

GREAT BEAR LAKE INDIANS:
A HISTORICAL DEMOGRAPHY AND HUMAN ECOLOGY

A Thesis

Submitted to the Faculty of Graduate Studies
in Partial Fulfilment of the Requirements

For the Degree of

Master of Arts

in the Department of Geography

University of Saskatchewan

by

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Saskatoon, Saskatchewan

May 1972

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ACKNOWLEDGEMENTS

The author wishes to acknowledge the assistance of many inhabitants of Fort Franklin, several Roman Catholic missionaries, and members of the government of the Northwest Territories, who provided valuable information in the preparation of this thesis. The author is particularly indebted to Mr. M. Bewule and Mr. F. Soldat of Fort Franklin, and Fr. B. Brown, Fr. J. Denis, Fr. F. Fumoleau, and Bishop Piché of the Mackenzie District. Gratitude is also expressed to members of the Department of Geography, University of Saskatchewan, in particular, Dr. J.H. Richards, Dr. S. Raby, and Prof. R. Rees, who provided valuable assistance in the undertaking of this research study.

The implementation of this research was aided considerably by the generosity of the Institute for Northern Studies, University of Saskatchewan, whose financial assistance made collection of field data for, and work on this thesis, possible.

A special debt of gratitude is extended to both my advisor, Dr. R.M. Bone and to Prof. W. Barr of the Geography Department, University of Saskatchewan, who provided willing direction and valuable advice in the organization and writing of this thesis. Finally, the author wishes to express appreciation and gratitude to her mother for all her encouragement and patience, Mrs. P. Smith and Miss M.A. Wiest for their endurance in typing, and Mr. W. MacMillan for his cartography.

INTRODUCTION

Great Bear Lake in the Northwest Territories is the largest lake located entirely within the bounds of Canada. Today there are two small settlements along its shores: the small mining town of Port Radium on McTavish Arm inhabited by non-Indians, and the small Indian settlement of Fort Franklin on Keith Arm. This study is concerned with the Indians of Fort Franklin and district.

Fort Franklin is located four miles from where Bear River begins to flow down to the Mackenzie River. It is approximately 90 miles from Fort Norman, the closest community, 120 miles from Norman Wells, and about 400 miles from either Yellowknife or Inuvik (Fig. 1). Its inhabitants in July 1969 comprised 368 Indians (339 Treaty, 29 non-Treaty) and 37 transient whites, mainly government, church or trading officials (Pers. comm. Fr. Denis, 1969). Most of the Indians are fur trappers who live in the "bush" around the lake for three to four months every winter setting up and operating their trap-lines. Their income is supplemented by a spring beaver hunt, by guiding at the tourist fishing lodges located around the lake, or by working with the transportation companies during the summer months. A few are employed either part or full time with the government or Hudson's Bay Company. The Great Bear Co-operative provides an outlet for local handicraft. Social welfare and other government allowances form an increasing proportion of the total income (Pers. comm. W. English, Area Administrator, 1969).

Since the erection of about eighteen log houses in the early 1900's, Fort Franklin has had a number of Indians residing in the settlement on

