I left: "O.K., if you want me to be really honest, I would have to say that I was fired from several jobs down south. I just couldn't take it anymore and didn't know where to turn or what to do .... So, I came up here." Although not equally frank, several other people indicated similar sentiments when discussing their past.

However, many other people gave positive reasons for being in Frobisher Bay, and in many instances they appeared to be quite genuine. I met, and was told of, several people who seemed to have made a successful adjustment to their new environment, who found their jobs rewarding and interesting, who enjoyed the social life, and who saw their future (at least, the near future) in the north, although not necessarily in Frobisher Bay. One such person said, "I can't visualize myself living anywhere else anymore." Another told me, "I really like it here. It is so unlike Montreal or Toronto where nobody looks you in the eye. Here, when I walk into town, I'm greeted all the time, and I know everybody." Somebody else observed, "You find out that the things you were used to in the south are not that important after a while, and there is so much to compensate for them."

These people had in common the enjoyment of certain perceived advantages which the north offered them over the south: a
peaceful rhythm of life and a lack of tension, a beautiful landscape and unpolluted air and water, a good standard of living, close family relations, and satisfying close interaction with others who enjoyed the same life-style. When mentioning these positive aspects of their life in the north they did not, as did many others, dwell on what was unavailable. The felt deprivations of Euro-Canadians are too numerous to mention here, but they generally contained the common themes of lack of choice and variety with respect to housing, food and clothing, entertainment, and the lack, as well as the rapid change, of like-minded people from among whom to choose friends (Note 7).

Discussion

Throughout this paper the focus of attention has been on Euro-Canadian perceptions of social reality in Frobisher Bay. The theoretical orientation, largely implicit, has been that of the so-called symbolic interactionists. Elsewhere (Koster 1972, 1977), I attempt to analyze some of the theoretical implications of the role and nature of "Frobisher Bay gossip," which is quite different from that traditionally treated in the anthropological literature. There I also made a beginning attempt to place the material on the non-native sector of the north within the conceptual framework of the total colonial situation because I strongly agree with authors such as Balandier (1970), Fanon (1968), Frank (1972), Memmi (1967), Mercier (1965), to name but a few, that colonialism "remains one of the main issues with which specialists in the social sciences have to deal" (Balandier 1970: 21). I further agree with Brody (1974) about the theoretically and politically conservative nature of much of northern anthropology, and with his observations that analogies with colonized and/or Third World peoples have not been recognized by most anthropologists writing about the north.

Antagonisms, conflicts, and socio-psychological relations and pathologies observed in many culture-contact situations can be adequately explained only within the colonial framework. It is my thesis that the material supplied in this paper is also best understood in terms of the internal colonialism of Canada's northland. Consequently, "going up north" is, in effect, very much like "going to the colony." Attitudes, behavior, reactions, and adjustments of Euro-Canadians in Frobisher Bay, as elsewhere in the north, have to be related to the colonial system they are part of. Memmi's (1967) analysis of colonialism is particularly illuminating in this respect since the author differentiates between three possible types of "Europeans in the colonies:" the colonials, colonizers, and colonialists, thereby drawing attention to the ambiguity which the colonial situation presents to members of the dominant group with regard to their options in the formation of meanings they attribute to their situation, their choice of reference groups, and their views of and relationships with the indigenous populations.
Space does not permit me to develop this argument at this stage. Therefore, I want only to present a few more ethnographic observations to establish more closely the relationship between ambiguity and gossip in association with the defensive behavior exhibited by many Euro-Canadians in Frobisher Bay.

Ambiguity

Most striking in Frobisher Bay was the pervasive ambiguity experienced and expressed by many Euro-Canadians, especially in the occupational sphere by service-oriented professionals (adult education, local government and economic development officers, teachers, social workers, and so on). Among the teachers, who were the primary subjects of my research, as well as among the many others in the territorial public service I found a general confusion about the goals and objectives of government policies and programs. It was often said, and sometimes documented with concrete evidence, that superiors held varying or even conflicting ideas on what the problems were and how these should be tackled on the macro- and micro-levels. Morale was low and many employees did not seem to have a clear idea of their position and role within the bureaucratic system, or they were extremely unhappy with the duties they appeared to have been allocated. Levels of authority and channels of decision-making were often perceived to be unclearly defined, while departmental as well as individual responsibilities were uncertain.

Adequate job descriptions were often lacking and communication within and between departments was poorly developed and the source of a great deal of frustration. It was generally believed that many of the decisions and judgements that officials were required to make depended on the intimate acquaintance with the Inuit, while it was also recognized that such knowledge was most difficult to obtain in Frobisher Bay where the two ethnic groups lived quite segregated, physically as well as socially. The lack of easy communication (often conducted with the aid of untrained interpreters or children), little informal social interaction, and the lack of mutual understanding of basic belief and value positions, resulted in doubts, unease and suspicion, and consequently in cynicism (Note 8).

Also it was said that a public servant in the north "only begins to earn his keep" after about a year of adjustment and learning. Furthermore, pertinent files regarding programs and persons were often said to be stored in Ottawa while current ones were often sent on to headquarters in Yellowknife. These factors, together with the short tenure of many of the officials, usually without a period of overlap between incumbents of positions, led to bitter complaints about the general lack of relevant information and knowledge needed to fulfill occupational duties.

Given this situation, the prevalence and nature of gossip and the defensiveness of many Euro-Canadians should come as no surprise;
in fact, I argue that gossip in a town such as Frobisher Bay is
eminently predictable because it is one of the prime mechanisms
which keep it operating, while the defensiveness of many of the
non-native residents is understandable if one analyzes it in
terms of the social and psychological contradictions inherent in
the colonial situation.

The data presented concerns gossip. This provided the opportunity
to look at an aspect of life in Frobisher Bay in terms of symbolic
interaction, and at the same time helped to keep the analysis
within manageable limits; obviously this is only one of the many
possible ways of approaching a complex subject matter. Both Paine
(1967) and Shibutani (1966) emphasized the communication aspect of
gossip. Gossip, said Shibutani, "... is restricted to small
local groups in which members are bound by personal contacts and
corns the private and intimate details of the traits and
conduct of specific individuals" (ibid. 1966: 41-42); and for
Paine, "... a working definition of gossip would include,
1. talk of personalities and their involvement in events of the
community, 2. talk that draws out other persons to talk in this
way" (ibid. 1967: 283).

The gossiper both wants to receive and to disseminate information
to project and protect individual or group interests. This is
particularly crucial in situations of extreme ambiguity as a
means of obtaining and transmitting information about the world,
one's fellows, and oneself. Periods of rapid socio-cultural
change and cross-cultural situations are often perceived as
ambiguous. They are characterized by a lack of useful information
via formal legitimate channels of communication, or the
information available via these channels is perceived as
unreliable, contradictory or open to various conflicting
interceptions. Under such circumstances supplementary
communication channels, such as rumor and gossip, are employed to
reduce the stress arising out of the ambiguous situation.

In the light of the above, the sorting-out period previously
referred to is understandably important in the socialization
process that newcomers go through when arriving in town.
Furthermore, the position of the exceptions becomes clear, i.e.
those who did not, or at least very rarely, take part in
gossiping. For example, the school staffroom was a rich hunting
ground for gossipers but not all teachers took advantage of this
opportunity for information-gathering and conjecture. On the
contrary, some quite deliberately stayed away from the room for
two stated reasons: they did not require nor trust the
information which was transmitted there, and they did not want to
share with others information in their possession.

The same applied to other residents, old-timers as well as some
of the newcomers, who avoided places in town where they knew
gossip sessions would likely be held. In accord with the
theoretical approach of this essay, I seek the explanation in
terms of the meanings these individuals had formulated for
themselves with regard to their stay and their role in Frobisher Bay, and the perceived quality of their lives. I hypothesize therefore that, unlike others, they had access to satisfactory communication channels and thus did not experience the same frustrations as did the others. Women, it was said, were particularly associated with gossip, and as a group they were, in effect, disadvantaged with respect to direct access to information.

Not surprisingly then, the non-gossipers were quite often the same people whom I referred to earlier as having made a satisfying adjustment to northern life. Some of them told me that they were usually too busy with work, sports, hobbies, and their families to bother about going to parties to gossip. Nor did they frantically seek to gather or disseminate information since they possessed established and well-functioning communication channels which they could tap if and when a particular instance required it. These channels sometimes included members of the Inuit community, a fact not usually publicized.

Conclusions

The most important and awesome unexpected consequences (to some observers, at least) of development and economic change in northern Canada are the rapid bureaucratization of its administration and the increasing proletarianization of the original native populations. From a modest beginning with approximately thirty officials in 1967, the territorial government now employs about twenty-three hundred people, while the various federal departments have an even greater number of officials in the north. Those in decision-making positions in both governments are largely non-native "job-holders" who remain in a particular settlement, or in the north, usually for only a limited number of years.

The organizations to which native people are being appointed or elected in the process of bureaucratization (hunting and trapping associations, boards of cooperatives, housing associations, school advisory boards, community councils, etc.) serve mainly advisory capacities. They have little real power to influence the course of events but appear to be handy vehicles for the administration to impose its point of view. Native leaders continue to be perceived primarily as "middle-men," "brokers," or in terms of liaison between the ethnic groups, but the chain of communication appears to be more effectively used from the top down than in the opposite direction.

Traditionally, anthropologists appeared to think that their mission was to study all those peoples most unlike themselves, i.e. non-western and non-middle class. In the north, researchers with few exceptions have also concentrated their efforts on the study of the indigenous populations. Rarely, however, were these studies placed in the colonial framework where they belonged, and
rarely did the researchers deal with social class in addition to culture. Consequently, the northern literature provides us with a one-sided and slanted picture of the dynamics of the empirical reality. In recent years social scientists have become increasingly more self-conscious about their craft, about its goals, ethics, moral and political obligations. It is by now generally known that anthropologists are not exactly popular in the north today, especially not among the native people. The pages of professional journals have been filled with various propositions in an attempt to salvage something of the "sagging image" of anthropology, to "redefine the role" of its practitioners, and with proposals of good intentions to "mend ways" (participation with local people in research formulation, feedback of results to the communities, translations of research material into native languages, and so forth).

However, it seems to me that many of such good intentions which nowadays abound among social scientists of the liberal variety will come to nothing if it is not understood at the same time that when conceptual and (therefore) theoretical and methodological approaches to the subject matter are unsuitable, the results will be unsuitable too. Social science data can be used or abused (or ignored, of course), but the "wrong kind" of data is a priori dangerous, socially and politically, that is, and it is on these terms that the activities of social scientists must ultimately be judged. It is on these terms also that some of the traditional social anthropologists have done the people of the north a disservice; their theoretical formulations, terminologies, and field methods were often inimical to the felt needs, frustrations, and socio-political aspirations of the native people. Drastic rethinking and restating of models and theories are thus necessary, particularly in view of the fact that popularizing and vulgar notions of scientific constructs are increasingly being used for public policy purposes and statements (if only as rationalizations), and even more importantly, because native organizations in the NWT, as elsewhere in Canada, are turning to social scientists to help prepare needed background research material in their struggle over aboriginal and treaty rights, as well as land claims negotiations or litigations.

Let us thus finally resolve to get rid of antediluvian theories, terminologies, and conceptual frameworks associated with African studies and North American "reserve societies" of the heydays of colonial anthropology between the two world wars. Let us, when considering northern resource development, analyze it in terms of imperialism; let us investigate the internal colonialism perpetrated in the satellite northland; let us realize that acculturation is less the issue than assimilation and proletarianization; let us inquire into the class interests of Euro-Canadians in the north as well as those in policy-formulating and decision-making positions in southern Canada. Let us expose those theorists - conservative and paternalistic as they are - who continue to write about the native peoples of the north in terms of socially and politically counter-productive concepts and
theories. Let us instead attempt to provide an alternative vision and study different "problems:" perhaps "studying up," as Nader (1972) has suggested, is the best place to start, recognizing that "problem, method, and theory are locked together in a dialectic where they create each other" (Donald 1974: 861).

Notes

1. This paper is a revised version of parts of my M.A. thesis which was based on five months field work in Frobisher Bay during 1971. The research was partly funded by Memorial University of Newfoundland's Institute of Social and Economic Research. The thesis dealt with the teachers and the educational system. Some of the more general observations are worked out in this paper. I gratefully acknowledge the help which, at various times, Professors M.M.R. Freeman, R. Paine, R. Slobodin, and R.A. Stebbins have given me in dealing with this material.

2. "Being bushed" was explained to me as follows: "It is a feeling of being locked in, of being imprisoned with the walls closing in on you. You just have to get out or go crazy." Getting out means leaving the north, either totally or for a long holiday. Implied in the concept is that the "bushed" individual is no longer responsible for his actions, and that he no longer conforms to the respectable middle-class image most Euro-Canadians want to maintain. A girl, who because of promiscuous behavior, had been the subject of much malicious gossip, suddenly received the label "bushed." Immediately people pitied her and said, "She doesn't care anymore what happens to her. She should leave." It also seemed to be possible to arrive "bushed," but how that worked I never really understood.

3. According to informants in Yellowknife (summer 1974) the financial reason has decreased because present salaries are alleged to be not much higher than in the provinces while living standards in the territories are considerably higher. I was told by several senior officials that it is now very difficult "to maintain a competitive position in the Canadian labor market." The fact that in May 1974 the territorial government listed 435 job vacancies is partly related to this.

4. However, I was also told at the same time that, because of recruitment and removal expenses, the administration did not encourage frequent or detailed supervision and inspection of the employees, in order that they might remain in the northern service.

5. Asking about the fate of the ideology in Yellowknife (summer 1974), I was given to understand that it had died "an unofficial death" and was not referred to anymore in polite company. According to a territorial government report the
employment of Inuit, Indian, and Metis people in territorial public service "has never exceeded 21%." Most of the native people presently employed have been recruited through special programs such as the Interpreters Corps, Classroom Assistants and Teacher Training programs, Hire North and various apprenticeship programs. But for the occasional temporary exception, no native person is employed at a managerial level (Report on the Task Force on Personnel Policy and Management, Government of the Northwest Territories, August 12, 1974).

6. The structure of the administrative system itself appears to make frequent transfers inevitable, particularly for purposes of promotion within the system. Senior officials are often transferred "to take care of a difficult situation." Also, until recently it was official policy to remove employees after five years in any one settlement, presumably to counteract over-identification with the particular inhabitants and their problems and needs, and to maintain official impartiality and impersonality, considered to be essential and desirable features in western bureaucracies.

7. I do not, however, want to minimize the very real physiological and psychological stress involved in adjusting to a new, often called "extreme," environment such as the Arctic (cf. Stillner and Stillner 1974).

8. Regardless of conflicts within the Euro-Canadian sector (social, professional, political, etc.) there was a conscious effort to maintain "white solidarity" vis-à-vis the Inuit. This was often verbalized and usually explained in terms of "having to set an example," or variations of the "missionary" sentiments prevalent among Euro-Canadians. Social withdrawal was frowned upon, especially if it involved relations with Inuit people (visiting, drinking or sex), which quickly earned a person the label "bushed" and also excluded him from access to information. Consequently, many Euro-Canadians were self-conscious in their interaction with Inuit, and largely operated on the basis of out-of-date stereotypes regarding "the real Eskimo," because many of the books and films available emphasized traditional culture. The lack of social contact, visiting in homes for example, meant that many Euro-Canadians were unaware of present Inuit life-styles. Inter-ethnic contact was generally limited to on-the-job situations in which the Inuit were usually the client, patient, worker or student. Information about the Inuit as individuals and Inuit culture was thus derived mainly from occupationally-specific contact, as well as discussions and story-swapping with other Euro-Canadians.

Literature


Inuit pivalliajut: the cultural and identity consequences of the commercialization of Canadian Inuit Art

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Introduction

This paper examines the effects of one major set of economic changes on the recent history of the Canadian Inuit and places these processes in perspective in an almost unilinear scheme of cultural change (see Note 1). The theoretical framework is modified from "Economic Acculturation and Caste Formation" (Graburn 1967), with further modification inspired by and major stages confirmed by Bodley (1975). The point of this paper may be summarized as follows: the introduction in 1949 and subsequent promotion of commercial soapstone carving and other arts among the Canadian Inuit moved them along the path away from their first and failing special economic relationship to the outside world - commercial trapping and hunting - to a new specialty - commercial crafts - and that consequently the Inuit have learned a new identity for themselves and have come to emulate many of the values and institutions of the majority Euro-Canadian culture. Thus the Inuit now are enjoying some of the occupational roles and cultural behaviors of the majority Canadians as they pursue their relatively affluent path to a kind of assimilation. The Inuit represent a rare case in which, as an overpowered minority group they are not especially depressed nor despised by the upper caste white Canadians.

Theoretical framework

Here I suggest that the examination of acculturation processes should focus on the changing natures of cultural boundaries, and on the structural opposition between the social entities sharing the boundary (Koster 1974). Most studies of acculturation have been static and have dealt with one "stage" or type of acculturative situation. On the other hand more recent successful dynamic analyses have tended to deal with situations in very complex societies.
I limit my considerations to societies in contact, resembling the Inuit-Canadian situation, with the following conditions: 1) one of the societies is complex, "civilized," etc. while the other is "tribal," small scale or "primitive" (Note 2); 2) the complex society is overwhelmingly dominant in numbers as well as in technology and energy control; 3) the complex society has colonized or "engulfed" the territory traditionally occupied by the other(s); 4) there is a culturally defined "ethnic" difference between the two groups.

The fate of most of the world's small-scale societies has fallen or will fall within this type of situation; it is in fact a large part of the real "evolution" of the world's societies. Stated most broadly, this path leads from independence, through dependence, caste and finally some kind of assimilation - if extinction does not occur along the way.

Such situations and processes (limited by the foregoing) tend to resemble each other whenever and wherever they have occurred - almost irrespective of the nature of the dominant society and culture or of the smaller society and culture. I therefore posit a series of stages or processes, starting at initial contact, most of which follow each other sequentially, but a few of which are simultaneous alternates. Such parallel processes have also been suggested by Murphy and Steward (1956) and Bodley (1975).

Although I have laid out these "periods" or "stages" of acculturation along a chronological continuum and intend that the order be relatively unvarying, it is often the case that many of the processes occur simultaneously, e.g. 1, 2 and 3 may be very difficult to separate (Table 10). Another feature is that the durations of the period are not equal or constant. 1. may be long or short dependent on the attractiveness of the area to conquering powers. 6. may be long - seemingly eternal in some cases - and 7. which accompanies it may be very, very long for the kinds of situations with which I am here concerned.

Economic acculturation of the Canadian Inuit

Stage 1. First contacts - between the smaller and the encroaching complex society (of course one should not assume the smaller society was isolated from others of its own scale). If the larger group has any real intention of making significant contacts, either society can determine whether contacts are friendly or warlike. Military contacts may cause some social regrouping for the smaller society, especially if it has a tradition of warfare and allies. In any case, hostile or friendly, the nature of the initial contacts makes very little difference in the long run, except sometimes to increase the numerical superiority of the larger society. Some Canadian Inuit contacts were originally warlike (Graburn 1969a: 86-93) but have been overwhelmingly friendly within the last century.
Stage 2. Take-over; we are assuming the larger society had the desire to engulf the tribal peoples or their territory. Sooner or later the larger group takes over the land of the smaller administratively and later perhaps, physically, for economic or political purposes, as the Hudson's Bay Company and later the Government of Canada have done in the Arctic (Graburn 1969a: 117-120; Jenness 1964).