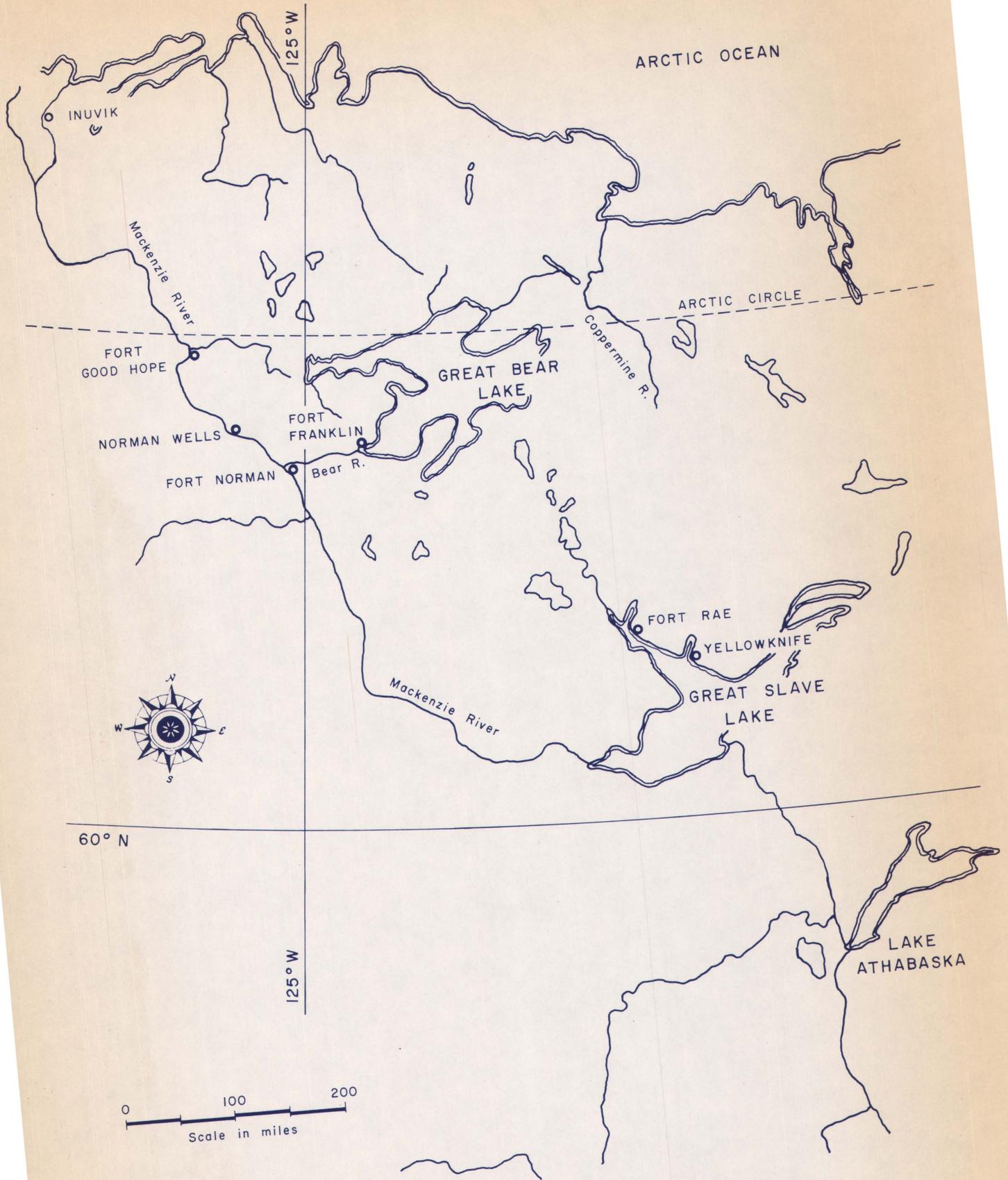


Figure 1 GREAT BEAR LAKE - GENERAL LOCATION

a year round basis. With the discovery of pitchblende, silver, and other minerals at Port Radium and petroleum at Norman Wells in the 1920's, Great Bear Lake and River became important as a commercial transportation route. Oil, food, and equipment were barged upstream, and silver-copper concentrates downstream to Fort McMurray, and then by rail to the smelter at Tacoma, Washington. Later, radium was sent to Port Hope, Ontario, for refining at Eldorado (Eldorado, 1967, pp. 18-21). Following upon the establishment of a permanent Roman Catholic Mission, Federal Day School, and Hudson's Bay Company post in 1949-50, the Indians settled in Fort Franklin, and since that time, their numbers have more than doubled.

Prior to 1900, these Indians were quasi-nomadic and lived in camps around Great Bear Lake. Once, their forefathers had been nomadic hunters, pursuing the migratory Barren Ground caribou, and subsisting on fish, hares, and other animals in abundant supply. But during the century and a half of European contact these Indians underwent many changes. Most significantly, they decreased in number and gradually became settlement-orientated. The old life of the "bush" and caribou was forever gone.

Purpose and Method of Study

This study describes and analyses the changes in human ecology and demography of the Indians of Great Bear Lake from just prior to European contact to the late 1800's. Further, it interprets the course of events and socio-economic processes which have left a lasting mark on these people. This discussion of the human geography of the Great Bear Lake area places special emphasis on population geography as viewed in the historical setting of this region of Canada's North.

The ultimate objective of population geography, according to Zelinsky (1966, p. 63), is:

... to understand the variable population traits of places, their causes, consequences, and above all, their interactions with other physical and cultural elements, thereby producing a distinct geographic personality for each inhabited part of the earth.

That the environment offers man a variety of opportunities, but that it is man who must determine which of these opportunities he will grasp, has been generally acknowledged ever since the reaction against the cruder forms of environmental determinism prevalent during the late nineteenth century. Zelinsky (1966, p. 65) also stated that:

... the first and most important step in approaching the population geography of an area is to identify and characterize its basic cultural patterns, and more specifically, to probe the demographic implications of these patterns.

Many arguments pertaining to such human aspects of geography have, however, revolved around the extent to which man's culture should be analysed. Man's material culture has long been regarded as "geographical" but for many, particularly among those North American geographers influenced by the teachings of Carl Sauer, cultural analysis has followed the limitations summarized by Wagner and Mikesell (1962, p. 5):

The cultural geographer is not concerned with explaining the inner workings of culture or with describing fully patterns of human behaviour, even when they affect the land, but rather with assessing the technical potential of human communities for using and modifying their habitats.

Brookfield in a fine dialectical paper published in 1964 denounced this failure to study man in all his dimensions, stating that too many geographic studies "close their inquiries at the point where entry into the methodology of other social sciences becomes necessary in order to

obtain answers to questions" (1964, p. 290). He argued that, instead, it is imperative to give "the fullest consideration ... to factors of social organization, custom and behaviour" (1964, p. 296), and that only in this way will it be possible to understand the environmental conditions as perceived by the people under study. The human geographer is, after all, concerned not with "the land per se, but with the land as part of the effective environment; with the land as resources" (1964, p. 287). And surely it is the "inner workings of culture" - man's perception and attitudes - as well as his technology, which bring about this transformation.

Thus, according to Brookfield, studies which seek explanations in the field of social organization and human behaviour and attitudes, have not ceased to be geographical: "it is merely that we [have probed] more deeply to reach the answer" (1964, p. 290). One notable monograph which has fulfilled these requirements of human geography as outlined by Brookfield is Aschmann's penetrating inquiry into the human ecology, decline, and extinction of the Cochimi of central Baja California (Aschmann, 1959).

The method adopted in this study is that recommended by Brookfield and Zelinsky, and that used by Aschmann. It "places man at the center of our thinking without in any way disregarding the whole environment in which he has his being" (Brookfield, 1964, p. 284). Following Aschmann's approach it attempts to inquire into the human ecology of the former inhabitants of Great Bear Lake by reviewing the available natural resources and evaluating them in reference to the demography and social organization of the Indians. Numbers and structure of population are discussed, as

far as is possible, in quantitative terms utilizing records left by the explorers, traders, and missionaries, and then evaluated in reference to the impact of the Europeans.

The study is divided into six chapters. The first three pertain to the aboriginal¹ population: a description of their effective environment or resource base; the social structure which permitted the utilization of that environment; and the demographic characteristics in operation. Chapter four deals with the invasion of the Great Bear Lake region by the European traders, explorers, and missionaries; it attempts to tie in the microregion with the macroregion of the outside world. The fifth chapter describes the demographic changes visible during and after the arrival of the Europeans. In the last chapter, these changes are interpreted with reference to diseases, economic changes and social factors, which were the result of contact with the European culture.

Sources and Research Methods

The research work for this study was carried out both in the field and in libraries. The field research which was supported by the Institute for Northern Studies was undertaken between August 8th and October 18th, 1969, when the author visited several communities located between Fort Smith and Fort Good Hope, including two weeks at a fishing lodge on McTavish Arm at the eastern end of Great Bear Lake, and a month at Fort Franklin. The author had previously lived for three years, 1965-68, at Fort Franklin while employed as a Community Teacher. During this time

¹ In this study the term "aboriginal" refers to the Indian population just prior to direct contact.

many parts of the Great Bear Lake area were visited by the author both by plane and boat. During the summer of 1969, many people were interviewed including local Indians, priests, government and business officials. Local mission and government records were perused wherever possible.² At Fort Smith, mission records pertaining to the vital statistics of Forts Norman, Good Hope, and Rae, were unfortunately only made available to the author for a few days; further access to these documents would have resulted in a more complete statistical evaluation. Most of the library research was carried out at the University of Saskatchewan. Here books, journals, reports, theses, and documents available, mainly at the Shortt Library and through the Inter-Library Loan services, were perused.

Research problems: Very little has been written specifically about the people of Great Bear Lake. Descriptively and statistically, the Indians were referred to by the early trader-explorer-missionary writers according to their tribal allegiance. No one tribe, however, frequented the shores of Great Bear Lake, but rather segments of at least four different tribes. Historical records do not exist for the period prior to the arrival of the Europeans and aboriginal conditions had to be reconstructed from these early authors' accounts. However, as the fur economy had already begun altering the old ways such extrapolation needed to be done with extreme caution. Later accounts concerned intermittent

² Not surprisingly, considerable information was obtained for the twentieth as well as for the nineteenth century. Originally it was the author's intention to extend the study to the present day. However, in view of the volume of data obtained for the early period, the study has been restricted to the period preceding 1900.

periods of time and dwelt primarily on the activities of the traders and explorers with only casual references and observations made about the local Indians. Very significant were the cultural and social biases of these writers which coloured their descriptions and interpretations of the Indian culture. It was therefore necessary to scrutinize these records with considerable care, in order to avoid such biases. There were shortcomings in using the mission records and such will be dealt with in chapter five and Appendix C.