Stage 3. The initial economic relationship between the two groups may be of three kinds: (a) If the larger society merely wishes to exploit the resources of the region, it will care less for the fate of the tribal peoples, may exterminate or herd them out of the way as is happening in Brazil now (Bodley 1975: 71). In this case there is extinction, withdrawal, sometimes "Nativistic movements" and a move to Stage 5 below. (b) If the larger society wishes to exploit the area using the labor of the tribal peoples, it will probably have to use coercion if the labor is of an unfamiliar or particularly harsh type, although not necessarily as in the case of Inuit working on whaling ships or mining in the Eastern Arctic. This may lead to extinction or to a drastic social reorganization of the tribal peoples for labor purposes. By labor, I mean to include slavery, indentured labour, military service, etc. If the subjected peoples survive, they eventually move to Stage 5. (c) If the larger society wishes to make use of native skills or products, of types fairly familiar to the tribal peoples the situation may seem mutually beneficial to both groups for a time. The tribal peoples usually enter into this initial economic relationship in order to pursue their traditional activities more efficiently, e.g. the Inuit buying guns to hunt and having to trap to earn credit to buy guns. Historical materials demonstrate that though some Inuit had to be induced to trade by gifts and bribes, most of them quickly took to bartering their crafts and skins for imported metals and manufactures (Graburn 1969a: 93-106). This trade established their first long-term special economic relationship with the outside world as one of trapping and commercial hunting which greatly affected their aboriginal annual cycle and led to changed yet stable adaptation.

Stage 4. Structural Incorporation: there seems to be a period of relative stability during which perhaps both groups seem to benefit, especially after initiation of Stage 3(c). However, the larger society always ensures that it at least benefits by structuring the new economic relationships as did the Hudson's Bay Company until the late 1930s and 1940s. The consequences are far-reaching and irreversible. Sooner or later the tribal peoples undergo a number of changes which appear to be parallel the world over. Loss of traditional skills, except those actually needed to maintain the relationships, is often a quick process and reaches a point of no return. The social organizational consequences are just as important; they may not be directly at the behest of the larger society but may involve such phenomena as "the white man's chief" even at this stage. Many of the previously "horizontal" intra-tribal bonds are replaced by "vertical" ties to traders,
employers and other agents (Balikci 1959). Some might say that for certain purposes the tribal society has "disintegrated" but it would be better to think of it as having been re-integrated into the larger whole.

This may be called structural incorporation. The tribal group is no longer a "whole" on its own. It can no longer function as an independent entity. Also its loss of skills may prevent it from doing so technologically for its members have become dependent on the larger group in essential ways. This was disastrously exemplified by the Canadian Inuit in the early 1940s when due to the problems of World War II and the uncertain price of fox skins, trading posts were either unable to supply essentials such as ammunition, store foods or credit in some areas. This led to waves of starvation among both the Inuit and Naskapi as they were unable to return to their traditional technology given the changes in availability and behavior of game animals.

At the same time the smaller society - the now "ex-tribal" peoples - may have had the opportunity for a certain amount of cultural assimilation, meaning most simply that they have reoriented many of their goals towards those of the larger society (though they may not have the means of achieving them). They have adopted aspects of the belief system and technology of the larger society and they form but one part of the larger economic scheme of the complex society.

At this stage, they have become a caste within the complex whole, and the boundary between the two societies has changed from external to internal (Note 3). Characteristics of caste include hereditary ascription to certain roles and tasks within the overall group, endogamy within each sub-group, and hierarchical arrangements of power within the system. Other accompanying but not necessary features of caste societies, such as this situation, include stressed "cultural" differences between the part-societies, marked differences in standard of living, and sexual access for men of the higher caste to the women of the lower but not vice versa. Even the concept of "pollution" does not have to be phrased in supernatural terms, but is readily observable in colonial situations; for instance, until the mid 1960s whites who intimately associated with Inuit were often ostracized by other whites in northern areas (see Graburn 1969a: 228-230).

Stage 5. Loss of the special economic relationship: this is where the paths join up again with the situation stemming from Stage 3(a). The breakdown of the special economic relationship does not end the state of caste. Putting it another way, we could say that caste is not dependent on social division of labor by parts of society, but is dependent on certain mental (cultural) oppositions held by the majority part, if not the whole society.

There comes a point in this "evolutionary" sequence when the ex-tribal peoples are no longer needed for their special products, their skills or their labor. This may come about because their
products are not in demand, as with white fox furs, or can be made cheaper in other ways, or because their cheap labor is felt to be unfair competition for a substantial proportion of the larger part of the society. Thus, the lower caste is no longer useful. If the ex-tribal peoples were merely some kind of herd animal they would be slaughtered at this point - in fact, in some cases they have been (Bodley 1975: 26-32, 46-47). However, most large societies are not this ruthless nor are they able to let the lower sub-part merge quietly and disappear into the larger group. The lower-caste peoples experience a self-devaluation in that they are no longer useful, neither can they regain total independence. The decrease in their usefulness may even set off internal competition for what little is left of the initial special economic relationship; for instance, as the Inuit were willing to take lower and lower prices for their pelts in the late 1930s and again in the late 1940s. It was in this milieu that the commercialization of Eskimo arts and crafts - a minor event at first - set off a long term series of important cultural and economic consequences which is still operative today.

The commercialization of Inuit art

The early history of the commercialization of Eskimo arts and crafts has been well described elsewhere (Martijn 1964; Swinton 1972: 123-126) so only the major points need be mentioned here. By 1948-49 the market prices of fox pelts and other skins reached the lowest they had been for three decades (Jenness 1964) and the Inuit were destitute in many areas and occasional starvation occurred (Honigmann 1951; Mowat 1959).

Stage 6. Arrest, "On ice:" with the demise of the initial "useful" economic relationship, such as hunting and trapping for skins, the majority society could conceivably forget about the small group that it had so long exploited; if this were a situation of overseas colonialism, the metropolitan power might simply "declare independence" and leave rather than continue to support unproductive peoples; the Hudson's Bay Company's shutting down many northern posts in the Depression and World War II resembles this process.

We are, however, by selection of problem, concerned only with cases of internal colonialism. The powerful part of the society tries to arrest the situation or "put it on ice" by a series of stop-gap measures which often involve relief and subsidy. Reservations have exemplified such situations. By now the lower-caste peoples are almost completely dependent on the society of which they are structurally a small part. They experience frustration due to either (i) the loss of the special economic relationship which had appeared so beneficial and/or (ii) the lack of ability to assimilate to the goals and living standards of the larger majority which are barred to them. Their frustrations often appear in "conspicuous deviance," drinking and intra-caste aggressiveness followed by revitalization or political movements.
The de facto situation of "on ice" came about among the Canadian Inuit who, though not on reservations, were by 1950 dependent on government subsidies for 60% of their livelihood (Jenness 1964: 80). Therefore the Canadian Government encouraged the making and sale of souvenirs and crafts. This was arranged by supplying the Hudson's Bay Company posts with credit to buy crafts to be sent south and sold both by government outlets and by the Company itself through its own retail stores. The goal of this small "industry" was to relieve the majority of Canadians from the direct support of the minority population through relief measures, and to give the Inuit a sense of worth in a situation where many often had to come hat in hand for relief to survive. It also provided a source of cash used to buy merchandise in the Company stores. It was seen as no more than a stop-gap measure with no foresight as to its eventual effects on revitalization and political movements and the eventual self-definition of Inuit identity.

The factors which emerged in unforeseen chains of consequences may be outlined as follows (for a more extensive description see Graburn 1970 and 1971):

(a) From near the beginning the Eskimos were encouraged to carve what the buyers wanted, most often representations of what the outside world saw as "Eskimo," i.e. hunting and family scenes, wild animals, exotic technology, and to omit that part of their life that was imported, i.e. guns, motor boats, woven clothes, cigarettes, stoves, etc.

(b) Coincidentally and through brilliant promotion and management on the part of Canadian Government and industry, the demand for these arts and crafts grew beyond all expectation, exceeding over a million dollars a year by the late 1960s. Though the qualities of Inuit art and its Canadian handling account for some of the success, it must be mentioned that it has coincided with a growing world-wide trend for the consumption of ethnic arts in the past two decades (Graburn 1969b; Graburn [Ed.] 1976).

(c) In many areas of the central and eastern Canadian Arctic, the major male occupation changed from that of hunter and trapper to that of artist-carver and the values of competitiveness and maleness have been transferred from one occupation to the other (Graburn 1974); many Inuit now think that a distinctive characteristic of Inuit-ness is to be superior artist-carvers. Recently an assembled group tried to get the government to ban white people from making a livelihood out of sculpting and print-making, claiming that whites "have many other opportunities for making a living:" we can now see that the special economic relationship, artist-carver, had come to replace trapper/hunter in the minds of many (Whites as well as Inuit) but that the structural arrangement was still one of ethnically specialized occupation (Note 4).
(d) The constant outflow of these small ethnic messages, combined with the surrounding publicity and the world-wide trends for better treatment of minority and colonized peoples, brought Federal Government interests and aid in a big way in the later 1950s and in the 1960s (Graburn 1971: 114-115). Thus small semi-nomadic bands came to coalesce around larger White-dominated settlements with agencies generally in the following order of establishment: Hudson's Bay Company or the other traders, mission, police, Federal school, teachers and mechanics with houses and community generators, administrators, clerks, nursing stations, welfare officers, etc. In the new contact, opportunities for mobility and hunting became reduced and the returns from trapping did not rise significantly. In addition arts and crafts as a way of life were promoted and were successful for many family heads in many settlements, along with ever-increasing wage labor.

(e) The financial successes of the above, combined with the increasing educational and travel opportunities - often connected with the commercial art promotion - led to increased desires and abilities on the part of the Inuit to run their own show. The changed social environment provided increased opportunities for formal and informal training in the ways of the outside world and the government and other agencies used the Inuit's literacy in their own language to increase communication between areas and between the Inuit and Ottawa. With the encouragement and hard work of a number of Euro-Canadians producer and soon consumer cooperatives arose in a number of northern settlements and after a few years these came to be run almost entirely by the Inuit in spite of lack of training and errors of practical judgment (Graburn 1970; Treude 1972; Vallee 1967). These new institutions competed with and hence emulated in form and operation the competing stores of private enterprise, though their goal was Inuit economic self-reliance thus illustrating the segmentary (ethnic) opposition.

(f) Through the efforts of well meaning Inuit and Whites the "message" of cooperative effort and self-determination was spread throughout most of the Eastern and Central Arctic and cooperatives were formed for various purposes: sculpture sales, print-making, fishing, housing, general consumers' stores, fuel distribution, tourism and crafts promotion, etc. Conscious of their common efforts, these entrepreneurs envisioned and actually formed federations of cooperatives (1966) in order to rationalize purchasing and sales, but more importantly to give the Inuit a sense of unity and power in the face of the outside world. Though many of the individual co-ops and certain lines of endeavour continue to be money losers the co-ops and the Federations continue to succeed overall mainly on the basis of the sales of arts and crafts and the consequent enrichment of the community for the further capitalization of co-ops and member purchases at their retail stores. In addition, the cooperatives and their
umbrella institutions continue to enjoy favorable financial
treatment from the Federal, Provincial and Territorial
Governments (e.g. in credit and tax matters).

(g) In the early 1970s the communications and consciousness that
have grown out of the commercial art based cooperatives and
federations, plus the increasingly high level of education for
Inuit outside the North, have led to serious political move-
ments for the general cultural and economic enhancement and
autonomy of the Canadian Inuit. In May 1973 the Federal
Government organized the "Week of the Inuit" Conference in
Ottawa, centering around opening of the "Masterpieces of Inuit
Art" Exhibit at the National Gallery of Canada and a three-day
meeting to discuss the present and future of Inuit arts. To
this came not only the soapstone-sculpting and print-making
Inuit of the Canadian Eastern and Central Arctic, but Inuit
from Labrador and the Western Canadian Arctic, as well as
Eskimos from Alaska and U.S.S.R. and Greenlanders from
Denmark (Note 5). During this week, representatives of the
Canadian Inuit artists' cooperatives and federation demanded
to take over the ownership and control of Canadian Arctic
Producers Inc., the Crown corporation responsible for
developing and marketing Eskimo arts and crafts from the
Northwest Territories, and strongly suggested that they be
well represented on Canada's Eskimo Arts Council, the group
which selects and prices Inuit-made prints from the same area;
to some degree these requests have been granted. The meeting
also fostered an unprecedented sense of Inuit unity and sense
of power, which dovetailed with other developments and
produced a consciousness which will never be lost. In 1970
younger Inuit living in southern Canada for higher education
formed the increasingly vocal Inuit Tapirisat (Eskimo
Brotherhood), well described by McElroy (1974: 600-611), to
work with Inuit leaders and government officials for the
furtherance of Inuit self-determination and cultural
consciousness. During the same period, cross-cutting Inuit
groups have emerged for special social and political purposes
and foresee an increasing degree of self-control in their own
areas, even though the eventual goals of provincehood or
separate legislative powers, the Inuit admit, must await
increasing expertise in professional matters.

The above account suggests a highly successful program of
education and increasing minority group control of their own
affairs, one perhaps unparalleled in the Western World (Graburn
and Strong 1973: 178-217). The relative lack of inter-cultural
violence and the smooth nature of the "progress" belies problems
characteristic of the general scheme and compare favorably with
most of the case histories of other small minority groups in
North and South America, or even Asia and Africa. If the second
special economic relationship had not been forthcoming the "on
ice" stage might have persisted. Furthermore even the advent of
another ethnically specialized occupation in itself would not have
been enough to stave off the usual problems but the Inuit were
fortunate in two special ways: (i) the timely increased sympathy for and demand for things ethnic – leading to financial successes, and (ii) the very special nature of "art" in the value system of the western nations (Graburn 1969b; Graburn [Ed.] 1976) whereby it is not just another means of making a livelihood, but is something highly valued and respected, almost sacred and awe-inspiring, compared with the alternatives of wage labour, commercial trapping, welfare, or even occupational assimilation. Thus the Inuit's very high opinion that the outside world holds of artists in general and of Inuit (and most "primitive") art in particular. Without the cultural uplift and the financial success and degree of autonomy, the minority group communities might exhibit considerable degrees of conspicuous deviance, intra- and inter-cultural hostility and general depression, accompanied by less than secular movements for return to a previous era, or throwing out the whites, or even factionalism based on different degrees of adherence to the culture and goals of the majority society.

It is just in those Canadian Inuit communities where commercial arts and crafts and their associated Inuit controlled institutions are most lacking that such behaviors have been most marked: Aklavik and Inuvik (Clairmont 1963; Honigmann and Honigmann 1970), Frobisher Bay (Honigmann and Honigmann 1965; Yatsushiro 1958-60), Fort Chimo, Fort Churchill and perhaps Rankin Inlet and Great Whale River; less obtrusive problems and ones usually confined to individuals or controllable by Inuit personnel characterize such places as Lake Harbour, Sugluk, Ivujivik, Povungnituk, Pelly Bay, which are smaller and have stronger cooperatives or other Inuit institutions. There are also places where Inuit institutions are confronted with relative lack of autonomy and constant recourse to outside agencies, such as Coppermine, Cape Dorset, Pangnirtung, and Port Harrison. This is not to suggest a one-to-one relationship between present social problems and arts-and-crafts based cooperatives, but to indicate a trend which is more significant at the overall level of Inuit cultural changes on a comparative basis.

The caste boundary is present as long as either sub-culture believes it to be so and acts on this belief, particularly in terms of ethnic ascription to occupation and life-style, endogamy or hypogamy and automatic ascription of mixed children. But these have been weakening as Inuit aspire to occupy a greater range of occupational statuses, as Eskimo men mate with white women, and as members of each group who form close relationships to members of the other are no longer so ostracized by their own groups. Naturally the perception of boundaries and inter-cultural behaviors will vary immensely between members of each group as change progresses.

Conclusions: assimilation and pluralism

When Kiurak said "Inuit pivalliajut," by what notions was he judging "progress"? He was most assuredly asserting that the
Inuit were not staying the same. He meant that the Canadian Inuit were becoming less like the Inuit of the past - specialized hunters and trappers, dependent on the institutions of others, bowing before superior powers, poor and ever anxious about their livelihood but proud of their individual achievements; he meant that they were becoming more aware and proud as a group, more financially competitive and successful and more worldly in their outlook and travels and in many ways more similar in goals, behavior and institutions to the majority of Euro-Canadians with whom the previous relationship had been one sided. Does increasing similarity mean assimilation? By definition it does to some degree and the mechanisms of assimilation are varied and irreversible and are, from certain points of view, the more heinous, the greater the inequality of power between the mutually adapting groups.

This is a very complex problem and I cannot go into all the ramifications here. The chances of a whole group of ex-tribal peoples being assimilated at the same time are very slim - or extremely slow. Often caste boundaries are maintained for a very long time and the majority group believes that these are relatively impenetrable, at least it likes to believe this. However, after Stage 5 it becomes expensive and a burden to maintain a group of people forever who have no beneficial economic role except as a marginal labor supply to draw on (Stack 1974), so mechanisms are developed to eliminate this situation. One of these we have already mentioned - the sexual access to women of the lower group. By such a means portions of lower caste approaches the physical make-up of the dominant group. Thus they are able to "pass" as individuals providing they have the ability to meet the requirements of role-recruitment in the larger group. Thus the caste-boundary does not change into a class boundary. It is maintained as ever, yet the number of people within it may get smaller - all the time individual persons are "jumping" the boundary and in doing so leaving their native group. This is not the case in the Canadian North whereas yet the visibly Inuit population is still increasing fast. On the other hand caste membership may be defined solely according to biological motherhood or fatherhood, and general role recruitment allowed in no other way than ascription by birth.

In a recent useful survey of the problems of ethnic political movements, Mathur (1974) has pointed out that the prime movers for autonomy and cultural separateness are the very people who are most sophisticated in and culturally akin to members of the majority power who are the "oppressors." The contemporary Inuit leaders are not always those with the most formal education, but also include those with the most experience in white institutions (stores, government offices, hospitals) and those personalities are often said to resemble Whites most; it has been suggested informally that those who are biologically part white tend to take leadership roles, but whether this is due to the fact that whites unconsciously give them this role, or whether for socio-psychological reasons they need to excel is not determined.
A people's identity depends partly on what have been the most valued characteristics in maintaining their traditional life, but in a situation of cultural pluralism it cannot help derive part of its nature from the outside. Taking the structuralist position of definition by contrast, the Inuit have embodied the diacritical features of a self-view (Barth 1969: 14) with reference to what they are not in the white world and conversely by what the white world tells them they are vis-à-vis whites. Thus the contemporary Inuit see themselves as a people with a great past as hunters and trappers, as having extraordinary artistic and crafts abilities, as having lots of children and loving them indulgently, as being friendly to everyone of their group, happy-go-lucky, generous and hospitable to boot. Until recently, many Inuit hardly believed that they and the whites were the same kind of humanity - as cultural contrast and the extreme differential access to power and self governance was so great; at the time the Inuit internalized some of the preferred characteristics of themselves as improvident, lacking in self-control, in need of education and religion, and quixotic in mood and inherently egocentric.