Most of the information used in the presentation of this thesis was derived from several major sources. The first group comprised the journals and accounts of traders such as McKenzie, Keith, and Wentzel. As three of the earliest Europeans to live among the Indians of Great Bear Lake their descriptive accounts provided ethnographic data on these Indians shortly after contact. The second group comprised the records of many explorers: the accounts of some, such as Hearne and Mackenzie, were of a more general nature, but those of Franklin, Richardson, and Simpson, who lived and travelled around Great Bear Lake later in the nineteenth century, revealed considerable specific information about these Indians. The accounts of Richardson, a scientist, were particularly detailed, whereas the attitudes of a high ranking British naval officer of the nineteenth century, tended to colour Franklin's remarks about these local inhabitants. The writings of missionaries formed the third group. Those of Petitot, who travelled extensively among these Indians in the 1860's and '70's, were very informative, although of questionable ethnographic value. The mission records proved especially valuable as a source of statistical data and Osgood's ethnographic study of the Great Bear Lake Indians was an outstanding synthesis.

The Setting

Great Bear Lake, with an area of 12,000 sq. miles, is drained by Bear River, a tributary of the Mackenzie River. The lake is bisected by the parallel of 66°N and the meridian of 120°W. The Great Bear Lake Region has been taken to comprise those lands occupied by the Indians under consideration. Its limits correspond to the area considered by the people of Fort Franklin to be "their" territory. It is what Kroeber (1939) would have defined as a "culture area". The boundaries delimiting this region are therefore not precise and are shown on Fig. 2.

This region does not coincide with the areal extent of any of the individual tribes such as Hares, Slaves, Dogribs, or Copper Indians, but is, rather, the extent of the distribution and environmental utilization of a hybrid group which emerged from these main tribes after they had been pushed towards Great Bear Lake during the late eighteenth century. Explorers and traders of the early nineteenth century, such as McKenzie, Keith, Wentzel, Franklin, and Richardson referred to the Indians visiting the forts at Great Bear Lake according to their tribal names, and considered them to be separate and distinct groups. It was not until after 1850 that the Indians in this region became identified in the literature by Petitot (1893, pp. 65-6) as having an entity in their own right, focussing their locale on the lake. Petitot, however, still referred to these inhabitants as members of three bands which had been previously linked to, and had now broken away from, the majority of the Hares, Slaves, and Dogribs. Osgood (1931) was the first to use the name Satudene³ for the entire group centred around Great Bear Lake, a term

³Pronounced sǎ tū dě'ně.



Figure 2 GREAT BEAR LAKE REGION

derived from the Slavey words meaning bear - water - people.

For convenience, the term Satudene has been applied in this paper to the former nomadic Indians who hunted throughout the region surrounding Great Bear Lake, whether they considered themselves to be members of the main tribal entities, or later, when they came to identify themselves as being apart from other bands of Dogrib, Hares, and Slaves, a difference reflected in their dialects. The Satudene were the forefathers of the present Fort Franklin Indians.

Great Bear Lake Region lies within two of the principal physiographic divisions of Canada (Fig. 3). The Mackenzie Lowland which dominates most of the region has developed on primarily horizontal sedimentary rocks including considerable quantities of limestone, which were far less resistant to glacial erosion than were the Shield rocks occupying the area to the east (Rand, 1963, p. 105). The combined effect of the thick deposits of glacial clay and the presence of permafrost has resulted in numerous poorly drained shallow lakes and extensive marshy areas in the broad open river valleys which were utilised by the Satudene for both routeways and fishing (Fig. 4). Occasionally, high continuous escarpments of more resistant strata outcrop, separating streamless grassy plateaus from the wooded river valley and lake shore lowlands (Fig. 5).

An abrupt rise along the eastern lake shore marks the western edge of the Canadian Shield. This region is composed primarily of granite plateaus with outcrops of sedimentary and igneous rocks forming occasional upland areas. Along the boundary in McTavish Arm deep fjords and many islands are clearly visible (Fig. 6).

The seasonal cycle of both man and beast was closely tied to the annual climatic rhythm. The brief summer months of July and August, with