The ever increasing demand for and glorification of Inuit art and the training for, successes of, and complexity of their own present institutions have changed these images and hence the Inuit self-conception and goals. They see themselves as more similar to the outsider groups with whom they have vastly greater contact and communication these days, and at the same time, they are unsatisfied with the traditional assignment of occupational roles. They do not wish to give up the valued conception of their past accomplishments and their special talents but they do not want to be forced to live by them. The Inuit, as a group, are assimilating in the sense that their goals, behavior, language, occupational structure and governance are coming to resemble more and more any other outsider Canadian group illustrating Barth's contention "Where ethnic groups are organized in political confrontation, the process of opposition will therefore lead to a reduction of the cultural differences between them." (1969: 35). At the same time continued pluralism is fostered in the conceptions that the Inuit are somehow different because of their past, their geographical concentration, and the high regard in which they are held by many members of the Canadian majority in this time of dissatisfaction with mainstream culture. Thus the Inuit are benefiting not only from their presence in an affluent nation, but from the collective guilt of the white majority, the potential riches of their lands, and the worldwide movement to imbue the best of human qualities of other and less powerful cultures.

"Pivalliajut" - they are making progress from what we know to what is not so clear. But for many of the Canadian Inuit their commercial art encapsulates or symbolizes the progress in two ways: the content of the art - the stressed features of a traditional life - illustrates their former ethnic identity and is used as a measure of how far they have come. At the same time, the financial, institutional and ethno-political consequences of the arts and
crafts industry are measures of the degree of success in establishing a worthwhile ethnic autonomy.
Table 10

Stages of acculturation in Inuit society

<table>
<thead>
<tr>
<th>Process or Stage</th>
<th>Relations between Groups</th>
<th>Possible Consequences for Minority Groups</th>
<th>General</th>
<th>Canadian Inuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First Contacts</td>
<td>Warlike</td>
<td>Military grouping, withdrawal,</td>
<td>Occasional battles with explorers, settlers</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>extinction</td>
<td>Traders, miners, whalers</td>
<td></td>
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<tr>
<td></td>
<td>Peaceful</td>
<td>- or -</td>
<td>Permanent and visiting</td>
<td>Gallarat</td>
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<tr>
<td>2. Take-over</td>
<td>Warlike or peaceful</td>
<td>Loss of tribal territory and</td>
<td>Rare in Northern Canada</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>ultimate power</td>
<td>Mines, whaling ships, post living</td>
<td></td>
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<tr>
<td>3. Initial Economic</td>
<td>A. Direct resource</td>
<td>Extinction, withdrawal,</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>exploitation</td>
<td>&quot;movements&quot;, direct to stage 5</td>
<td>Rare in Northern Canada</td>
<td></td>
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<tr>
<td></td>
<td>B. Native labour</td>
<td>Loss of some traditional skills,</td>
<td>Mines, whaling ships, post living</td>
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<td></td>
<td></td>
<td>gain of others; social reorganization for</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>the new occupation</td>
<td>Trapping, hunting and preparation of skins</td>
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<td></td>
<td>C. Exploitation of</td>
<td>Ditto; perceived mutual gain</td>
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<td></td>
<td>native products and</td>
<td></td>
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<tr>
<td></td>
<td>skills</td>
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<tr>
<td>4. Structural Incorporation</td>
<td>Division of labour</td>
<td>Specialization to lower rungs of a</td>
<td>Dependence on H.B. Co., store goods and fox</td>
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<td></td>
<td>by Race</td>
<td>plural economy; subject of overwhelming</td>
<td>pelt prices</td>
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<td></td>
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<td>power of the external market; loss of</td>
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<td></td>
<td></td>
<td>independence</td>
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<tr>
<td>CASTE FORMATION</td>
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<tr>
<td>5. Loss of Special Economic</td>
<td>3 b) and 3 c) are no</td>
<td>Extinction (further withdrawal very rare);</td>
<td>Some starvation and</td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td>longer useful or</td>
<td>increased desire for some more</td>
<td>shock at the drop in prices and the problems</td>
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<td></td>
<td>competitive for the</td>
<td>assimilation or education</td>
<td>of 1930s and 1940s</td>
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<td></td>
<td>larger society</td>
<td></td>
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<tr>
<td>6. Arrest; &quot;On ice&quot;</td>
<td>(Benign) neglect</td>
<td>Reservations; relief handouts;</td>
<td>Not widespread among Inuit except locally</td>
<td></td>
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<td></td>
<td></td>
<td>frustration; conspicuous deviance;</td>
<td>in time and space</td>
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<td></td>
<td></td>
<td>&quot;movements&quot;; apathy, aggression</td>
<td></td>
<td></td>
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<tr>
<td>7. Second Special Economic</td>
<td>Commercial arts and</td>
<td>New skills and loss of some</td>
<td>New pride and identity; new social</td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td>crafts</td>
<td>previous ones</td>
<td>organizations; new sense of power</td>
<td></td>
</tr>
<tr>
<td>8. Assimilation and Pluralism</td>
<td>General education</td>
<td>Non-racial division of labour</td>
<td>Formation of parallel Inuit institutions,</td>
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<td></td>
<td></td>
<td></td>
<td>self-conscious ideology</td>
<td></td>
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</tbody>
</table>
Notes

1. "Inuit pivalliajut" - "The Eskimos are progressing," quoted from Kurak of Cape Dorset, N.W.T. from a conversation during our attendance at the opening ceremonies of the Masterpieces of Inuit Art Exhibit at Vancouver, B.C., November 1971. The field research on which this paper is based was conducted in Canada in 1959, 1960, 1960-64 and, most importantly, in 1967-68 under a National Science Foundation grant (GS-1762), with further brief experiences in 1971, 1972 and 1973. The author is grateful to his colleagues at the University of California, Berkeley, for their comments on previous versions of this paper.

2. Readers should be aware that these conditions are not limited to those cases where the dominant society is industrialized or highly energy-intensive.

3. I hope that anthropologists will bear with my use of the term "caste" in a more general sense than the unique forms found in India. In addition it should be noted that the four initial stages exclude the majority of situations found in India (see Berreman 1960).

4. This was one of a number of sweeping suggestions backed by the 100 or so Inuit delegates at the Conferences on the Fine Arts of the Arctic held in Ottawa May 18-20, 1973.

5. Unfortunately the representative(s) of the U.S.S.R. were unable to attend because of last minute illness.

Literature


The dialectic nature of Eskimo cultures

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Introduction

It is clearly impossible to speak of a uniform Eskimo culture which characterizes all the Eskimo-speaking peoples of arctic North America. Rather there exists a variety of cultures contained by small social groups and more or less by special environmental circumstances. If we adopt the definitions of culture and society and the distinction between them proposed by Raymond Firth (1951: 271), then the society is defined by the aggregate of social relations, and the culture is the content of these relations. Culture emphasizes the accumulated resources both material and immaterial which the people (the social group) inherit, employ, transmute, add to and transmit. The separateness of the various Eskimo cultures is established by the differences in material and the methods of its use which are transmitted within each group. Part of the culture is the knowledge of other cultures; this necessarily involves an awareness of the separateness of one's own. If we can assume that the Eskimo is aware of options in the choice of what Firth calls resources, material and immaterial, then the aggregate of these which can be regarded as a culture is a product of conscious choice on the part of the society. It would be difficult and even dangerous for us to assume that this choice is a product of some predetermined, a priori, characteristic of the society, since this would introduce some form of determinism into the process of culture formation. Rather, the set of choices taken by an Eskimo group should be regarded as a product of discussion of the relative merits of the options available to the society. There is, I would contend, an ongoing dialectic in each culture which is essential both for cultural stability and for the potential for cultural growth and change. While the psychological make-up of a society, its environment and its traditions will all influence the choices made by a society, they will operate and make their influence felt within the context of this dialectic. I would like here to demonstrate the existence of this dialectic in Eskimo cultures, and to examine some of the ramifications of its existence for the process of cultural change.
Cultural change in historical perspective

The history of Eskimo cultures in North America is one of constant change. Both archaeological and written records of the inhabitants of the Arctic are records of constant change and adaptation. The archaeological record is presented in terms of a sequence of relatively uniform cultural assemblages, each assemblage in the sequence being different from its predecessor. This is useful for the creation of a chronology of occupancy, but it is dangerous insofar as it gives a picture of a sequence of stable cultural periods separated by periods of cultural change. It is usually pointed out by archaeologists that it is impossible from material remains to gain a picture of other aspects of a culture, in particular, the non-material and social aspects. The non-material aspects of a culture could and probably did change without leaving evidence in the material remains, and similarly the materials of a culture could change without changing many of the non-material aspects. This is not to argue that non-material change did not ensue from or precede material change. The new options inherent in a change such as that involved in the extensions of material necessary to permit the utilization of marine resources by a formerly land-based group would suggest a probability of wide-ranging cultural change. The nature of these non-material changes is not, however, indicated by the nature of the material change.

One of the implications of the view of the history of cultural change as a sequence of periods of change alternating with periods of stability is that the factors which produced change can be found in a given period. This leads to the various attempts to discover changes in environment or movements of people which are contemporaneous with the periods of cultural change. While this is an interesting and possibly fruitful line of enquiry, it tends to locate the prime movers of cultural change outside the culture. Attempts to establish movements of people contemporaneous with cultural change or to relate cultural change to major environmental changes have as yet produced no convincing evidence. This fact combined with the fact that change occurred, and that it probably occurred continually rather than at specific periods, should lead us toward the conclusion that at least part of the complex of mechanisms which produce cultural change is inherent in the culture.

The history of the Eskimos which can be derived from documentary evidence indicates relatively clearly that the ability to change and the push for change are inherent in their cultures. The reports of the earlier explorers and the whalers reveal, in the main, one common feature of the Eskimo in early contact situations: they were curious about the material culture of the Europeans, and about the methods used to achieve whatever object had brought them into the Arctic. Moreover, the Eskimos were able either to vary their normal cultural pattern or to use aspects of their culture that had been insufficiently clarified, to satisfy their curiosity. The whalers in particular used Eskimo guides and labor
to further success in the pursuit of whales. In many instances, the Eskimos who were so employed traveled considerable distances to places where the whalers were expected, and the whalers had little difficulty in recruiting. One problem that the whalers did have was in maintaining a regular work force. Eskimo who worked for the whalers for a season or two would in many instances be unavailable for further work. New men, however, were usually available. I would suggest that this reflects a relationship between the Eskimo and the whalers which gives an insight into the way the Eskimo dealt with this new aspect of their environment.

Those who worked for the whalers gained some material rewards, and these would undoubtedly be distributed within the workers' group and would be attended by social benefits for the provider. There was, however, little evidence of an Eskimo maintaining this materially and socially rewarding relationship with the whalers. Rather he yielded place to others. While this might be explained in many ways, e.g. by the postulation that the goods gained by the workers received a lower reward proportional to effort than other activities, it might also indicate that the Eskimos viewed knowledge of the ways and materials of the whalers as of greater value than the material return. A materially rewarding relationship with the whalers could have been achieved by using trade and the labor of a few as the source of material goods. This relationship would have kept knowledge of the ways of the whalers separate from the bulk of the society, and would have insulated the culture from direct disruption. A wide knowledge of the whalers would rather bring this new aspect of the environment within the purview of the culture. The materials and methods of the whalers would become a part of the dialectic of the culture and would provide a series of options which could be discussed in all their ramifications by the whole society. The variations in the response of the Eskimos to the whalers from cultural group to cultural group and within one group over time tend to indicate the separateness of the groups and to support the idea that one group perceived more than one possible form of response. By maintaining a dialogue about the validity of various responses to the whalers the Eskimos were able to maintain their cultural identity and to accommodate to the new circumstances that the presence of the whalers provided.

A clearer indication of the nature of the response of the Eskimos to new ideas and circumstances is provided by the history of the missionaries. The history of the progress of missionary endeavor is fuller and more detailed than that of either explorers or whalers. This is largely because the missionaries' major concern was with the response of the Eskimos, while the whalers and explorers had other concerns. The missionaries were attempting to induce cultural change by placing new ideas directly before the Eskimos. It is often claimed that the success of missionary endeavor is largely a product of their association with the power of the dominant society in any culture contact situation or the presence of culturally degrading influences from greed-inducing trade goods and traders. In the case of the Eskimos, in
particular those of the Labrador coast, this idea is difficult to substantiate. Indeed, the Moravians tried to exclude traders from their area of operations during much of the late eighteenth and the nineteenth centuries. The Moravians did carry on trade with the population, both to sustain the missions and to accommodate the Eskimos' desire for many trade items. There is, however, little evidence that the missionaries used their position as traders, or the limited authority in civil matters that they were granted by the Newfoundland Government, to encourage the conversion of the Eskimos. The slow process of conversion which is the burden of the missionaries' annual reports indicates that they felt it necessary that their message and the example of their own lives to do their own work. The record of conversion gives ample evidence of the way in which the Eskimos responded to these ideas. For a time lapses were almost as frequent as conversions and conversion among visitors was almost as frequent as it was among the groups that lived close to the mission stations. This fact is reminiscent of the relationship that the Eskimos developed with the whalers. Knowledge of the missionaries' ideas spread along the coast and became part of the cultural material of the local population. A relationship to the new religion was a constant subject of discussion and sometimes strife. It was possible for the Eskimos to strike a relationship with the missionaries which did not include conversion and this was often done. A poignant and revealing statement by one of them was used by Helge Kleivan (1966) as an introduction to his study of the Moravian missions:

"It is too late for me to come and live amongst the Christians, but perhaps my children, who frequently speak of these things, may in time to come be converted. Your doctrines are not strange to me, but here in the North we have been trained to certain customs and practices which we should be very reluctant to give up."

This statement demonstrates that the ideas of the missionaries were discussed by the Eskimos and that more than one accommodation to these ideas was possible and under consideration. As long as the dialectic was internal to the social group, and as long as the solutions to the problems presented by new ideas arose from the group, the culture was alive and was maintained. Similar histories, although shorter and less detailed, characterize the work of the Roman Catholic missions in Keewatin and the Anglicans in Nouveau Québec and the High Arctic.

The evidence from the written history of the various periods of earlier cultural contact, while it is, I feel, indicative of the existence and importance of a dialectic as an integral part of Eskimo cultures, is nevertheless inferential. In none of these histories is the nature of culture a major and conscious subject of analysis. More direct evidence is available from the work of anthropologists and from personal observations in the Arctic.
Anthropology and Eskimos

The work of the earlier anthropologists in the Arctic was largely directed to the identification and description of the various cultures among the Eskimos. The groups which they studied were almost invariably in a situation where the culture was changing, and this fact is brought out in almost all the reports. In some instances, the agencies of change were not in direct contact with the Eskimos, but were only felt, as it were, at second hand through the influence of goods and ideas which came through other native groups observed by Rasmussen. The people of Baffin Island observed by Boas (1885, 1901, 1907) and the groups of the central Arctic visited by Stefansson (1924) and by Rasmussen and Mathiassen (Report 1931) were not in direct contact with the traders or the missionaries, but they were aware of their existence and of the new materials. (It is unfortunate that the search for an undefiled group seems to have blinded observers to the material goods and the ideas which archaeology and subsequent observation have demonstrated were available to these groups. This is especially true of the Polar and the Copper Eskimos observed by Rasmussen and Stefansson.) These early investigators worked under the handicap of not knowing the complexity of Eskimo pre-history, and the lack of a general theoretical context which emphasized the stability of cultural systems. Nonetheless their analyses gave a picture of the flexibility of cultures. Emphasis is repeatedly placed on the Eskimos' adaptability to fluctuating physical conditions and on that capacity, which Lévi-Strauss (1962: 29-45) was later to describe as that of a bricoleur, of making use of a wide range of available materials to meet specific unanticipated needs and conditions. Moreover, the process by which Eskimos faced problems has been described in detail in several reports. They would generally sit down, contemplate the problem and often discuss it before any action was taken. While these tendencies to discuss and to adapt to circumstances were noted, they were seldom given a functional or structural place in the descriptions of the culture. The fact that they often gave varying interpretations of stories and myths and stated various reasons for types of behavior was also noted by many of the earlier observers, but was not examined as an aspect of the culture. Most striking in the mass of earlier material is the evidence of cultural change which the informants themselves gave to the observers. They frequently told of former or other ways of doing things or of looking at the world around them. All this is, I would suggest, clear and direct evidence that they were able and ready to adapt to new circumstances and that they were aware of options within their culture and discussed the value of various ways and means and various ideas.

More recent anthropological, sociological and geographical literature on the Eskimos has concentrated on the nature and problems of cultural change. In so doing, this literature has frequently highlighted their adaptability and has described in detail the various changes that have taken place in the different cultures. The analyses of cultural change has, however,
generally been carried out within a fairly narrow context: that of the adaptation of a "traditional Eskimo culture" to the available and influential aspects of Euro-American society. In this context, studies usually center on the degree of loss, maintenance, or adaptation of aspects of the traditional culture. The loss of traditional hunting methods, traditional clothing, traditional songs and dances, etc. is frequently described and, depending on whether the observer is what Frank Vallee (1967: 115) has defined as a separatist or an assimilationist, is decried or praised. The degree to which some supposedly traditional characteristics have been maintained, for example, the hunting groups, has similarly been studied and has generally been evaluated within the context of its functional value for cultural assimilation or separation. The much more complex problem of the degree to which cognitive patterns have been maintained and adapted to new circumstances has also been the subject of study. While these studies have been and are still of value in identifying the problems that face the Eskimos in the north today and in depicting the conflicts that have arisen in the contact situation between southerners and northerners, their value has been limited by the context in which they place cultural change, and in particular by the assumptions which underlie that context.

The first assumption is that there existed in the past an integrated and complex whole which we can describe as a traditional culture. Implicit in this assumption is the idea that, while we may not be able to specify all the aspects of this complex whole, those aspects of culture we can identify exist as integral parts of the whole, and as these aspects change they break up the whole. The second assumption is that the agency of change is the complex of external factors which are presently confronting society and culture. A third assumption is that there is a direction in which cultural change is moving. It is only by assuming a direction that any evaluation of the changes occurring can be made. The assumed direction is away from the traditional culture toward assimilation or toward a sort of accommodation with the external factors which may involve a degree of separation. Excluded by these assumptions is the idea that change may have been an integral part of culture and the possibility therefore that the agency of change may be, at least in part, internal to society. Also excluded is the possibility that an internal dialectic existed which defined the nature of the culture as it changed, and which determined through the options it defined the direction of change. Yet the evidence of change which has been examined in many recent studies can be interpreted as support for the validity of these ideas about Eskimo culture.

One example of evidence which can be reinterpreted in this way can be gained by examining Vallee's analysis of the two sub-groups, Kabloonamiat and Nunamiat, within the Eskimo population of the Baker Lake region (1967: 135-149). Vallee identifies Nunamiat as those Eskimos who live on the land in a more or less traditional manner and Kabloonamiat as those who live in the settlement and who tend to adopt the ways of the White man. These two groups are
placed in a context of acculturation. That is, the differences between them are seen as a product of the distance they have departed from "traditional" ways and have gone toward adopting the culture of the outside. Variation within the Eskimo society of Baker Lake is accommodated within the context of the assumptions regarding cultural change outlined above. Vallee, however, comments that Kabloonamiut are regarded by all the Eskimos as being "Eskimo first and foremost," and he further points out that there is little evidence of a maldistribution of prestige between the two groups. Nevertheless, he continues to adduce evidence for the separateness of the groups by examining the different roles they play vis à vis the Kabloona, the degree to which they are separated geographically, and the degree of interconnection, familial and social, within each group. I would contend that the prevailing consciousness of being Eskimo, the lack of clear prestige differences, and the fact that much intercommunication between the groups is evident despite geographic, economic, and familial barriers, is evidence that a dialectic division exists within the single culture of this Eskimo society. This division, which provides for the pursuit of different life styles, the discussion and examination of these optional life styles, and the maintenance of options for the members of the social group, is an essential part of the fabric of this society in the Baker Lake region, and hence an essential part of this Eskimo culture.

Dialectic nature of Eskimo groups in Keewatin

For further evidence of an essential dialectic within Eskimo cultures, I would like to turn to an examination of my own field work among the Eskimos of Keewatin, specifically of the three settlements of Whale Cove, Rankin Inlet, and Chesterfield Inlet. It was during these studies that I first became aware of a dynamic and ongoing dialectic among these people, and of a possibility that one of the major problems facing them was the failure of the Kabloona to recognize the importance of this dialectic. While both inferential and direct evidence for the existence of a dialectic can be derived from an analysis of the written material, it is only by an examination of the working of this dialectic in the everyday affairs of the people that we can see the ramifications of its existence.

My studies centred on the land-based economy of the three settlements mentioned, most specifically, on hunting (McConnell 1969, 1971). The methods used were geographic. Regions, as defined by the activities under study, were described, the outputs - real and potential - of these regions were estimated, and the inputs of those who carried out the activities in terms of time, energy, capital, and technology were examined and quantified. To do this it was necessary to identify and examine the groups of people who interacted with the land and with one another within a specific region, and to discover the extent to which other social factors influenced hunting activity. For example, it was necessary to estimate the degree to which the investment in a
snowmobile was attributable to hunting rather than to other activities, or the degree to which time spent on hunting was attributable to the material rewards rather than some other benefit. In geography this human aspect of the region is variously referred to as the "genre de vie," the type of lifestyle, or the cultural context. The need to relate this context to the many patterns which go to make up the landscape of a region confronts the geographer with the problems inherent in the idea of culture. Moreover, much geographic research is carried out bearing in mind Carl Sauer's warning (1941) that the geographical knowledge of any area which results from a study is, by the time of its publication, historical geography. The influences both physical and human which create patterns on the land are constantly changing, and hence the patterns themselves are also ever-changing. This confronts the geographer with the problems involved in both physical and cultural change. Such patterns as arise from the time spent in hunting, or the areal concentration of hunting, will change with changes in weather and ice conditions and with changes in available technology, such as rifles and snowmobiles. They will also change with changes in attitudes toward hunting and the rewards from hunting. Thus it is essential to understand the kinds of cultural changes which are going on among the Eskimos to be able to understand the geographic patterns which go to make up the character of the region.

The obvious sources of information about Eskimo culture and its change were the people themselves and the literature of anthropologists and sociologists. Between 1967 and 1973 I frequently lived and hunted with Eskimos in the Keewatin, and discussed with them the problems of the land-based economy. The people with whom I was in contact varied in age from 16 to 65 and in occupation from full-time government employees to persons who lived almost entirely from the land. During this period I also examined much of the literature about Keewatin. While the ideas about cultural change and acculturation in the literature were useful in identifying many of the changes which were going on in Keewatin, and in pinpointing many of the problems the people faced, it became apparent that many of the problems that they identified were different and were generally viewed in a different context. Basic to this context was a different concept of culture and a different idea of the process of cultural change which was going on in their society.

One of the clearest examples of these differences arose from the discussions of hunting methods. The Eskimos were aware of old and new methods of hunting but did not view them as Eskimo and Kablooona methods. Hunting with a rifle, a skidoo, a boat and motor, etc. were considered as Eskimo as hunting at the breathing holes with a harpoon. On one hunting trip in 1968, two parties left Rankin Inlet at the same time, two younger Eskimos and I to hunt with rifles at the floe edge and two older men to hunt with harpoons at the breathing holes nearer the settlement. We also returned at the same time. Our party had been unsuccessful; they had killed three seals. While we were at first chided by them for
our various inadequacies, we soon fell into a discussion of the two methods of hunting. The older men said that the next day they would go to the floe edge, because then, they thought, the weather conditions would be better and floe edge hunting would be more profitable. When I suggested that my companions and I should have tried the breathing holes that day, one of the older men said, no. Young men, he said, wanted to try things the active way. This had always been so, and it was a good thing, because it was by some trying new ideas that all were able to learn about things and to examine their merits. The older hunters, then, used both old and new methods, and felt that the exploration of new ideas was a good and necessary thing. The young men who had gone out to the floe edge in less than good conditions, burdened with a Kabloona, had not been doing the Kabloona thing. They had been exploring the new in a proper manner.

In 1967 during a day when Whale Cove was closed in by a blizzard, I had a meeting with twenty-three (about eighty per cent) of the men actively engaged in hunting. Our discussion lasted four hours and ranged over most aspects of the land-based economy, from the problems of the fluctuating markets to the relative values of concentrated village life or dispersed camp life. I found that there was a general knowledge of the various problems which was common to all the hunters and that several ideas about adequate ways of dealing with these problems were proposed and defended by groups among the hunters. At that time I was pursuing information within a standard framework. That is, I was trying to discover the extent to which the capital costs of equipment such as skidoos limited participation in, or the return from, hunting, and the degree to which village living restricted hunting, caused social problems, etc. I was, in other words, concentrating on the extent to which the visible aspects of the Kabloona presence had produced problems by forcing change on an older tradition. Toward the end of the meeting, which had begun well, the hunters seemed increasingly puzzled by my questions and comments, and frankly bored. I thought at the time that the problem arose because I had opened sensitive areas about which the Eskimos themselves were confused and reluctant to speak. It was only the following year that I began, because of other incidents, to re-examine this conclusion.

Late in the spring of 1968, I was invited by an older man with whom I had travelled on two previous occasions to go hunting. We went out on a cold and windy day. During the numerous stops, which are an integral part of hunting trips, this man made comfortable shelters behind which we had our tea and lunch. I commented that this was a better way to hunt than standing out enduring the elements as I had usually done with other hunters, who were, I supposed, inexperienced or bent on showing up the Kabloona. My companion indicated that it was not a matter of experience or showing me up, but was a different view of hunting. He conveyed this information by telling me that as a boy in the Garry Lake region he had gone hunting with both his father and his uncle and that they had approached the land in two different
manner. His father had taken pains always to stay warm and dry. His uncle had felt that it was the mark of a man to brave the elements. Two widely varying ideas about a proper attitude to the environment, both held within a small and isolated group, were revealed by this story. This incident is exemplary of several that occurred between 1968 and 1973 which in aggregate indicated that there were, presently and in the past, widely divergent attitudes within Eskimo groups.

Attitudes to the land, to economic behavior, and to social behavior were among the Eskimos' consciously held attitudes. They resulted from a conscious choice among various options discussed and evaluated by individuals and groups within the community. The Eskimoness of a choice was not measured by its conformity to an accepted norm, but by its existence as a conscious known option within a dialectic of the group. If there is a normative or stable aspect of Eskimo cultures, it is the existence of the dialectic itself. The new methods and materials, the institutions, goals, and ideas of the Kabloona are inputs into the dialectic process. Yet change within the context of the dialectic was not destructive.

The integrity of a group's culture was maintained by a dialectic which offered a series of options in terms of ideas, attitudes, and behavior to the members of the group. Moreover, the composition of the group which could be said to possess a culture could change as long as the added components of the group were encompassed in the dialectic of the whole. Thus settlements like Baker Lake, Whale Cove, and Rankin Inlet, which aggregated Eskimos from disparate backgrounds and areas, were not devoid of a culture. Rather, intercommunication within the groups at these settlements quickly developed a dialectic presenting a series of options which could be, and were, examined, discussed, and acted upon by members of the group. The existence of a known set of options became the cultural context of these Eskimos.

If a dialectic existed among these residents of the settlements I worked in and if it encompassed a set of options which were available as conscious choices for the residents, then the difficulties I had faced and the variety of my experiences with them made more sense. In the meeting at Whale Cove, as long as I had been contributing to the dialogue about hunting methods, the problems of marketing, etc., the meeting had gone well. When I began to attribute problems to the new materials and methods of the Kabloona and to present them in terms of cultural breakdown or acculturation, my comments became confusing, meaningless, and boring to the hunters because they were probably childish. I use the term "childish" deliberately because the closest analogy to my questions is that of a child who asks if it is better to be a doctor or a fireman and can get no clear answer, or the child who asks if he will have a good time and get to catch a fish during vacation and is told, "maybe," or "I don't know." By trying to place a scale of value on hunting methods, I was attempting to limit the number of options which were an integral and necessary
part of the Eskimos' life style. By asking if the presence of skidoos, houses, or wage labor were the cause of hunting and social problems, I was taking problems out of the context of a dialectic in which such things as skidoos, houses and wage labor were seen as integral parts of situations which could be bad or good, problematic or not, depending on a complex set of influences. The only reply I could get was "amai," "maybe," "I don't know" or, translated more correctly, "I can't say."

In many subsequent meetings on a host of subjects the same kind of response from the Eskimos was evident. Yet each of the problems which faced them at the meeting, from problems of education for children to the social problem of alcohol, was aired and discussed by them among themselves or with individual Kabloonas. Ideas about the nature of these problems, proper attitudes to them, and possible solutions for them, were various, and these various ideas, attitudes and solutions were known and respected insofar as they constituted known options throughout the group. To return for a moment to Firth's definition of culture: the aggregate of social relations in an Eskimo community is informed and given substance by the dialogue which goes on in the community (1951). This dialogue is best termed a dialectic because it is a structured dialogue wherein ideas, attitudes and behaviour are examined in terms of their necessary inter-relationships. That is, a dialectic is not simply a discussion of ideas but an attempt to clarify the rational relationships among ideas and between ideas and behaviour. In this sense the dialectic of an Eskimo group is the forum where the options available to the group are developed and tried. The resources, material and immaterial, old and new, are employed, transmuted, added to and transmitted by the social group as Firth suggests. This is done within the framework of a dialectic process which necessarily encompasses options in terms of ideas, attitudes and behaviour, and which encourages new ideas while maintaining old ones.

Outlook

Recognition of the existence of such a dialectic focus in culture is vital both for maintenance of the culture and for understanding of the problems that Eskimos face today. These problems do not arise from the new ideas and materials which are available for examination within the dialectic framework. Rather they arise from factors which tend to inhibit the operation of the dialectic or which ignore or make impossible the options which arise from the dialectic. One of the major sets of inhibiting factors derives from the idea of placing Eskimo culture in a continuum of change from a stable past toward a stable future. On the one hand, this continuum emphasizes the importance of a stable past which probably never existed. On the other, it emphasizes the importance of some future state which despite the lack of any clear idea of its features is seen as directing the nature of cultural change. Such ideas largely ignore the fact that the
future of the Eskimos will be determined in large part by the options which are being developed today in the dialectic which builds on today's circumstances. For example, the question of whether or not hunting and gathering will be an option available to them in the future is less dependent upon the possible viability of hunting in an industrialized sophisticated Arctic of the future than it is dependent upon the way in which hunting and gathering is viewed by them today. Presently there are several options concerning the land-based economy which are being discussed and tried out in most Arctic settlements. These range from attempts to support families wholly from the land, through various forms of part-time commercial and subsistence activity, to weekend hunting and fishing for recreation. The values of all options are being examined and the interrelationships between them analyzed by the communities. The problems arise from a lack of information about the external restrictions on use of the land which may affect the people and from the fact that choices they make will not be regarded as important by outsiders, who make decisions regulating these aspects of their lives.

The most frequently heard requests from Eskimos today are for more information about external things which will influence their lives, and for more control over their own affairs. If a proper and valuable response to these requests is to be forthcoming, it must arise from a realization of the dialectic nature inherent in culture. It would be a mistake to think that the present more vocal attitude of Eskimos in Canada reflects their assimilation, or that the leaders of the various organizations are apart from other Eskimos in that they are the largely assimilated few. The requests arise out of the dialectic of Eskimo culture and the leaders are often those who comprehend, work within, and represent this culture.

Literature


Firth, Raymond. 1951. Elements of social organization. London.


Stefansson, Viljalmar. 1924. My life with the Eskimos. London.

The effect of economic change on the ecology, culture and politics of Reindeer Samis in Sweden

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Introduction

In the last 50 years drastic economic changes in the Arctic and Subarctic regions have occurred. External pressure from the larger societies of the U.S.A., Canada and the Scandinavian countries have to a large extent influenced the life conditions of the ethnic groups living in these regions. The ecological perspective will most readily be chosen as a starting point to analyze the consequences of these changes. This perspective must by necessity be viewed inter-ethnically, i.e. in the ecosystem containing certain crucial cultural, biological and physical elements, interrelated with one another, that make up the environmental premises for human adjustment, two competing ethnic groups appear. We are at this stage not interested in some ecological totality, but rather in that delimited environment that is relevant for our analytical purposes (Steward 1955; Geertz 1963).

I do not think it is possible to understand all the significant implications of changes in such an ecosystem, if we do not consider the environment as consisting both of natural resources and of other groups of people with whom you both compete and cooperate. Fredrik Barth (1964), who has made this distinction clear, adds to technology other adaptive responses which are utilized in this environmental adjustment such as politics, property and demographic forces.

Using the Reindeer Samis of Sweden as an ethnographic example I will concentrate on various political means which they have chosen to apply in order to cope with the new situation (see Note 1). The reasons for this is the fact that the Samis constitute an ethnic minority, part of the larger society of Sweden and consequently in continuous contact with this other ethnic group. It is very important to stress the political dimension of this inter-ethnic relationship, as in all minority situations most or all power rests in the larger society. It is
for this basic reason I have chosen to emphasize the political aspect of social change as being the most crucial in the Samis' adjustment to the new ecological situation. I will also try to illustrate that technological change, such as using modern rational means in reindeer herding, is not sufficient, because the environmental changes have such drastic effects on the Lapps and their general mode of life. To meet this new challenge an organizational change appears to be most vital.

In this paper I argue for the usefulness of a strict ecological perspective if we are to understand the significant implications that lie behind the political aspect of social change. I do not think it is possible to explain this aspect of change without such a framework for analysis, because politics, as one of its major functions, involves control of natural resources. The ecosystem we are concerned with contains two basic niches for human adjustment. First, the niche of the Samis which comprises reindeer pasture, fishing and hunting grounds together with the utilization of other resources, i.e. all that make up the living conditions for this particular way of life. The second niche contains all the resources exploited by the industrial society such as ore, forest, waterfalls, etc. In other words, the concept of ecological niche is here used to distinguish the activities of one ethnic group from the other within the same environment (Hardesty 1972: 465). The two ethnic groups are not competing for the same ecological niche, but the exploitation of the niche of the larger society will to a large extent affect the other niche, and consequently have a bearing on the Sami way of life. In the following I first discuss some of the major ecological changes resulting from the contact between the two ethnic groups, next I give an account especially of the political aspect of the Samis' adaptation to the new ecological situation. The larger society can be said to have a bearing on the total ecology in two ways, primarily as various forms of industrial exploitation, but also in the form of establishing new densely populated places, towns, villages, etc. In addition to reindeer pasture, there are four primary resources in the region: (a) cultivable land, (b) forest, (c) waterfalls, and (d) ore.

Natural resources primarily used for economic needs

(a) Cultivable land: this has traditionally been an obstacle to the Samis, because of the colonizing policy enacted by the state beginning in the 17th century. The main purpose of this policy was to encourage peasants and small farmers from the southern and central parts of Sweden as well as Finland (which at that time was part of Sweden) to settle in the north and cultivate new land. This population movement, which established a settled form of life in Lapland, was important in order to politically control these marginal areas, which at that time were still disputed, land between various nations. The final border settlement between Denmark-Norway and Sweden was not agreed upon until 1751, in which
treaty the national border was drawn up between what was then considered Norwegian and Swedish Lapland respectively.

The effect of this colonizing policy was not felt by the Samis until the latter half of the 18th century when the regalistic epoch began, i.e. the time when all land in the reindeer herding area was considered to be state owned, "krono." During the 19th and the first four decades of the 20th century this official policy generated a situation of conflict between the Reindeer Samis on the one hand and the settled farmers on the other. This conflict had mainly to do with diverging utilization of the forest region, winter pasturing for reindeer vs. farming concentrating on dairy husbandry. Certain meadows for haygrowing could be destroyed by migrating reindeer, for instance.

This process resulted gradually in diminishing winter pasture for the Samis together with increased difficulties in herding activities during the winter. In the 1950s, the Swedish Government launched a new agricultural policy, the goal of which was to discourage small and economically inefficient production units within the agricultural section. As a consequence of this policy, some twenty years later, this region has very few farming areas still remaining in direct contact with reindeer pasture. Thus, the Samis have recently been able to regain some pastures because of this process of abandoning farms en masse in the north. At the present time, therefore, cultivable land is the primary resource that has the least bearing on the reindeer economy. The other three resources, on the other hand, are almost entirely limited to this century and have a continuously increasing influence on the situation of the Samis.

(b) Forest: during this century and especially since 1920 an extensive, more and more mechanized form of forestry has developed. After the Second World War this development has increased to such an extent that most Sami communities today are fully aware of the devastating effect this change will have on their vital winter pasture. Deforestation and burning of the forest ground have for a long time caused great losses of net reindeer pasture. In modern times to these techniques have been added those of forest manuring and spraying in order to destroy the leafy trees. The ecological niche of the reindeer will be affected by such measures in the long run. Most devastating, however, seems to be the technique for ground preparation which was adopted in the early 1970s, that of ploughing and harrowing the deforested areas. In this process large vehicles make deep furrows about 2 m apart between which remain only sand and gravel over the total area. According to many Samis concerned, the sight of this completely new and changed terrain reminds them of a moonlike landscape; it is entirely barren and waste; no form of biological life, not even a single bird, is left. These reindeer herders have no hope of regaining this ground for
winter pasture.

Because the Sami culture is directly conditioned by the environment, the new form of industrial usage of the reindeer pasture area may transform it from a renewable to a non-renewable resource (Greenwood and Edwards 1973: 123). The process of deforestation will most certainly destroy reindeer habitats. The Samis have always been of the opinion that natural resources are and should be renewable; their entire ecological adaptation is built on this prerequisite. All these mechanized processes of the forest industry which take the form of mismanagement of natural resources, have changed the life conditions of the reindeer (Bates 1961: 97). The total ecological balance between mammals, birds, fishes and plants has been upset. Thus, also the ecological premises for a continuance of this particular way of life, the culture of the Reindeer Samis, is affected. Traditional forms of livelihood such as catching fish and birds, especially ptarmigan, have been much more difficult to maintain due to changes in the natural environment. Even the reindeer may be biologically affected in the long run by fertilizing (Kungliga Lantbruksstyrelsen 1971; Rehbinder 1974).

The most important effect, however, is the diminishing reindeer pasture and the loss of the traditional emergency food, tree lichen. As the winter pasture is the decisive factor for a Sami community's economic possibilities within reindeer husbandry, any encroachment of these areas will have far-reaching consequences. Other factors that might be added to the total picture of environmental change are the effect of wind erosion (sand from the prepared areas will blow about and cover all that is left of the ground even beyond the ploughed area), changes in the snow consistency due to heavy wind, which will leave some marginal lichen areas unprotected by deep forest. Then the reindeer will be unable to dig through to their food.

The herding in the new terrain is also rendered more difficult both for people and reindeer. The construction of a rather large network of roads for forest vehicles is also an obstacle. They run across reindeer pasture and may split the herds. This causes a certain amount of restlessness in the reindeer. Various new features in the terrain can upset the rhythm of grazing, which may lead to considerably more work for the Samis.