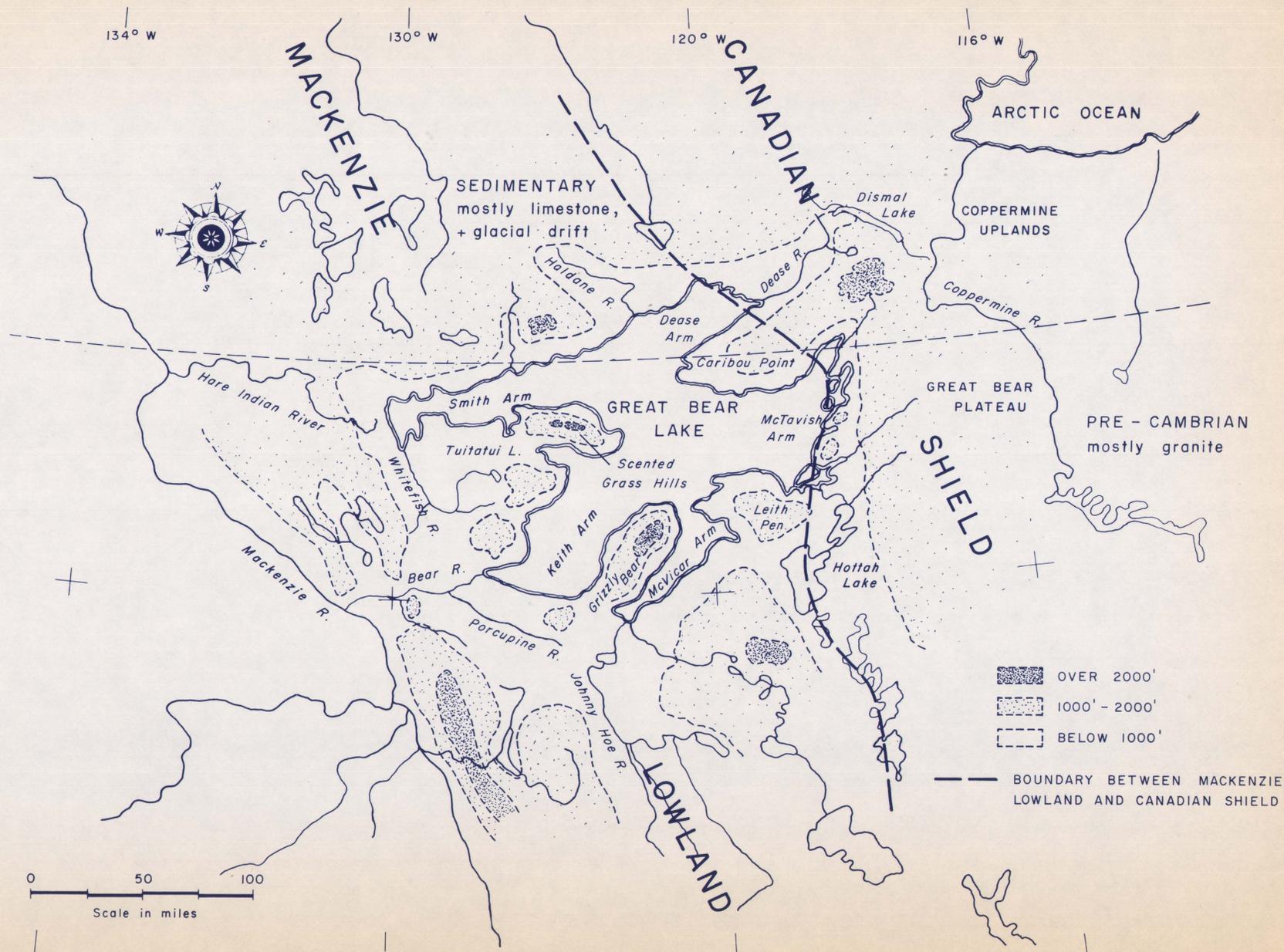


Figure 3 GREAT BEAR LAKE REGION PHYSIOGRAPHY



Fig. 4: Lakes and muskeg south of Great Bear Lake, near Johnny Hoe River.



Fig. 5: Escarpment and plateau in background, Fort Franklin (1968) in foreground.



Fig. 6: The Pre-Cambrian Boundary at McTavish Arm.

their long hours of warm sunlight and summer rains (Fig. 7) found the families camped around the mosquito infested lake shores, fishing or picking berries, with periodic incursions onto the grassy uplands where the caribou grazed. As the caribou began their autumn migration westward from the Barren Lands, along the north and south shores of Great Bear Lake, the Satudene would lie in wait at the known crossing places such as at Dease and Haldene Rivers, for the caribou whose skins were best at this time. Rivers and lakes provided the major routeways for their canoes during the short summer. Snowfall beginning late in September and increasing in October allowed the Satudene to use their sleds to follow the fattened caribou westward, though travel must have been strenuous until trails formed. By November all the small lakes were frozen and even Great Bear Lake was ice-bound, allowing the caribou to cross directly from Caribou Point to the Scented Grass Hills. This was the time when fishing

PORT RADIUM ^a							FORT FRANKLIN ^b				
AIR TEMP. (°F)			PRECIPITATION (ins.)				AIR TEMP. (°F)			PRECIPITATION	
	Mean daily	Mean d'ly maximum	Mean d'ly minimum	Precip.	R'fall	Snow		Mean daily	Mean d'ly maximum	Mean d'ly minimum	Precipitation
Jan	- 16	- 10	- 22	0.4	-	4	Jan (1826)	-23.78	-16.17	-31.25	No figures recorded; rainfall is mentioned for Aug and Sept, snow for Jan, Feb, Sept, Oct, Nov, and Dec.
Feb	- 16	- 8	- 23	0.3	-	3	Feb	-12.90	- 4.95	-21.71	
Mar	- 3	6	- 12	0.6	-	6	Mar	- 8.26	3.87	-22.01	
Apr	14	24	4	0.2	0.1	2	Apr	15.21	24.83	3.99	
May	34	43	26	0.5	0.4	1	May	36.35	43.89	27.47	
June	48	57	39	0.6	0.5	1	June	none recorded ^c			
July	54	63	46	1.2	1.2	1	July	52.10	60.24	42.64	
Aug	51	58	44	1.6	1.6	-	Aug	51.09	58.21	42.98	
Sept	42	47	36	0.9	0.8	1	Sept (1825)	42.92	48.12	38.08	
Oct	27	32	22	0.9	0.3	6	Oct	20.28	24.80	14.18	
Nov	6	12	1	0.9	-	9	Nov	2.79	8.39	3.72	
Dec	- 10	- 4	- 15	0.6	-	6	Dec	-13.96	- 8.18	-21.63	
Ann'l	19	27	12	8.7	4.8	3.9					

Fig. 7: Temperature and Precipitation Records for Port Radium (Rand, 1963, p. 90) and Fort Franklin (Franklin, 1828, p. lxi-lxxi).

- a. Pt. Radium records maintained between 1938-1956.
- b. Ft. Franklin records maintained between Sept. 1825 and Aug. 1826 only.
- c. Records for June 1826: "the book in which they were inserted stolen by Esquimaux" (Franklin, 1828, p. lx).

was at its best in the large bays, especially Keith and MacVicar Arms, although fierce autumn storms might break up the ice, washing away the nets beneath. During November travelling became easier over the hard packed snow and ice. With few hours of daylight and low temperatures in December there was little caribou hunting. In the larger lakes, frozen to thicknesses of five to eight feet, fish has moved from the shores to deeper mid-lake waters. Families either camped around the smaller inland lakes or moved near to Bear River entrance which remained open all year round, making it possible to spear herring from the ice edge. January, usually the coldest month, often had temperatures of -30°F lasting for several weeks. Storms causing drifting snow became more frequent in February and March. Fishing through the ice again improved as the fish moved closer to the lake shores.

With longer, warmer days it was possible to snare the caribou as they roamed eastwards through the woods. Later the Satudene on their snowshoes had a distinct advantage in chasing the caribou through the deep, soft snow. As the daily temperatures rose above freezing point small lakes thawed and, with the beginning of break-up in May, the open water along the edges of Great Bear Lake permitted canoes to be used again, although this necessitated travelling both over the ice and in the water until well in July. In the sheltered wooded areas, temperatures soon rose in the long, sunny days, but along the ice-bound lake shores, especially in Keith Arm into which the east wind pushed the ice, temperatures remained low until late in July when the ice finally melted from all the bays, and both fish and mosquitoes returned once more.

The abundance of flora and fauna in this region provided the Satudene

with the means of sustenance. These natural resources and their mode of utilisation by the Satudene will be considered in detail in the first chapter.

CHAPTER I

THE NATURAL RESOURCE BASE

The recognition of a resource is necessarily subjective. Available raw materials, even those which can satisfy the universal human need for food, will be recognised as resources only if the existing culture knows them to be edible, believes that they should be eaten, and has the technology to make them palatable or digestible. Cultural values play an equally significant part in the recognition of materials in the environment as resources to be used for clothing, dwellings, tools, ornaments, or other artifacts (Aschmann, 1959, p. 27).

Although changes in the material culture of the Satudene occurred soon after European contact, most of the aboriginal elements were clearly distinguishable to the early explorers and traders entering this region, and their accounts, if at times liable to minor discrepancies, can be considered, in the main, as portraying a faithful record of the Satudene material culture. The people of Great Bear Lake originated from several different tribes, each with its unique local characteristics. A basic uniformity of economy existed amongst them, however, which enabled an accurate and detailed picture of their general life cycle and habits to be drawn from the literature, whilst at the same time allowing reference to be made to the more significant tribal departures.

A description of the ways in which the Satudene satisfied their primary needs will include consideration of four aspects of the natural resources which are common to Great Bear Lake: availability, recognition of their potential use, techniques for acquiring and utilising the

resources, and the religious beliefs and taboos which allowed or limited the use of the resources. Later the Indian society will be examined from the viewpoint of its structure and customs which both closely conditioned and were themselves affected by the exploitation of the natural environment.