One final factor can be noticed, the result of which it is too early to assess, that of petroleum leakages from the large vehicles. Oil can thus be spread through the subsoil water. The Samis are very much concerned about this problem.

This change of natural environment has led to some partly unexpected consequences both of economic and social kind. First of all, the total amount of natural pasture has
diminished, at the same time as some of the remaining pasture has become less convenient to reach. Due to the reduction of tree lichen areas, in emergency times the artificial kinds of fodder must now be used at very high costs. This brings about more work for the herders regarding foddering as well as migrating to the winter pasture and the daily watching of the herd. These factors of change have a great bearing on the profitability of reindeer husbandry. It will cost much more money than before to feed the reindeer herd and it will gradually be more difficult to enlarge the herd to any considerable size, though this previously was possible after a decline due to severe climatic changes. Even if a community were to be able to keep the estimated reasonable number of reindeer during the part of the year when the ground is free from snow, it would be almost impossible for the reindeer to survive the four to five winter months. Therefore, a reevaluation of the carrying capacity of each Sami community seems necessary, because the winter pasture has been so severely affected in recent times, mainly due to this new form of exploitation.

The last statement can be substantiated by referring to a concrete case. In the two Sami communities Laevas and Norrkaitum in the Kiruna-Gällivare region, the total herd has decreased from 18,000 to 7,000 between 1961-71. The Samis assert that the main reason for this substantial decrease is the long-term effect of deforestation and ground preparation. As a case of the latter we can take the area of Vettasjärvi, traditionally used by these communities. The important aspect of the Vettasjärvi region is the fact that it consisted of dry pine moors, the best possible winter pasture. The reindeer were traditionally always turned loose here after the migration down from the mountains, and when the area had been completely grazed, the herd was moved to Vettasrova. The reindeer are thought to do particularly well on these two areas, which are moreover the only true winter areas at the disposal of Laevas. Now one of these two available pastures is being impoverished considerably, so that the other is taxed all the more heavily. This may also increase the risks for damages on the reindeer caused by parasites (Rehbinder 1975). Another consequence which must be stressed here is that the Samis do not receive any form of compensation in cases referring to forestry, although compensation is paid for most other forms of exploitation. This fact impairs the position of the Samis still further.

The consequences of this environmental change may not only be economic, but also social as well. Suffice it to mention that it has now become much more difficult to adhere to the traditional siidá system of division. This social division is necessary due to limited pastures in the forest region. The different herding groups must keep their herds separate, if the reindeer management is to be economically successful. Compared to the rest of the year, pasturing, and consequently
herding, is much more intensive during the winter period. In Laevas, for instance, the number of siidat varied from 3 to 5 during the winter season, a division variously maintained over time by traditional bonds and culturally standardized norms and values between the members of each siidă. The new ecological situation calls for a reconsidering of the traditional system of social groupings in each local community. This change may have an impact both on reindeer profitability and the Sami way of life.

As we can see, there are two different cultural forms that meet in the same geographical area, a technical culture representing the large society and a culture close to nature, the Sami minority. These constitute two forms of economy that use the same land. The economic interest of the larger society is guided by a general ideology of economical profit maximization. In order to acquire such ends the exploiter must procure more and more efficient machines and vehicles with greater production capacity. However, this profit maximization will in the long run cause unbalance in the ecosystems upon which the Reindeer Samis' entire culture is dependent. Therefore, a clash of interests of this kind has inevitably resulted in far-reaching conflict between the two parties involved.

This conflict is based on diverging ideas of profitability. The industrial developer argues for a total consideration of profit in reference to the gross national income in all areas which are used competitively. The Samis are not willing to show compliance to such pressure but adhere to the idea that profit can be measured in various ways of which money is only one. Israel Ruong has pointed out that in some areas in the north it may be doubtful which form of economy may yield the largest profit with the least costs (Kungliga Lantbruksstyrelsen 1971).

Another very important point to make is also that it is primarily the State that exploits the forests in this manner, not private owners. The official organ directly responsible is the Commissioners of Woods, Forests and Land Revenues. The new Reindeer Pasture Law of 1971, enacted by the Swedish Riksdag, states clearly that reindeer herding is the basis of the Sami culture. Furthermore, it states that no land used by the Samis as reindeer pasture can be permitted to be changed by others in such a way that reindeer pasturing is rendered impossible. The devastation of winter pasture caused by the new technical methods approved by the Commissioners affects the ecological threshold for profitable reindeer husbandry and consequently these must be considered unlawful according to the Pasture Law. In other words, I find two diverging viewpoints on this matter, both representing the State. This calls attention to a kind of institutional conflict within the frame of the larger society. It also illustrates the weakness of laws specifically
designed to protect the interest of an ethnic minority (see Note 2).

Despite pressure both from the Samis and from the government and other officials, the Commissioners have continued this form of exploitation. In such a case, going to court is all that remains for the Samis, something which is necessary because their basic rights, protected by law, are violated. A court case, however, frequently has a rather long duration, and while it proceeds many more damages may occur.

(c) Waterfalls: waterpower is exploited exclusively by the industrial society. This infringement upon nature, that started around 1920, is an outcome of the growing need for energy experienced by the wider society. The direct consequences of such changes involve reindeer pasture and reindeer herding camps as well as hunting and fishing conditions. As a rule, the pasture land lost is not extensive, but the pasture lost is of high quality, for the snow melts first along rivers and other waterways. These pastures are of great moment in spring, particularly during the calving season. According to a biological investigation the climatic conditions will get worse because all the birch woods will be flooded. The type of mountain lake that will develop will have free range for the cold mountain winds. Consequently these areas are no longer suitable for calving (Samefolket 1970: 171-73).

Moreover, the work of herding the reindeer becomes more difficult, because the reindeer keepers have to increase the pasturing intensity on the remaining pasture, if they are to maintain the same amount of reindeer. A very severe problem connected with the losses of land is that traditional, ecologically highly suitable, encampments have to be abandoned. In Sirkas Sami community, e.g. the Samis have had to change camp sites four times during this century due to recurring water power developments in the same lake region, Lule river in Jokkmokk. The new encampments can never replace the old ones in quality. After a regulation the lake shores become unnatural, no vegetation, no life that usually belongs to the shore of a mountain lake is to be found. Furthermore, the ground is muddy and barren, and no people would ever choose such a camp site if they did not have to.

Fishing, whether for household use or for sale, is also impaired and both these forms of fishing are essential resources for the reindeer herder's household. High water levels will frequently occur in these newly dammed up lakes. Under such conditions small fishing boats may turn over and several accidents have happened since the storage-capacity regulation of the Lule river after which all the tongues of land and skerries offered good protection against heavy winds and high seas disappeared. Naturally it will be extremely difficult to continue fishing when fishing implements and
sheds may be lost in the same high water. The shore will also be undermined, and everything on it will be destroyed and follow downstream. Moreover, the amount of fish available in such regulated lakes will also diminish to a considerable degree.

Due to increasing awareness of their minority situation, the Samis have put special emphasis on the three factors affected in this case; pasture, encampments and fishing, and incorporated them as the basic issues of their political articulation. However, this has not only a place in the ideology, it is also expressed artistically both in picture and in poetry. The famous Sami poet, Paulus Utsi from Sirkas, a man who has experienced all these damages very closely sums up the sense for this in a brief but very precise form (1970):

"Hands of men dam up the waters,  
the water is rising, presses the Sami,  
the water has washed the reindeer food,  
cloudberry swamps, sedge-grass meadows.  
The fish has left its course." (English translation by author.)

Pictures and drawings have also been produced, with a very clear and conscious message. Thus an ecological change of this kind has brought about a growing awareness on the part of the Samis that necessitates a firm and distinct articulation of their position in ideological terms as well as in more refined artistic forms.

Before entering on a critical ethnographic case it is necessary to state some important differences between water-power and forest exploitation. All cases regarding hydroelectric power development in Sweden must be approved by a special court, the Court of Waterlaw, which also determines the form and amount of compensation to the affected people. According to the water law a project of this kind may be prevented if it severely damages the economic base of the Samis. So far no case has ever been considered to have these far-reaching effects. The economic compensation, which the exploiter has to pay according to the court verdict or at some time after an agreement between the two parties has been reached, is two-fold. First there is a collective form of compensation that will help the entire community to make reindeer herding more efficient by means of new technical aids. The other form consists of individual renumeration paid per household in proportion to the number of reindeer owned.

These legal and economic means that protect the interest of the ethnic minority are, however, of limited value. Money cannot make up for the loss of pasture, which viewed strictly ecologically is definitive. And on the legal side even if the water court should not approve of a special project,
exemption could be made by the government. Therefore, in political terms the Samis have no guarantees against an exploitation they judge unsuitable; they have no veto power.

As an ethnographic example I choose Sörkaitum Sami community in Gallivare, the local unit that seems to have suffered the greatest losses so far. Through earlier water regulations they have lost an area of 7,500 hectares, pasture land most suitable for calving. Because of these earlier encroachments along Lule river the Samis have had to concentrate the grazing on snow-free ground further to the north within the total community area. Calving takes place in the low-lying area between Ritsem and Lake Autojaure - the Autojaure basin. That is the only remaining area ideally suited for calving. In this area fairly early in spring there is ground free from snow and green pasture. These favorable conditions enable the cows and their newborn calves to stay for some time, so that the calves can get stronger before moving further up the mountains to the actual summer pasture. The Reindeer Samis consider such important pastures essential for the comfort of the reindeer. If these are lost due to industrial developments, the ecosystem to which these people gradually have adjusted will have been altered. The basin is regularly used in the autumn, and when climatic conditions make it impossible to keep the reindeer in the forest region it is also used as winter pasture. Actually it is the only pasture land in the low mountain region that may serve such purposes. The regulation of Autojaure therefore, will have very serious consequences for the people concerned. The area lost only amounts to some 800 hectares, but as stated above, it is of vital importance for the Sörkaitum Samis if they are to maintain a viable reindeer economy.

This project has been planned since the early 1960s. In 1964, both the provincial government at Luleå and the Gallivare municipality disapproved the project because it would cause too great damage for the local Sami population. In 1967, however, the central government approved the project, and the exploiter, the Swedish Hydroelectric Company, turned to the water court to obtain permission to start the project. From the beginning we find, once again, a discrepancy of viewpoints among the various institutions within the frame of the larger society. This discrepancy or institutional conflict may be of some benefit to the Samis; however, in most cases it renders Sami counteractions more difficult.

In the spring of 1971 the water court finally gave support to the Ritsem project, and at the same time it was debated in the Swedish parliament. The government proposed a compromise, which was to allow the Ritsem project to proceed and then to assure a prevention of all further plans for the Kaitum and Kalix rivers, rivers so far unexploited. By a small margin, the government position won and in the summer of 1971 the Swedish Hydroelectric Company was prepared to begin the
construction. But for the 110 inhabitants of Sörkaitum there was a desperate feeling of cultural destruction. They as victims had to observe how the grand politics down in Stockholm finally solved the problem of Sörkaitum. One of the strongest arguments in favor of this development was the matter of increasing job possibilities in the marginal region of Norrbotten Province, a region that suffers very much from unemployment. However, a development of this kind does not in any effective way solve the problem of regional unemployment, it only postpones the problem.

The Samis in the area had tried many ways to prevent this last project and the majority had also firmly refused any offer for compensation. First they appealed to the United Nations' Human Rights Committee to observe this problem and then subsequently influence the final decision of the Swedish government. Another spontaneous and irregular type of expression was a demonstration with posters outside the Parliament the day this issue was to be debated. But both ways of getting attention to this local problem were in vain. This irretrievable loss was felt desperately by the Samis. They are very concerned about what results the calving period will bring. The animals go to the traditional calving grounds by instinct. In that area they now face large heavy machines. As the reindeer are easily frightened they will instantly move on to the higher mountain areas, a pasture unsuitable for the calves. There is no further calving area to be found within Sörkaitum, although the Swedish Hydroelectric Company is of the opinion that there is lots of space for the Samis. Such an opinion, however, is based only on mapping the surface of the total community area, it does not consider the various ecological conditions within this area suitable for reindeer herding.

The result of this case is that the Samis will receive a large amount of money, 3 million Swedish crowns, which will be used for various technical improvements together with individual renumerations. But a compensation of this kind, although substantial, cannot restore the pasture conditions, vital for the preservation of a profitable reindeer economy.

As we have seen, even the exploitation of water power constitutes economic changes in the Sami region that have far-reaching cultural consequences. In this case it is usually the land free from snow that is vulnerable to these infringements. The cumulative effect of a series of such developments within the same local community may finally go beyond the ultimate limit. Sami communities like Sörkaitum may have no future as a Reindeer Sami community. The same would be valid for Norrkaitum if the postponed plans for developing the Kaitum river should be realized. The increasing demand for energy by the industrial society will definitely grow in the years to come, due to the international oil crisis and the heavy costs for other forms of energy.
Small populations like the Reindeer Samis will not be able to prevent this demand for comparatively inexpensive hydroelectric energy. To anyone trying to make any prediction about the future, it seems as if the "Ritsem compromise" will have only temporary effects, and the Samis are extremely concerned about this state of insecurity.

In this context a similar compromise in Northern Norway should be noted, that of Masi. The entire community of Masi, inhabited by some 400 people with varying ecological adaptation, settled farming-fishing as well as reindeer herding, was recently threatened by a vast hydroelectric project. This highly homogeneous Sami community would have been evacuated because of this development. After many debates and several spontaneous demonstrations in favor of Masi this project was prevented, but with the explicit concession that other parts of Finnmark instead will be subjected to this kind of exploitation. (For a detailed account of this dramatic case of confrontation see Mikkelsen 1971.)

(d) Ore: concerning this topic I will confine myself to a rather brief general presentation (cf. Svensson 1966, 1976). The Kiruna-Gällivare area, in particular, has rich deposits of iron ore, and an expansive mining industry has arisen there. This development started around the turn of the century, and it is still growing at an undiminished rate. During the 1960s, for example, two new mines were established, Svappavara and Nokutus. Many natural routes of reindeer migration were eliminated when all these mines were opened, and many areas of night pasture, so necessary for migration between the seasons, were lost. These encroachments have greatly impaired the Kiruna Samis' chances of profitable reindeer herding, and a greater burden of work is now demanded of the herders.

A consequence of these mine developments is the increasing pressure from the large communities and towns that subsequently grew up around the mines. In the two towns, Kiruna and Gällivare, there live some 30,000 people. The demands made by these people for recreational areas and for facilities for hunting and fishing are new elements of competition affecting the adaptation of the Reindeer Samis. Such recreational activities may at times cause great disturbances in reindeer herding.

On the positive side we can mention that economic compensation is paid for the losses. This is, however, a rather recent procedure and has to do with the political development of the Swedish Sami Union (SSR = Svenska Samernas Riksförbund) and the appointment of a legal counsellor, sameombudsman. These compensations are as a rule worked out through mutual negotiations.
Secondly, industrial developments of this kind will offer work possibilities in proximity to the traditional environment both permanent for those Samis who for various reasons leave the reindeer herding, and in some few cases temporary, i.e. a man may work in the mine for five to ten years and then buy a herd for the money saved and thus return to his traditional way of life. A few Samis have accomplished this occupational exchange in this century. In addition to this the mining towns also offer different forms of work within the service branch, especially for women. Consequently, in this way some reindeer herders' wives are able to earn cash, if other household activities allow it. In more isolated Sami communities this type of extra income is not obtainable.

As a final remark it should be mentioned that various means of transportation follow the industrial development of this dimension, such as railways, roads and airports. Reindeer husbandry may be rendered more difficult as a result of the construction of these means of transportation, although they will not have a lasting effect on the number of reindeer kept. Railways and roads lead to direct losses, as reindeer are run over, and may in special cases affect the number of animals kept. The reindeer fences set up during recent years, however, have reduced these losses considerably. The location of an airport like the one in Kiruna, may also profoundly obstruct the seasonal migration with large herds.

Comparison of colonization and industrialization

In summing up we can first distinguish between the settler colonization process, which is characterized by production for adjacent consumption, and the industrial exploitation which by and large implies production for consumption afar. As far as iron ore and forest products are concerned the greatest output enters the Swedish export market. They form two very significant elements of the general export industry on which much of the high material standard and welfare of Sweden is based. Besides that all three forms of exploitation offer a great many jobs in the area; in other words each case of new development must also be viewed as having a local/regional employment aspect. And this is very important to keep in mind, if we are to fully understand the differences between the two periods of infringements on the Samis' reindeer pasture.

Both epochs have created a stage of conflict, the range of which, however, differs very much. The changed ecological situation resulting from the industrial era has made new forms of adjustment necessary. A political movement on behalf of the minority, therefore, has gradually developed and gained increasing strength in the last 30 years. In Sweden SSR was founded in 1950, consisting of all local Sami communities together with locally organized non-reindeer herding Samis. At the same time a similar mobilization of the Sami minority groups took place in Finland.
and Norway.

In the former period, that of settler colonization, a movement of this kind was not imperative. For this reason, a form of social change, like SSR, must be viewed in a historical perspective. Before the industrial revolution the conflict between the Samis and the larger society did not call for an all-national organization among the Samis. Later on, as the industrial society developed, the conflict of interests was felt so much more. Stimulated primarily by the growing labor movements the Samis made several attempts at organizing themselves, first regionally but finally, in 1918, also on a national basis. However, they did not succeed in realizing these goals until after the Second World War.

From the detailed account of important ecological changes it should be easy to conceive of how vital such a socio-organizational development actually turned out to be. In 1962 SSR did also manage to engage a legally trained adviser, sameombudsmen, (SO), and it is especially since this strengthening of personnel that SSR, as a representative political body for the Samis, has been able to assert itself.

Local differences

One more point can be made in connection with the ecological change previously discussed. The change of environmental conditions apparently creates different opportunity situations. People in areas in close proximity to towns experience great pressure from the larger society at the same time various forms of combined occupation may be accessible. On the other hand, in the more isolated communities less pressure is felt and the possibility of earning some extra money are non-existent.

As it has been emphasized many times that the adaptation of the modern household requires much more cash than does the subsistence economy, it may be questioned which variant may establish the most viable type of reindeer herding. From my own material, at least, it seems evident that the communities that most easily recover from catastrophes due to drastic climatic changes are those less affected by pressure from the outside world. For instance, there are appreciable differences between the Sami communities in Karesuando and those in the Kiruna-Gällivare region. A similar degree of divergence regarding this matter was observed in many communities in the south Sami district of Jämtland and Härjedalen compared to some of the forest Sami communities most exposed to industrial pressure. According to the general ideology of SSR no single Sami community will ever be permitted to disappear. Consequently, it is not permissible to stress these differences of opportunity situation too much. All local communities, even Sörkaitum and Laevas, e.g. have to remain within the Swedish Sami community. This adheres to the adopted idea that the Sami culture cannot exist without a territorial base. Any attempt by the
larger society to eliminate just one single community will be considered in all cases unacceptable by the Samis. This statement clarifies to some extent the political position of the Samis in this inter-ethnic relationship.

Organizational adjustment to ecological change

The political development of SSR takes various lines. Following the appointment of this sameombudsman the legal strategy seems to have gained in importance. Most critical cases of confrontation between the Samis and different interest groups representing the larger society are now brought to court. In this way the Samis have attained a position of moderate influence, i.e. in the future they will be able to assure themselves of a just and fair compensation for the losses and, furthermore, they may also succeed in relocating certain projects of exploitation, so that reindeer herding will be subject to less damage. In formulating a general ideology in the late 1960s the significance of the legal strategy has been stated explicitly (Samernas Samepolitiska Program 1968).