Animal Resources

The Satudene's life was dominated by caribou and fish. Fish was readily available in all the lakes for most of the year, while caribou, the primary and preferred food source, was only available for parts of the year. Most important, caribou was essential for most of their material necessities such as clothing, shelter, utensils, and weapons. Hares were more significant in the northwest area of Great Bear Lake as the availability of caribou declined. Moose, musk-ox, other animals and birds provided a welcome and necessary variety in their diet (Osgood, 1931, p. 38).

Caribou

To understand the life of the Satudene, reference must be made to the seasonal migrations and certain characteristics of Barren Ground caribou (Rangifer arcticus) (Kelsall, 1968, p. 23). Back and forth from the timber to the barrens ranged the herds of caribou, their movements followed by these nomadic Indians whose existence and customs depended upon them. But irregularities in caribou migration occurred. So unpredictable was its rhythm that the Indians often referred to the fireflags of the aurora borealis as ed-then or caribou, for "the caribou are like ghosts; they come from nowhere, fill up the land, then disappear"

(Whalley, 1962, p. 198). A season when the caribou failed to appear was a time of considerable hardship and, often, death.

Migrations: According to Kelsall (1968, pp. 106-7) the basic migratory pattern of the Barren Ground caribou, although unpredictable in any one year in response to changing environmental conditions, is generally as follows:

From winter ranges which are usually forested, but which may be on the tundra caribou migrate in late winter and spring to calving grounds and summer ranges which are always on the tundra. The dates of movement are variable, but usually extend from late April until early June. During that period movement is direct, rapid, and purposeful. The cows and some younger animals are usually well in front, and the locus for the movement is a suitable calving area. Adult males and the balance of the young, non-breeding animals bring up the rear and may eventually lag well behind the cows.

Migration, for the breeding cows at least, terminates in June. Calves are born usually in high, rough country, throughout that month, with the heaviest parturition between June 10 and 15. Following calving, the cows and young move to the nearest high-quality pastures - to the coastal plains or to major lake and river valleys. The bulls may or may not share the same pastures, but in any event they remain in the best pastures they can find during the calving period.

During July, and sometimes in early August, the caribou are nomadic and gregarious. Their movements seem to be determined by the intensity and type of insect harassment encountered, the direction and duration of winds which may relieve the insect harassment, and the need to search out the best pastures of the moment. During that period they are often far to the north, and in the District of Mackenzie frequently on, or near, the arctic coast. In late July or August movement is usually southward toward the winter range areas. At that time huge aggregations commonly form at water barriers to southward movement. Once these barriers are passed the animals often disperse over wide areas, drifting toward the tree-line singly and in small groups.

Toward late August and through September caribou reach the forest and move along its edge, once more gathering into herds. At this time many of the animals may move into the

forest, sometimes over 100 miles along routes of easy access, before turning and rejoining the main herds on or near the tree-line toward the end of September. For most caribou this is a period of leisurely movement and intensive feeding, the animals apparently compensating for the hardship of the previous fly season and building up fat reserves in preparation for the coming rutting period and migration.

The rut occurs in late October, although some sexual activity is evident well before this. It may take place on or near tree-line, or the migration into the forest toward winter ranges may start first. From tree-line, the movement to winter ranges is direct and as rapid as highly variable travelling conditions permit. It may be virtually complete early in November, or it may extend until late December. In most cases the animals are in their general wintering areas for the year by early December. Their subsequent movements until spring are generally only those necessitated by changing snow conditions and the need to have adequate food supplies.

The period of restlessness preceding spring migration, during which the animals tend to drift toward tree-line and gather into large but loosely knit aggregations, varies from year to year. Tendencies toward migration have been noted between early February and April.

Banfield (1954, 10A, pp. 10-13) basing his conclusions largely on the observations recorded by explorers of the past, has outlined the former summer and winter ranges and migratory routes of the caribou in the area of Great Bear Lake. Although caribou at most seasons are nomadic, at two seasons, their "movements take the form of direct and purposeful migration" (Kelsall, 1968, p. 109). The spring movement from the winter ranges to calving grounds beginning in late March or April was rapid and purposeful, and could seldom be slowed down or deterred by anything. At Great Bear Lake the herds usually followed three main lines of direction (Fig. 8). From the west of the lake the main route was along the north shore, meeting up with a second, lesser migration which had crossed the lake from Deerpass Bay to Caribou Point, at Dease