The main idea behind the strategy chosen by the Samis is that a base for political action will emerge from a large enough number of successful cases. Such a base will offer quite different opportunities to the Samis as far as influencing their own affairs is concerned (Svensson 1972, 1973). At this stage I confine myself to one court case, which must be regarded as a case in an on-going process. This case refers to a judicial testing of general principles, i.e. basic rights to land and water in the southern part of the Swedish Sami area, the so-called Skattefjäll Case. This legal process, which began in 1966, will certainly last for more than 10 years going through all the court instances. The outcome of the first trial was given in 1973 and a hearing in the court of appeal was held in the autumn of 1975 and winter of 1976 (Note 3).

As the account of environmental encroachments has shown, the option of going to court in each case of new development does not in a sufficiently effective way protect the interests of the Sami minority. It is apparent that the Samis need much stronger legal rights to the resources on which their particular way of life is based. A formal claim to ownership of, or exclusive native rights to, the land and water in the reindeer pasture area has, therefore, been brought to court. The state of the legal foundation from which the Reindeer Pasture Law and the special Sami administration emanate seems rather dubious. Since the 1880s it is presumed by the authorities that the state owns all land in the reindeer Sami area. However, this presumption has never been formally accepted by the Samis. As the increasing pressure from the larger society gradually makes it more difficult to maintain viable local reindeer herding communities, the administration must be assailed. In order to reduce the constraining effect of this legal framework the Samis feel it is
necessary to attack the general legal basis in court (Cramér and Prawitz 1970). It is important to note that all Sami communities in Sweden are behind this legal test, although it refers particularly to the northern part of Jämtland. To a great many Samis, reindeer herders as well as non-Reindeer Samis, the outcome of this trial will have the greatest significance. If the final outcome is favorable to the Sami cause, then all Sami communities will subsequently be able to strengthen their position. As a cumulative effect viewed in a much larger perspective, it may even improve the situation of non-Reindeer Samis. Without such improvement of the legal basis the Samis will never succeed in constituting an ethnic group in a polyethnic context. This is also a reason why the Samis in Finland and Norway closely follow the outcome of this case as they may pursue similar tactics if successful.

A form of adaptive change of this kind is comparable to what goes on in many other minority situations. In the Alaskan land claim resulting in the Alaska Native Claims Settlement Act of 1971 the same goals were at stake. The natives of Alaska united in a claim regarding basic rights; however, they chose the political channels instead of the legal ones in order to realize their goals. In northern Canada we find a similar case, the James Bay Project. By turning to court to solve the matter, the Natives, Cree Indians and Eskimos, hoped to prevent the largest water power exploitation in the world so far. Even this case was considered to have an impact on conflicts in the future between natives and the larger society of Canada. Finally an agreement was reached in the autumn of 1974, similar in scope to the Alaskan agreement although regionally based, offering $150 million to the people concerned. In addition to this some alterations of the original plans will be made in order to reduce the total environmental damages. The agreement also makes a treaty-like statement that the Creees and the Eskimos possess exclusive fishing and hunting rights in the James Bay area although they do not own the land. The concrete significance of this codification will be shown in the future handling of conflicting interests between the Natives, and the larger society (see John W. Berry's contribution).

As a tactical measure the Samis have also chosen to internationalize the issue by referring to cases regarding native rights among Indians, Eskimos and Australian Aborigines, for instance. Besides that they have made an attempt to hear special witnesses on these comparative questions, for instance, Vine Deloria Jr. and legal consultant of the Canadian Eskimos, Inuit, Douglas Sanders. Both requests, however, have been turned down by the court. The intention of the Samis was to broaden the scope of the issue and at the same time appeal to the public opinion, a development that is extremely important if the Samis are to have any success in their political activities.
Concluding remarks

The Sami culture, like many other pastoral-nomadic cultures, is ecologically highly specialized, i.e. their socio-cultural system is maintained by a very limited energy supply. A destruction of a basic resource, reindeer pasture, may subsequently result in environmental destabilization of such magnitude that cultural survival is threatened (Paine 1971: 162, Segraves 1974). No doubt the three industrial forms here discussed, forestry, water power and mining, will have such a demolishing effect. The dichotomization between ecological specialization and ecological generalization, as stated by Segraves, also draws attention to varying degree of redundancy. Due to the fact that many parts of the reindeer pasture are irrevocably destroyed, it is gradually more difficult to maintain the Sami culture, because its degree of redundancy is very low (Note 4).

A general feature of this process of change is, furthermore, that all exploitations for consumption afar emerge from the larger society, essentially from the state. It is specifically the large economic interests of state companies that oppose the culturally significant interests of the Samis. The Samis as an ethnic minority are politically in an extremely weak position regarding these vitally important issues, because the same state also determines, through legislation, the legal framework and administrative arrangements to which the Samis have to subordinate. The latter factors act as structural constraints to the Samis in their adaptation to the new ecological situation. They do not serve as assets that will assist the Samis, but rather they consolidate the political strength of the opponent. The legal strategy which the Samis have recently chosen as their form of counter-action, already at this time with some success, seems to be the only means by which the solid system of the larger society can be penetrated.

On the grass-root level this brings us to the question of reindeer management. In a cogent analysis of herd management, Robert Paine has presented a model in which a minimal balance between the three basic factors for ecological adaptation, pasture, herd and personnel, is obtained by herding and husbandry activities. This model is depicted as an equilateral triangle. The point is that if a change occurs in one of these factors then the other two must be changed accordingly in order to retain the balance for optimal gains (Paine 1972). However, when external pressure, as has been discussed in this paper, constantly causes damage on one of the factors, pasture, it will be extremely difficult for the Samis to sustain this ideal balance. The Samis have to develop special forms of political means, formerly not utilized, if they are to succeed in profitable reindeer management. Local equilibrium in ecological terms cannot be reached without sources of power from the outside (Bates 1971). The political development of the Samis and especially their legal strategy is aiming at this important objective, a change of the power relations between the Samis and
the larger society (Svensson 1973).

By presenting a detailed ecological account we have shown that court cases of principles, like the Skattefjäll Case, have general political implications to the Samis. Despite its unpredictable outcome, this case has contributed in establishing increased cultural consciousness and strengthened self-respect. The proceedings and the outcome appear as frequently recurring themes for discussion also among the Samis far from the area directly involved. This feeling of ethnic solidarity among people geographically dispersed is fairly new and facilitates the process of minority-political movement (Eidheim 1968). To all Samis the same utterly important issue is at stake, namely to secure an economic basis for the Sami way of life. The collective identification behind these problems is spelled out in specific confrontations such as the Skattefjäll Case. One of the things the Samis are aiming at in this legal process is the right to all waterfalls within the area. In this matter they adduce the situation of many Indian reservations in the U.S.A., in which the Indians as possessors of original rights can profit from hydroelectric developments. This fact brings us to another point, that of internationalization. The entire debate on environmental planning may serve as a kind of moral support to the Sami cause from certain sections of the larger society. In the great international conference arranged by the United Nations in 1971, for instance, a subsection treated the ecological changes caused by industrial developments in Lapland. A wide international and national debate on environmental problems may restrain the larger society from undertaking some heavy industrial exploitation.

The international energy-crisis on the other hand, may speed up some crucial industrial developments. Consequently, the Samis, as well as many other Arctic peoples, are very vulnerable to changes in the world arena regarding significant natural resources. The powerless ethnic minority, to defend its vital interests, has to adjust not only to an opponent, the larger society, but also to the implications of frequent fluctuations of world economics, exemplified by the current energy crisis.

Finally, I want to emphasize that the most important consequence of economic change caused by the industrial society in the Sami area is the special political development of the Samis which has made legal strategic measures possible. Without this mode of adjustment, the political position of the Reindeer Samis, in particular, would be in a stage of constant impairment. As I have demonstrated, important changes of forms for political actions may most readily be explained by the close interrelationship between ecology and politics. Similar trends of change, as outlined in this paper, can be observed among many other Arctic people.
Notes

1. Fieldwork on which this paper is based was carried out between 1963 and 1973 in various regions of Swedish Lapland. I also wish to recognize the comments made by Tim Ingold, University of Manchester, Great Britain, on an earlier version of this paper.

2. One of the most important points debated at the SSR meeting was the problem of industrial forestry; two opposing parties—the Samis and leading representatives of the Commissioners—confronted one another (for detailed information see SSR 1972, 1973).

3. The verdict of the court of first instance (Tingsrätten 1973) has been classified by the Samis as a victory half way. The court states that at the time of territorial transfer of the counties Jämtland and Härjedalen to Sweden at the peace of Brömsebro in 1645 it has been proved that the Samis were supreme owners of the area, now disputed. However, from 1760 onwards the state has gradually usurped the possessive power over this land, and in 1886, this form of state ownership was not questioned by the legislators. In other words, an official court has for the first time in the history of the Samis confirmed that originally the Samis actually owned their land. There is strong evidence presented by the Samis for such a conclusion. From this legal confirmation of original rights the Samis have acquired that opening in the solid administrative system they need in order to pursue their tactics (Tingsrätten 1973).

4. "In the event of an environmental destabilization which either destroys or greatly diminishes one resource, the system may continue to survive and persist by falling back upon its alternative energy sources" (Segraves 1974: 538).

Literature


Rehbinder, Claes. 1974. Skogsgödsling kontra rennäringen. (Ms.)


A land use conflict on Bathurst Island, Northwest Territories

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Introduction

In a report entitled Government Northern Objectives, Priorities and Strategies for the '70s, which was first made public to the Parliamentary Standing Committee on Indian Affairs and Northern Development in March 1972, the Canadian (Federal) Government has clearly defined the broad outlines of national policy in the north. The policy statement says that northerners must be involved in the decision making process at every stage of development. Given that the three main elements in the Government's approach to Northern Development are people, the environment, and resources, the official policy asserts that the needs of Northern People are more important than resource development and that the maintenance of an ecological balance is essential. A number of recent ministerial statements have emphasized the determination of the government to pursue programmes consistent with this stated northern policy outline. The Minister, for example, has stated that "what matters most is people. How can conditions of life be improved for the people of the North? And what we are finding to be equally important, how can this be done in ways they themselves want rather than in ways that we have predetermined" (Canada 1973a: 9; see also Canada 1972a, 1972b).

However, a number of recent government decisions, especially in regard to oil exploration activity in the Arctic, have precipitated charges that, in practice, the government places the interest of the people after all other considerations and a recent analysis has observed that "despite (Government) protestations to the contrary, many people, particularly native Northerners, continue to believe that the Government's first commitment is and always has been to serve the interests of the energy and mining industry." (Usher and Beakhust 1973: 126). The Native people are finding it difficult to accept, in fact, the government's stated national objectives for the north. The nature of the conflict between government responsibility on the one hand to safeguard Native people's interest in the northern
environment and on the other hand to promote exploration and exploitation of non-renewable resources has been analysed elsewhere (see, e.g. Usher 1971) and we feel the evidence presented in this paper supports the same conclusion - namely, that the best interest of people and the environment are not well served by the existing means established for those particular purposes.

The events surrounding the Bathurst Island case described here, confirm that the conflict between preservation of the northern ecosystem and non-renewable resource exploitation continues to occur to the present. The purpose of this report is to analyse the dimensions and thoroughness of the government decision-making process, in respect to a satisfactory evaluation of the social and environmental concerns expressed by local people, and hence to illustrate the discrepancy between northern policy statements on the one hand, and the willingness of the government to meet the stated requirements of its own policy on the other.

Several sources of information have been used in this study: transcriptions of the tapes of meetings held in Resolute, N.W.T. (whose hunters use Bathurst Island) and in Ottawa between the local people, federal Indian and Northern Affairs (DIAND) officials, and representatives of Panarctic Oils Limited; letters exchanged between the Resolute Bay community, the Inuit Tapirisat of Canada (ITC - the National Eskimo Brotherhood) and government representatives; media reports; biological reports; published analysis of the Territorial Land Use Regulations; and results of our own research conducted in Resolute Bay.

Exploration and resource development in the Arctic

There have been an increasing number of major development projects planned or in progress in Canada over the last few years, including the Bennett Dam, the Bighorn Dam, the James Bay Project, the flooding of Southern Indian Lake, and exploration and development in the Arctic and along the Mackenzie Valley. A recent study has analysed the nature of the legal problems involved when Native people, having a direct and profound interest in the land, came into conflict with such industrial expansion (Sanders 1973).

One of the longest running conflicts between an Arctic community and environment-threatening exploration activity occurs on Banks Island, in the Western Canadian Arctic. The situation has been documented elsewhere (Usher 1971) but can be summarized as follows. The community of Sachs Harbour on Banks Island, following their protest over the nature of exploration activity in their trapping and hunting hands, finally allowed seismic exploration to proceed in 1970. A group registered trapping area which covered the island was the only legal protection the community had, but that was not sufficient to protect their interest against oil exploration permits. The peoples' concern
in 1971 has not lessened and indeed Panarctic Oils Limited has for sometime now tried to encourage residents of Sachs Harbour to sign an agreement allowing for expanded seismic and drilling operations, including permission to undertake such work during the summer months. The Sachs Harbour community has consistently opposed summer work and insists that the Minister once promised that no programs would be allowed during the summer when irreversible terrain damage would occur. At a meeting held in Sachs Harbour on March 5, 1973, attended by local residents and government and oil company personnel, the local people again decided unanimously that all oil companies should abide by the regulations specifying an October 1 to April 30 working season. However, that such a meeting took place to discuss the issue, indicates the negotiable nature of the environmental safeguards.

In 1971 the residents of Southampton Island asked for an end to seismic work in critical marine mammal habitat important to their community. Though a postponement of exploration was ordered, the Minister of Indian and Northern Affairs is reported as telling the community to accept the inevitability of exploration (Globe and Mail 1971: 5).

Another case of opposition to seismic work occurred in respect to Cape Bathurst, on the Tuktoyaktuk Peninsula, and was started by residents of Tuktoyaktuk in 1972. Following the unanimous rejection of both summer and winter seismic exploration programs in Cape Bathurst area by the Hamlet Council, and extensive sympathetic national media coverage, the Minister ordered, in November 1972, a one-year moratorium on exploration to allow time for studies on exploration effects on hunting and wildlife. Tuktoyaktuk residents want all exploration on Cape Bathurst to cease. They are not interested in the present research effort because they do not want to see any activity in this area no matter how carefully it is conducted. They have not opposed other operations over the rest of their traditional hunting grounds but will not risk this ancestral land under any circumstances, for, as they state, exploration, even if controlled, will if successful be a prelude to greater interest in these lands by developers - an interest which local people could never control. Following a meeting on February 21, 1974, the Minister decided to extend the current moratorium through November 1975, but pointed out that even though in the past he has suspended permits out of concern for the environment, if it became clear that traditional interests would not be jeopardized by the work, then he would allow it to proceed (Inuit Monthly 1974a: 4).

Hunters of Grise Fiord are likewise concerned about the environmental threat posed by oil exploration programs going on in Jones Sound and Ellesmere Island (Edmonton Journal, February 23, 1974: 9). Oil exploration has been approved by government for the one and, thus far, only area the local people object to, namely the Vendome Fiord region where caribou and musk-ox are hunted. In 1973, when Grise Fiord people met with federal land
use officials for the first time, the local people said they had no objections to most of the proposed exploration areas with the exception of the area around Vendome Fiord. A consequent two-week study of the animals in the area was conducted in July 1973, and shortly afterwards the Settlement Council received a letter from federal officials saying that exploration work would proceed in the Vendome Fiord area. However, as the chairman of the Settlement Council points out (Edmonton Journal 1974: 9), the conclusion of that report (Riewe 1973) clearly states, that given the nature of the investigation, there was no assessment of the impact of seismic activity on the environment, including the important question of whether or not wildlife would leave the area.

A Baffin Island resident recently expressed concern that there will not be many caribou or other animals in the area around Frobisher Bay in the future due to the number of planes now flying over the area and other local developments, which were also contributing to caribou leaving the Nettling Lake area. Furthermore, the government established a fishery last summer at Nettling, an area which is in the direct path of the caribou migration. As one resident has pointed out, "I don't want to hold back the land but the government is taking and destroying the land and we are not informed of their intention. We were not informed about the camp at Nettling for example" (Inukshuk 1974a: 6).

The territorial land use regulations

The authority for dealing with the administration and protection of northern lands, which are controlled by the Minister of Indian and Northern Affairs, is derived from the Territorial Lands Act (1952). An important amendment, the object of which is "to provide for the managed use of the land in the Yukon Territory and the Northwest Territories in a manner which will not preclude their utilization but which will minimize the degradation of the land surface" (Naysmith 1971: 10-11) was brought into force in November 1971 largely in response to the pressure from northern Native people and environmentalists who were concerned at the increasing damage to the land and wildlife as a result of oil exploration activities. However these regulations have been found wanting by many ecologists (Fuller 1974).

The role of northern Native people in creating the demand for environmental legislation in the north has been described elsewhere (Usher 1971, 1973: 1), and though Banks Island was the first place where oil exploration activities had to be modified in response to the concerns of Native residents, the nature of these subsequent modifications leaves much to be desired. Furthermore, Usher concludes: "It is not exaggeration to say that these regulations, as well as the agency responsible for their enforcement, the Water, Forest, and Land Division of the Yellowknife Office of Indian and Northern Affairs, have lost all credibility in the eyes of the native people." (1973: 1).
If true, that conclusion would effectively present those regulations serving as an effective vehicle for forwarding government policy objectives in respect to stated northern development goals. However, in the absence of any indication that federal authorities wish to reevaluate or modify the decision-making bodies established to regulate northern resource development, we assume the regulations and regulatory structures will continue to provide the institutional framework within which present conflicts are acted out.

In addition to providing general rules for land protection, the Territorial Land Use Regulations (TLUR) describe the terms and conditions which may be included in a land use permit. Such permits are required for any company wishing to use the surface of the land for oil and gas exploration. In the Northwest Territories, these applications are received by the Regional Director of the Water, Forest and Land Division of DIAND who is responsible for the administration, inspection and enforcement of these permits.

A Land Use Advisory Committee composed of representatives from various federal and territorial government departments, reviews each application. This Committee was formed to provide advice in respect to each land use application; however, the Water, Forest and Land Division does not have to heed any advice offered, for the Advisory Committee has no power, even though some of the agencies represented on the Committee (e.g. the federal Fisheries Service) do have independent powers of control over certain aspects of the land-use operations.

Applications for land use permits may also be reviewed by Settlement or Hamlet Councils; however, the inadequacies of these administrative and review procedures are now quite apparent, and include the arbitrary selection of community councils to which applications will be sent, the quality and completeness of the information forwarded to the community councils, the absence of government agencies other than Water, Forest and Land Division at council meetings receiving the applications, the inherent advocacy position of the government, the effort to obtain hasty approval from the Community Councils and so on (Usher 1973: 2-3; Usher and Beakhurst 1973: 84-97).

Community consultation is the responsibility of DIAND. The Northwest Lands and Forest Service through its district superintendent performs this role. It seems clear that the government and the Community Councils have differing perceptions of what constitutes "consultation," and the Native people do not feel their interests are served by such means as are being employed. The obvious conclusion is that the process of community consultation is merely a facade and bears no relation to whether or not the permit is to be issued. If the TLUR are to deal comprehensively with the problem of land use in the north, there is a need to ensure real public participation in any land use decision (Usher and Beakhurst 1973: 93; see Note 1). Indeed it
should be pointed out that the Settlement and Hamlet Councils have no real power, their job is merely to review the application and to communicate any concerns.

It is a significant point that the TLUR contain no effective provision for dealing with social and wildlife concerns: maintenance of fish and wildlife resources are of the utmost concern to the Native people for it is they who will be most affected by any changes in these resources (Usher and Beakhust 1973: 121).

The main legislation protecting northern wildlife resources is the Territorial Game Ordinance and the Federal Fisheries Act. However, though the Ordinance specifies in some detail what the Native hunters and trappers may or may not do, it contains nothing about regulating development activities, with the single exception of those matters subsumed by the Migratory Birds Convention Act. The Fisheries Act purports to regulate both hunting and industrial activities which might prove harmful to fishery stocks. There is virtually no other statutory basis for wildlife protection, and many ecologists have stressed the inadequate knowledge available at present upon which to base such legislation. Often these concerns are expressed by ecologists reporting directly to government (Canada 1973b; Dunbar 1973: 87ff). Unfortunately, not only is the needed research not being done, but development is allowed to proceed without adequate knowledge of the consequences.

The government adheres to the principle that development and protection should proceed together; it rejects the idea that environmental research should precede development in order to provide the basis for appropriate monitoring and regulation (Peterson 1974: 120). It seems therefore that the major weakness of the regulations is the ongoing conflict of interest between social concerns and wildlife conservation on the one hand and the development responsibilities of the federal Department of Indian and Northern Affairs on the other. And as one observer has noted "the regulations were devised only a mechanism to lessen and minimize damage to the environment, in the context of otherwise unmitigated development" (Cumming, Foreword in Usher and Beakhust 1973: 1). Thus assurances made by government officials to local people about environmental protection are constantly proving to be untrue, and in the resulting absence of goodwill, conflicts are exacerbated.

The land use conflict on Bathurst Island

The problem of oil exploration activities and their effects on the caribou of Bathurst Island was first brought to wider public attention at the Baffin Island Hunters' and Trappers' meeting, held at Pond Inlet, Baffin Island, in mid-December 1973. At that time the Resolute Bay delegate explained that the hunters had found out that seismic work was proceeding on the Island only by reading a government publication (Dialogue North 1974), and that
they had not been consulted by government officials about any aspect of the land use operations.

Bathurst Island is a hunting area of great significance to Resolute Bay hunters, for nearly all of their caribou hunting takes place there. Indeed, the people call the island tuktutiaryik meaning "the caribou hunting place." The people who now live at Resolute Bay were re-located there by the federal government in 1953 and came originally from Pond Inlet, Baffin Island, and Port Harrison in Northern Québec. It appears that the main reason for their move from Northern Québec was the abundance of game in the Resolute Bay area and the consequent promise of good hunting opportunities; the emigrants were told by federal authorities to stay there for two years and then to decide whether they wanted to live there, or not. However, after two years, when some people wanted to return to their original homes, the federal authorities refused to pay their way (Note 2). Since the oil companies have in recent years, been conducting exploration work on the Island, the people have witnessed many changes in the wildlife.

In January 1974, a meeting was held at Resolute Bay between the people and an official of the Water, Forest and Lands Division of DIAND to discuss the application made by Panarctic Oils Limited, who wished to conduct seismic operations in Bathurst Island. The people stated that they did not want any work to proceed on Bathurst Island under any circumstances, because they needed the Island for caribou: "It is our only hunting area; if (exploration) companies come around, there will be no animals" (Note 3). They pointed out that they had expressed this same position to a senior official from DIAND some months earlier (March 1973); however, it appears that these earlier objections were never circulated to other levels of government (Note 4).

In February 1974, delegates from Resolute Bay travelled to Ottawa to discuss their concern with senior officials and requested the Minister to stop all exploration work on Bathurst Island. The Resolute Bay hunters claimed to have observed the impact of seismic activity and cited recent changes in caribou migration behaviour. At this meeting the Minister reserved judgment on the matter. However, one week later, in a letter to the community he stated that seismic activity did not threaten the ecology; the Canadian Wildlife Service (CWS), he pointed out, had surveyed the land and found it to be stable. Summing up his position, the Indian Affairs Minister told the people that "development will not be allowed to proceed in any areas where it can be shown that a valid ecological concern exists" (Note 5). The implication of this statement is clearly that the environmental concerns of the local residents were without foundation. The people of Resolute Bay have an intimate understanding of the land and the wildlife for they have hunted on the island for years. However, it seems the views of experienced hunters and trappers are not even taken into serious consideration in the decision-making process.
On March 12, 1974, senior level officials from DIAND visited Resolute Bay to inform the people of future exploration activities in the area (Dialogue North 1974). While assurances were given the local people that the government understood their current concerns, it was stated that the oil companies had been given their exploration rights to the Island long ago, and it was claimed that in order to maintain exploration permits, companies had agreed to undertake a certain amount of exploration or forfeit these permits. The officials pointed out that if local people would inform the government of critical areas, then it may be possible to modify programmes to avoid these areas.

The people only restated their position— they were certain the caribou would be further affected by continuing activity on Bathurst Island and they based their opinion on past experience.

Since the people of Resolute Bay now work for the most part in regular wage employment occupations, the need to retain proximate, productive hunting grounds (for fresh food) increases. Clearly then, dependence on good hunting increases in the case of part-time hunters. Given the non-acceptability of high-priced low quality imported foodstuffs, the need for fresh local food remains high (Curley 1974).

The people protest

On March 24, 1974, three delegates from Resolute Bay again met with officials of DIAND in Ottawa; the Settlement Council requested that ITC provide legal and ecological advisers at this particular meeting. Following this meeting in Ottawa a letter by the Chairman of the Resolute Bay Settlement Council was sent to the Minister asking him to reconsider his decision, reminding him that national priorities in the north, as enunciated by himself, were people first, then the environment, and development last. The letter accused the Minister of putting development ahead of considerations of the people and the environment and stated that "we feel you made your decision concerning Bathurst contrary to these priorities. As Minister of Indian Affairs and Northern Development you are responsible for the people of the North and we ask you to listen to us."

The Council was explicit in its statement of concern: "in 1969-70, it was noticed that caribou were leaving Bathurst Island due to the smell and sound of development. Then in 1973, all the caribou herd had migrated to the North part of the Island and did not migrate back down because there was exploration in the migrating route. Because of this experience of animals running away from development, we know the animals of Bathurst Island are going to leave altogether if they are not left alone;" ... "the only suitable vegetation for caribou is on Bathurst Island and this is why they prefer to stay there. But because exploration work has frightened them away we have seen caribou tracks on Griffith's Island which has no vegetation. We
have seen caribou on the southern islands and tracks all over the little islands which do not have any vegetation either." The Council's letter pointed out further, that at several meetings, held in the past year, the community had tried without success to communicate their concern to the federal government, and concludes "we were told by your officials on March 12th, that the Government has an obligation to the oil companies. We are telling you -- that your first obligation is to us. If Bathurst Island runs out of caribou -- What will be our purpose for being here in Resolute Bay as we were put there for that reason in the first place. Our 20 years of history will be meaningless - lost." (Note 6).

A further initiative decided upon by the Resolute Bay delegation was to obtain an ecologist's report on Bathurst Island, which was to include a thorough evaluation of the information upon which the Minister's decision to approve seismic operations was based. To assist in meeting this request, one of us spent one week in Resolute Bay where intensive interviews with hunters were conducted, the results of which were incorporated in a report (Freeman 1974a). Prior to this report being completed however, a preliminary evaluation of the Bathurst Island situation was prepared and incorporated into a press release which attracted some national media coverage.

The government response

The Minister responded to these new initiatives on May 27, 1974, in letters to the Chairman of the Resolute Bay Settlement Council, and to the President of Inuit Tapirisat of Canada (ITC). These letters reiterated the belief that a properly controlled seismic program would not harm the environment nor the wildlife. The letter to the Resolute Bay Council stated that if caribou are indeed starving or changing their migration then some cause other than exploration activity was responsible. However, this is a retreat from the earlier categorical denial of any change in caribou behavior as in the letter sent (the same day) to ITC in which it was again stated that nothing abnormal had been found during recent caribou surveys conducted by government scientists on Bathurst Island. The letter from the Minister, however, announced that modification to 1974-75 seismic operations in the southwest of Bathurst Island would be made, and that the calving grounds of both musk-ox and caribou were to be off-limits to seismic operations during the breeding season. Implicit in this important decision was an acknowledgement that 1) the local peoples' information as to the location of ungulate activity areas was confirmed as reliable and 2) that seismic operations do in fact present an environmental hazard to some populations at certain seasons. Equally important perhaps, this modification of a proposed land-use operations indicated to the local people the falseness of the impression deliberately advanced at an earlier meeting that land-use operations cannot be modified because of pre-existing and unchangeable conditions governing the issuance of exploration permits.
The informational basis for government decision making

The Minister's decision to allow seismic work to continue on Bathurst Island in 1974 was based on advice given him by advisers in the Canadian Wildlife Service (CWS) and his own department. References to this material were sent to ITC and are described and evaluated (as deficient) elsewhere (Freeman 1974b; Freeman and Hackman 1975; also refer to Tener 1961; Miller, Russell and Urquhart 1973: 6; Riewe 1973; International Biological Program 1974; Geist 1970, 1971; Gray 1973; Urquhart 1973).

It may seem strange that the caution urged in all the pertinent studies cited is disregarded by the one regulating agency set up to safeguard the northern environment and social concerns in Canada (Freeman and Hackman 1975), especially since it is conventional wisdom now to acknowledge the need for extreme caution to ensure the protection of northern ecosystems against man-made damage.

However, the government's point of view was made quite explicit in a public announcement by a spokesman for DIAND when stating, in regard to the Bathurst Island controversy, that the situation would be different if someone could "conclusively prove that seismic operations scare caribou" (Hersak 1974; Curley 1974). While it is true that it cannot be proved at the present time that seismic exploration scares away caribou, it cannot be disproved either. One reason for this uncertainty is the lack of comparative baseline data from Bathurst Island prior to seismic exploration. Thus, in the absence of government-sponsored research in this area, the onus for environmental protection is shifted from the federal authorities to private groups or individuals.

With regard to the government's national objectives for the north, it is possible to argue that the government has a responsibility to find the best advice, whether that be found inside or outside the public service. Indeed as has been recently pointed out, the "native people possess a unique knowledge of the northern environment and its game resources as well as the impact of land use operations on their own way of life" (Usher and Beakhurst 1973: 91).

The continuing conflict

In early October 1974, ITC received a request from the Resolute Bay Settlement Council, asking assistance in opposing a further Land Use Permit application by Panarctic Oils Limited. This particular proposed seismic operation was to take place in the critical southern portion of Bathurst Island. A letter was sent to the Minister requesting a general freeze to allow a more thorough assessment of ecological problems and to allow time for amendment to the TLUR to ensure meaningful public participation.
in the decision-making "so that the difficulties encountered over Resolute - do not continue to take place" (Letter to Hon. Judd Buchanan, from President of ITC, dated October 23, 1974). The President of ITC in his letter referred also to earlier ministerial assurances that the Bathurst Island situation would "continue to be carefully monitored." ITC understood that this careful monitoring took two forms: a CWS study of caribou on the Island in spring and summer 1974, and a consultant's study of the effect of seismic work in wildlife populations.

However, CWS indicated that their report would not be available until December 1974, and the consultant's report was similarly not completed. Thus it appears that lacking the scientific studies called for to help clarify the situation, the benefit of any doubt continues to be awarded to resource exploration rather than the people or the environment. Notwithstanding the "unavailability" of these reports, other information is on hand which points to a worsening situation among the Bathurst Island caribou and a continuing hiatus between governmental policy and practice in respect to environmental protection and social concerns in the north (Letter to Hon. Judd Buchanan, from President of ITC, dated October 23, 1974).

Even though pertinent recent information was readily available to DIAND, it appears not to have influenced the decision to allow seismic work to proceed (Note 7). Furthermore, it appears that the permit in question was summarily issued before resolving the conflicts surrounding the application and while serious environmental questions and social issues remained outstanding.

Once again, however, considerations used by DIAND in respect to issuing land use permits were made explicit in a communication received by the Resolute Bay Community Council on the day the land use permit was issued to Panarctic Oils Limited. This letter reiterated that it still cannot be proven that seismic exploration disturbs caribou, and furthermore, that the exploration companies have been delayed too long and should be given permission for the delay represents a loss of money for the company (Letter to Resolute Bay Hunters and Trappers Association from R.G. Lynn, D.I.A.N.D. dated Yellowknife, October 10, 1974).

It is naive perhaps to observe at this point that according to established national priorities set for the north, the financial considerations of a resource development company are intended to be of very low saliency in northern development decisions, and are not supposed to outweigh high values purportedly placed on social development and safeguarding northern ecosystems. Indeed it appears that the company had already been assured of permission to proceed, since a representative of Panarctic Oils Limited assured the Settlement Council that his company was unable to stop the work it had planned for Bathurst Island, a statement confirmed from the Company's head office one week before the permit was issued to the Company by DIAND (Phone call received by Mr. F. P. Paneloo, Resolute Bay, from Mr. R. Blain, Panarctic Oils Limited,
October 4, 1974).

It is no wonder that DIAND is seen as an advocate of the interests of resource development (Usher and Beakhust 1973: 91). The Native people feel that the Department is supporting a cause that is not entirely in their interests. This suggests a contradiction in the present structure of the DIAND; the Native people understand that the Department exists to represent their interests but it also represents the interests of the oil companies. As is indicated above, the Bathurst Island case illustrates the point that when these two interests conflict the latter almost inevitably prevails.

The residents of Resolute Bay are far from satisfied with the continuing seismic exploration work on Bathurst Island. In a recent letter to the Minister, the Settlement Council requested a meeting between that office and the people, because they are "appalled that the government continues to take Panarctic's side on the question of seismic work in the region." They blame this on the fact that the federal government has a 45% interest in Panarctic Oils Limited. Again the people stressed the fact that they have been hunting on Bathurst Island about 20 years. They believe that the airplanes, explosions, soot, smoke and fumes affect the wildlife. The residents recently learned that "there are simply no caribou left in their traditional hunting grounds. Hunters have yet to see any and the two monitors employed by Panarctic have only seen six sets of prints so far this year." Therefore, the people wish the Minister to reassess his stand, so that it is consistent with the Department's policy, which states: people come first (Inukshuk 1974b: 5).

Conclusion

Despite widespread concern for the needs of the northern people and for environmental protection, a concern professedly shared by the federal government, the Bathurst Island controversy illustrates: 1) that the stated national northern development priorities of people and the environment before resource development continues to be mere rhetoric and is not supported by current realities; 2) that the process of community consultations is merely a facade, for the views of experienced hunters and trappers are not taken into consideration in decision-making; 3) that there is an inherent conflict of interests occurring in the one structure that exists to represent the peoples' interests and, in cases of a conflict, the interests of resource development companies prevail.

Notes

1. Meeting held in Ottawa, February 21, 1974 in which P.A. Cumming commented that the whole process of receiving input from the people had, in this case, as others been unsuccessful. The
Land Use Permit process proceeds too quickly for the people to be effectively involved. Also letter to Hon. Judd Buchanan, from President of I.T.C., dated Ottawa, October 23, 1974.

2. A similar situation took place at the same time at the neighbouring community of Grise Fiord.

3. From transcript of tape recording of meeting held in Resolute, January 31, 1974.


6. Letter from Chairman, Resolute Settlement Council, dated Resolute, March 26, 1974. See also Mr. Chrétien's statement to Commons Standing Committee on Indian Affairs, March 1, 1973 in which he states, in respect to land use conflict resolution: "I suggest that we must be sure, beyond any reasonable doubt, that we do not limit the traditional uses (of the land) until the people affected accept ways and means by which equivalent or greater benefits accrue to them by employment or alternative enterprise."

7. See also comments made in letter to Hon. Judd Buchanan, op. cit., presumably refer to findings of other scientists, e.g. Urquhart (1973); Geist (1970, 1971); and Klein (1971).

Literature


Summary

Economic change and its consequences in circumpolar regions: summary of the symposium

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Our summary of the symposium will be based, for the most part, on the papers in this volume, but we will also incorporate materials from the other papers submitted to the symposium, as well as some of the discussion and comment that highlighted the two-day sessions in Amsterdam. Certain key points seem to be recurrent in the papers and discussions, and they provide a series of unifying themes - better to say "questions" - that are significant in the contemporary circumpolar scene.

The participants in this symposium (see list below) do not represent a complete sampling from all theoretical perspectives, nor do they represent the views of all Native peoples or even all seven nations in the circumpolar north. The focus is mainly on northern Canada and Fennoscandian Lapland. Comparisons between these two major circumpolar regions were found to be particularly useful during the meetings because certain common trends emerged; at the same time the contrasts between these regions instructed us about the need for caution concerning global generalizations. In many instances the differences in development are more important than the similarities.

Massive technological and social implications

The papers in this symposium, and other data in our discussions
make clear that many areas of the Arctic and Subarctic are now being penetrated by modernization on a scale far beyond earlier expectations. While the most striking technological "current event" in the circumpolar north may be the various pipeline projects in Alaska and northern Canada, there are also large scale ecological modifications occurring (and planned for the future) in the form of hydroelectric projects, especially in northern Canada and Fennoscandia. It is quite indicative that six papers dealt with the ecological and socio-economic implications of man-made lakes, and other related effects (see Pekka Aikio, Erkki Asp, John W. Berry, Don Gill, Menno Lenstra, Tom G. Svensson). In general it is fair to say that the impact of hydroelectric developments in both northern Europe and North America is negative from the point of view of the local inhabitants. They had depended on the flooded areas for their livelihoods, and employment in newly-developed industrial activities does not usually provide satisfactory substitutes for their earlier lifeways.

There are some immediate differences in the impact of hydroelectric projects that distinguish the Canadian North from situations in northern Scandinavia and Finland. Throughout Lapland the damming up of rivers and streams for industrial purposes almost invariably brings about serious encroachment on the local reindeer herding industry. In fact the importance of reindeer herding as an economic mainstay and ecological "problem" in Lapland may be the factor accounting for many of the differences between these two major areas of the north, even though only 10% of the existing labor force is engaged in this economic activity. The Sami (Lapp) reindeer herders (as well as neighboring non-Sami reindeer herders) have been pushed farther and farther into marginal regions by the development of towns and farms, the spread of lumbering and mining industries, and more recently the increasing number of man-made lakes. There is much less room to move around in Lapland as compared to the vast areas of the Canadian far north. As Pekka Aikio, Erkki Asp, and Menno Lenstra point out, the advent of these technological developments have contributed to extensive changes in the social and economic organization of reindeer herding management, as well as to changes in settlement pattern and nearly every other aspect of lifeways.

Hydroelectric programs, new highways, pipelines, and similar technological projects may be categorized as macro-technology, effecting large-scale direct modification of physical environments. At the micro-technological end of the scale, on the other hand, new gadgets and equipment have rapidly penetrated the far north in the last decade, and have impacts at least as important as the effects of the dams and highways. The snowmobile ("iron reindeer" or "tin sled-dog") has in a few brief years brought about very substantial changes in nearly every aspect of life in both northern Canada and northern Europe. In Lapland the snowmobiles have replaced draught reindeer; in Canada and Alaska they have largely supplanted dogs as the chief energy sources for
winter transportation. It is of course quite difficult to disentangle the effects of the snowmobile from other developments in these northern areas (cf. Ingold 1975). Nonetheless, it is clear that major ecological adjustments have come about and are continuing their shock waves, following the introduction of this new transportation system. The direct cash cost of snowmobiles alone has been a major factor, along with dependence on southern supply sources for replacement parts and gasoline. Many populations of the far north that previously were autonomous in their winter and summer travel systems have now become completely dependent on gasoline in order to carry out crucial production activities on sea and land. It has been pointed out that use of gasoline driven snowmobiles for winter work is frequently combined with other technological equipment, including airplanes, buses, and trucks (Ingold 1971; Moyer 1973; Müller-Wille 1971, 1974a; Pelto 1973). Thus, an entire network of petroleum-dependent transportation has become the major reality of the far north in the years since 1960, after the first successful snowmobiles were developed by Armand Bombardier in a small town in Québec (cf. Pelto and Müller-Wille 1972).

Although technological penetration of northern areas has been particularly notable in the past two decades, there has been a corresponding increase in non-technological developments, including the spread of governmental policies affecting housing, health, education, as well as employment opportunities. On the other hand an accelerating process of politicization has occurred among the Native populations of the north, starting among Sámi groups in Scandinavia as early as 1917. These "movements"—both in Canada and Scandinavia—have culminated in firm bodies of political institutions like the Nordic Sámi Council and Inuit Tapirisat of Canada, which supported the ideas of joint action by circumlarp ethnic minorities during the Arctic Peoples' Conference in Copenhagen in 1973. This activity along with others finally led to the foundation of the World Council of Indigenous Minorities at Port Alberni, British Columbia in 1975 (for Canada, see Kennedy 1975; for Scandinavia, see Doj 1975). Another major force of change is the pervasive growth of tourism. Related to tourism is the rise of local Native crafts and other activities as new sources of income. Here again there are contrasts apparent between Lapland and northern Canada.

Nelson Graburn points out in his paper that the success of Canadian Inuit (Eskimo) art has brought complex systems of marketing, including a number of Native cooperative ventures, along with new ideological forms and new self identity in connection with these occupations. The marketing of Inuit art products does not depend on a flow of tourists into the area. Most of their products are sold in stores in the south and through a variety of other "delocalized" channels. On the other hand, newly developed handicrafts and artwork of the Sámi people in Lapland are much more dependent on direct marketing to the ever-increasing flow of European tourists, who can now drive with their automobiles directly to most locations in the Scandinavian and
Finnish north. These differences in forms of contact with the purchasers of handicraft and art have significant effects on other features of the economy and social organization.

Rapidly rising expectations

The massive spread of technological and ideological elements throughout the "Western" circumpolar regions has brought marked changes in the expectations of the Native populations, in their styles of communication with the wider world, and in their degree of political participation in the systems of national and international decision-making to which they have now been linked. Many peoples of the far north have television and radio, by means of which they receive up-to-date and growingly sophisticated information about their neighbors to the south. These increases in information have developed much greater demand for, and in some cases the possibilities for, political participation in national government structures (Komiteanmietintö 1973; Betänkande 1975). Several of the participants in the symposium referred to political movements (e.g. Kennedy 1975), and the development of intercommunity political organizations seeking to effect some control over the impeding changes that northern peoples see happening in their habitats. A particularly striking instance of this kind of "modernization" in political activity was visible in the film Greenlanders by Hubert Schuurman (1974) and relatable to Gert Nooter's comments about economic change in East Greenland. Schuurman's film included, in addition to modern housing, scenes of a "supermarket" and a protest march coming down a west Greenland town street. Presentations of protests, petitions to governments, and other political actions are not of course entirely new in circumpolar contexts, but the scope and aims of these movements have taken on new dimensions in the 1970s.

De-localization

Perhaps the most general and all-pervading tendency visible throughout circumpolar areas today, as in all other parts of the world, is the process of "de-localization" (cf. Poggie and Lynch 1974). The most important features of de-localization, it seems to us, are the increased dependency on distant sources of energy (especially gasoline and electricity), and the displacement of decision-making about environment brought on by the increasingly heavy hand of governmental and industrial influences from distant metropolitan centers (Brody 1975). Of course dependence on cash and sale of local products in place of an earlier subsistence economy are often the most visible and important aspects of de-localization. However, the presentations by participants in our symposium point out that simple cash dependency is only a part of the network of delocalized influences affecting the inhabitants of circumpolar regions. Compared to living conditions of just ten to fifteen years ago, the inhabitants of northern Europe and Canada are affected daily by governmental
bureaucracy in housing and other social welfare measures (cf. papers by John J. Honigmann, Ludger Müller-Wille; also Mathiesen 1975); control of economic activities in wage labor, and commercialized herding, hunting, and trapping; as well as the intangible de-localization that occurs as people identify with the values and features of more distant parts of the world.

The influence of television, tourist contacts, and other direct communications has greatly increased the impact of national education systems. Although none of the papers in the symposium focussed primarily on schools and education systems, there is inevitable de-localization in peoples' views of themselves when as school children they are confronted daily with behavioral norms, role expectations, and cultural images designed by educators who focus on the needs of industrialized communities.

Flexibility and adaptiveness of northern peoples

At a number of points during the symposium there was discussion about the flexibility, the adaptive skillfulness (or perhaps simply the resilience) of the northern peoples in the face of overwhelming technological, socio-economic, and political changes. John J. Honigmann referred to the many ways in which Inuit and Indian peoples in northern Canada have been successful in taking on wage labor jobs, in participation in new social institutions, and in other aspects of changed social conditions.

On the other hand, no one claimed that "all was well" and that there were no serious problems in these circumpolar developments. Quite the contrary - much of the conference was a cataloging of the many new problems and the serious proportions of contemporary disruptions of life styles (Hackman and Freeman; see also Brody's strong position in regard to "northern development," 1975). At the same time data presented from both Lapland and the Canadian north suggest that the indigenous social organizations and cultural patterns have long-standing features that promote adaptiveness, innovation, and resourcefulness of problem solving.

This flexibility is probably best known in connection with practical and technical matters such as maintenance and repair of modern equipment. Conferences and symposia concerning circumpolar life styles always include anecdotes about ingenious repairs of snowmobiles, innovative substitutes for broken sleds, and rapid learning of new working procedures ranging from typing to repair of radar equipment. These features of personality and other qualities have been suggested as contributing to this flexibility of adaptation among Arctic peoples (cf. John W. Berry in this volume; Pelto 1973). The relative elasticity of social organization with bilateral kin relations, fluidity of corporate group organization, and related features have also been seen as part of the overall adaptiveness (John G. McConnell's contribution).
The question of identity and ethnicity

Perhaps the most frustrating question that surfaced during the conference was the continued problem of definition and identification of "native" peoples. In certain respects these problems of identification and ethnicity – depicting cultural differences – have no solutions since different people, for different (and very varied) purposes, use widely divergent criteria in labelling and delimiting ethnic groups (Terence Armstrong makes us aware of the particular problems arising within the Soviet Union with regard to "nationalities"). It is in this matter of ethnic identification that the pervasive distinction of "emic" and "etic" views and definitions became apparent. As John W. Berry pointed out to us during our discussions, there have always been arguments and discrepancies between "objective" and "subjective" definitions of ethnic groups (cf. Müller-Wille 1974b).

Some anthropologists (and other scholars) would insist that the only logical course to take is to use subjective or "emic" criteria, asking individuals to identify themselves as to ethnicity (see discussion in Barth 1969). Certainly for many purposes such subjective definitions of individuals make good sense. On the other hand, it is now known from various research contexts that people are quite variable and "inconsistent" in their ethnic self-identification, depending on situations (Keskitalo 1974).

That is, persons who would to the outside observer appear to be "Sámi" may under some conditions identify themselves as Sámi quite readily when it relates to some kind of favorable situation; on the other hand, in circumstances where such identification may have negative consequences or connotations, individuals may deny ethnic membership (cf. Eidheim 1971; Mathiesen 1975). The extreme distortion in ethnic self-identification can take place in certain well-known commercial and popular contexts: for example, in Lapland individuals who have very little claim to Sámi ethnicity sometimes put on Sámi costumes and pose as "local natives" for commercial advantage in dealing with tourists. The same sort of deception occurs occasionally in the political arena as well.

In many contexts anthropologists and other scholars have used the criterion of language for identifying individuals of a particular ethnicity. The spread of national monolingual education systems and new patterns of bilingualism, associated with loss of "native language" in younger generations leads to some distortion when the criterion of language is used. In the 1970 census, 3,798 persons were counted who identified themselves as belonging to the Sámi population of the three northernmost counties in Finland; only 1,843 of these used Sámi as their main language (Tilastotiedotus 1972). In many areas of the far north today, as in many other parts of the world, the language spoken by people is no longer an accurate indicator of ethnic identification,
especially as some younger generation individuals seek to reassert
ethnic identification that had become somewhat obscured during the
traumatic "middle stages" of 20th century culture change. Also,
in interactions involving the prospects of stigma attached to
ethnic identification, asymmetrical reciprocity of subordination-
superordination will be generated (cf. Keskitalo 1974; Mathiesen
1975). People of ethnic or minority status will, however, tend
to seek recodification about identity labelling, in order to
bring about more egalitarian interaction styles in dealing with
members of the dominant cultural groups.

When significant economic privileges (for example, the right to
engage in reindeer herding) are restricted to a particular
ethnic group, then bureaucratic agencies cannot sidestep the
identification of individuals in ethnic terms. In Sweden, Sabmi
ethnicity is supposed to be a prerequisite to reindeer herding.
Of course the payment of "land claims" settlements and other
compensation to particular Native groups by national governments
has also required fairly clear cut criteria for defining ethnic
membership. Naturally there are numbers of people likely to
claim ethnic membership in order to receive one-time benefits, who
in other situations might prefer to deny such ethnicity (cf.
Alaska Land Claims Settlement).

It is neither feasible nor desirable that all researchers agree
on unitary definitions or criteria for identifying individuals as
to ethnic group membership. Criteria for particular practical
programs might be quite different from criteria employed in
research programs. Perhaps the best that can be done with regard
to this general question is for individual researchers or
individual research projects to use clear and consistent criteria,
whether "emic" or "etic," whenever testing hypotheses or
presenting regional intra- and inter-ethnic descriptions. The
readers of research reports will frequently be baffled about the
matter of ethnic identity if we do not specify our criteria
clearly.

As the processes of intercultural exchange and new patterns of
bilingual and bicultural adaptation are developed, some
researchers find it useful to refer to "degrees of ethnicity"
(cf. Schein 1975). In our contemporary world it seems clear
that, whereas in a particular Sabmi community (for example) in a
particular situational context people may sort out clearly into
"Sabmi" and "non-Sabmi," there are wide ranges of variation, and
"some individuals are more Sabmi than others." Müller-Wille
(1974b) has pointed out some of the correlates and features of
this sort in one bilingual, bicultural community in Finnish
Lapland.

Inuit and Sabmi instead of Eskimos and Lapps

Throughout the conference in Amsterdam we were somewhat
embarrassed and occasionally slightly confused because we find
ourselves in a transitional stage, somewhere around the mid-point of a shift from old terminology to new and more appropriate labels for many of the northern peoples. Rising self-consciousness of small ethnic groups throughout the world (the Fourth World), is signalled by their insistence that they provide the name by which they will be identified, rather than accepting the possibly derogatory label imposed on them during early processes of asymmetric contact situations. In many parts of northern Europe the term "Lapp" had earlier, if not today, a derogatory connotation of inferior cultural status, illiteracy, and lack of sophistication. Some people would object that, quite to the contrary, the term has often had a romantic and superior quality that conveyed prestige on those peoples. It does not matter. The possible stigma is still present, and in most parts of Lapland the proper labelling is now considered to be Sabmi, Sâmi, Saame, Samek, or some other variant based on those peoples' own self-designations. The same process is present in Arctic Canada, where the term "Inuit" is considered by those people much more desirable than the label "Eskimos." The fact that anthropologists have frequently considered "Eskimos" to be superior people is beside the point.

Writers and researchers of the circumpolar north are quite uneven in their exposure to the new terminology. In our conference this unevenness was noticeable, though most participants appear to be moving toward the new terminology, while holding back in printed form because many readers may be somewhat confused. There are other problems, though. The word Inuit is not the appropriate local designation for many people of Alaska. Again, in Greenland, the correct term would be "Greenlanders," although they were earlier culturally and linguistically quite similar to many cultural groups of Inuit in Canada. There are differences of opinion among local people themselves about whether they prefer to be known by the old and established terms, or by their own terms. Sometimes their acceptance of a particular label connotes membership in either a progressive or conservative faction. In general, the problem posed by this matter of labelling has become acute because of the rising politicization of northern peoples in seeking control over their contemporary affairs in a rapidly changing world.

North-South culture contact: a success in mutual adaptation?

In our earlier discussion about the apparent flexibility and resourcefulness of northern peoples the implication was present that Inuit, Sabmi, and many other ethnic groups are "succeeding" in meeting the challenge of contemporary modernization. At some points it appeared that people were talking about fairly successful adaptation to new circumstances, and effective economic organization of reindeer herding, use of governmental facilities, and participation in new types of social organization. To some extent the presentation by John J. Honigmann, for example, was an endorsement of the success of Inuit and Indian peoples in
Canada. In the lively discussion that followed Honigmann's paper, Nelson Graburn raised a series of questions including: "What about the increased alcoholism and suicide ...?" In response to a question about the situation in Greenland Gert Nooter appeared to agree that the Greenlanders are "managing" in adjusting to the rapid changes there. John W. Berry, in his analysis of psychological and physiological stresses in different Cree communities in Nouveau Québec presented data that describe a transitional stage with highest rates of stress, beyond which the more "acculturated" people show a reduction of stress and other symptoms. These data do not of course demonstrate that those Cree communities were "passing through" a crisis stage beyond which everything came out better and more successful. Nonetheless these materials would seem to indicate the possibility that high rates of stress and personal psychological discomfort are developed under certain conditions of culture contact connected with strong external pressure, after which there may be some reduction of tensions and anxieties, either because of successful adjustments, or perhaps because of some sort of acceptance of new but undesirable circumstances.

These are complicated matters, and our symposium did not have the time to go into detail about the very difficult matters of judgement in "success" and "failure" in social and cultural adaptations. From the wide range of materials discussed during the conference it would appear that there are great differences among circumpolar peoples in the degree to which they have achieved economic stability, cultural identity, and other qualities and values that might be regarded as "success," at least in some peoples' view. The range of supposed "success" always depends on the contemporary national governments and their willingness to accept different cultural interpretations of the people living within their boundaries (cf. Brody 1975).

Different regional settings: different solutions

The progresses of change in the far north are varied, depending on special local circumstances and the diversities of national policy invoked (cf. Hughes 1965). While anthropologists have sometimes spent too much effort and attention on divergence, perhaps, the patterning of variations in social and economic changes is a very fruitful process of study. Beneath the general similarities of process throughout circumpolar areas, the crucial data of interest to the local people themselves, as well as to researchers, often lie in the systematic ways that outcomes vary. The governmental differences — policy variations among the different Scandinavian countries, as well as the differences among Danish, Canadian, and American styles of administration in the far north, are often quite striking (Komiteammetintö 1973; Betänkande 1975; Jenness 1962–67). The Soviet government's attitude towards the "northern peoples" is difficult to assess, as Terence Armstrong points out in his paper.
A proposition that has received very inadequate research attention involves the effects of "language distance" on social interaction. Finnish people generally find the Sami languages much less strange than do Indo-European speaking Scandinavians. Finnish and Sami are mutually unintelligible, but the structures are similar, and a Finn can learn Sami about as easily as an English speaker can learn Swedish. On the other hand, adult Indo-European speakers have generally found it difficult to learn either Sami or Finnish. This language barrier can certainly add to the degree of social distance. There is some evidence that Finnish speaking peoples have intermarried more, and communicated more directly, with the Lappish speaking peoples than have either Norwegians or Swedes. However this point should not be stressed too strongly because there is a lack of detailed information on the subject.

Beyond national and cultural differences in the local scene, there are very significant geographical and ecological conditions that have affected outcomes of modernization and economic change in different ways in northern circumpolar regions (see John G. McConnell's paper; also Ives and Barry 1974). Aside from the general contrasts in geography between Arctic and Subarctic North America and northern Europe, there are very important micro-ecological differences on the regional scene that have been affecting the course of modern development. Within very short distances the change from a forested area to a tundra landscape makes a large difference; nearness to market centers or governmental establishments can be crucial, particularly in the degree of wage labor dependency and related social features. In earlier papers we have noted different aspects of the relative impact of snowmobile use on reindeer herding in northern Finland (Müller-Wille and Pelto 1971; Pelto and Müller-Wille 1973).

Throughout the symposium the participants seemed to move back and forth between broad similarities and details of divergence. This is not the first time that researchers familiar with northern North America and Greenland have matched their data with those from northern Europe; unfortunately in our case, as noted above, the comparison could only be expanded into northern Eurasia to a limited degree. However, the symposium's accumulation of new data, with much detail for comparing Canadian conditions with those in Lapland, seem to us to bring out some new dimensions of ideas that should spark further investigations. This meeting was probably the first time that Finnish and Sami researchers met with so many Canadian specialists, for example.

Circumpolar view: a need for redefinition of objectives?

These summary notes are intended only as a series of general comments to highlight the papers in this volume and the ways in which they relate to the discussions at the symposium and to other sources. These generalizations do not have the weight of "conclusions," based on a careful sifting of large bodies of new
evidence. But it is worthwhile to look over the products of all research presented at the symposium to define certain trends and special features, and point out some guidelines for future work.

We had the feeling at the end of the symposium that events are moving ahead very rapidly in the entire circumpolar north and that anthropological researchers as well as scholars from other disciplines must move quickly to keep abreast of these developments. The northern regions offer very significant possibilities for comparison of socio-cultural, economic, and political processes. The prominent theme during the conference was the analysis of the north-south conflict which impacts on the local situation in the north. We think it is necessary to develop a new perspective - a circumpolar view - which incorporates comparative aspects from all areas of the northlands in a East-West direction. Such a view will be particularly important if there is a continued growth of cross-national, cooperative movements on the part of ethnic minorities. This is not to say that the North-South juxtaposition will lose its powerful impact in the circumpolar areas.

At the same time it seemed to be an accepted principle within our symposium that research and other scholarly activities should have some direct effects that confer some benefits to those peoples of the northlands on whose hospitality and cooperation all of this research depends. In the future it will be necessary that representatives of the populations concerned be present at international gatherings to voice their scientific interpretations of their own situation. It will be important for the internationality of scientific work to keep an open atmosphere for all people concerned.

Literature


Ingold, Tim. 1975. The tin-plate reindeer: further thoughts on the snowmobile in Lapland. (Paper given at Amsterdam symposium.)


Kennedy, John C. 1975. New ethnic minority organizations in northern Labrador: some preliminary observations. (Paper given at Amsterdam symposium.)


Mathiesen, Per. 1975. Bureaucratic categories and ethnic ascription: an analysis of a Norwegian housing program in a Lappish region. (Paper given at Amsterdam symposium.)


Appendix

List of the symposium's participants

(A-Austria, CDN-Canada, D-Germany (FR), GB-Great Britain, I-Italy, N-Norway, NL-Netherlands, S-Sweden, SF-Finland, USA-United States of America)

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