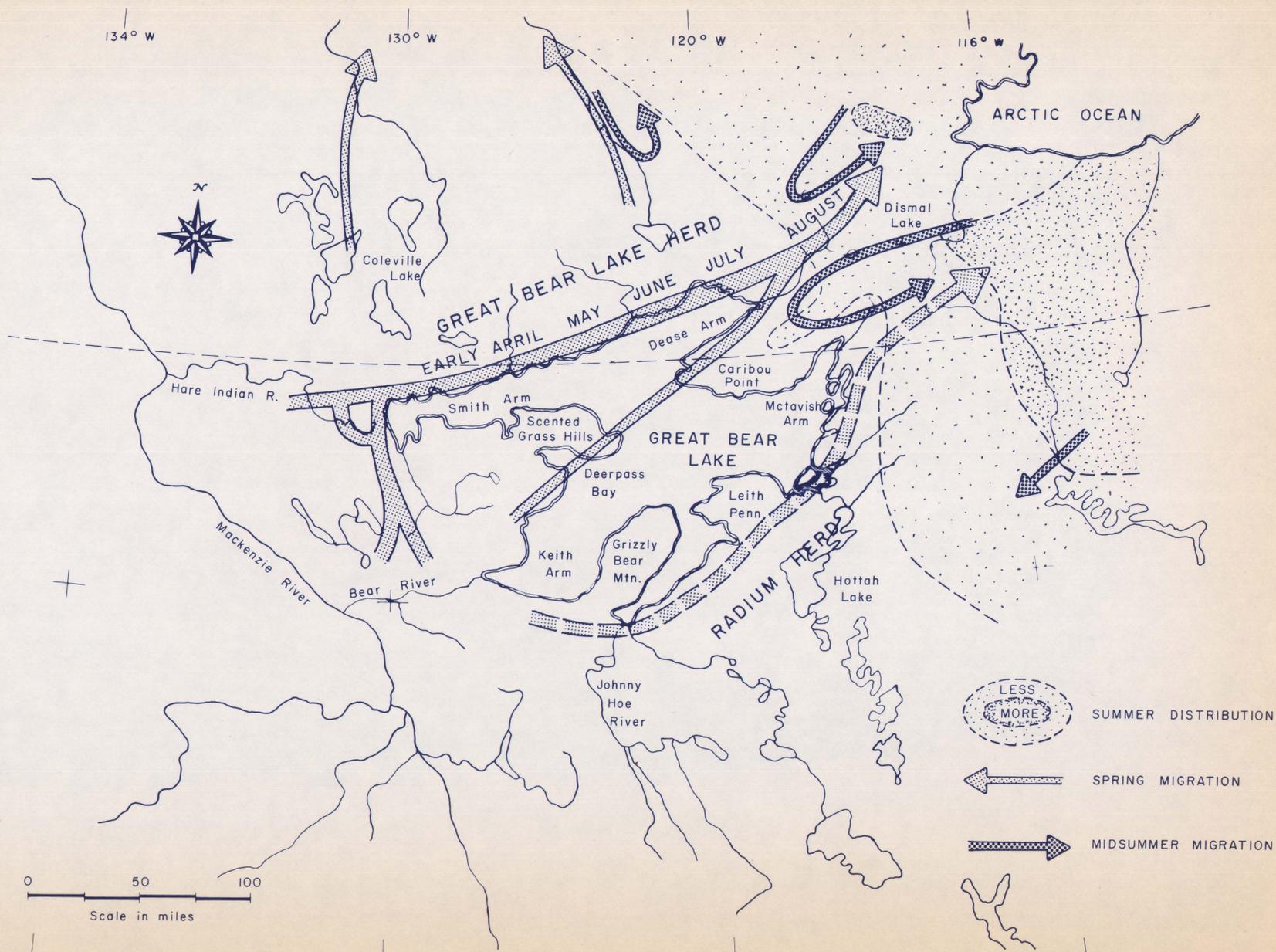


Figure 8 CARIBOU SPRING MIGRATION AND SUMMER DISTRIBUTION (after Banfield, 1954)

River from where it moved on to Dismal Lakes and the Arctic Coast. The Radium Herd followed the southeast shore of the lake heading for the north Coppermine River (Banfield, 1954, 10A, pp. 21-22). Occasionally during mid-summer, migrations brought some of the caribou back to the vicinity of Caribou Point between Dease and McTavish Arms, so that Franklin could state that in 1826 "Reindeer are most abundant at the north-east quarter of the lake during the months of July and August." (Franklin, 1828, p. 51). Bell (1901) recorded that summer ranges extended from the Coppermine River to 60 miles west of Fort Confidence on Dease Arm of Great Bear Lake. According to Preble (1908) small bands of caribou were reported to spend the summer in the vicinity of Great Bear Lake. He also mentioned that there were a few on Leith Point during the summer months, but that the main range was on the tundra east of the lake (Banfield, 1954, 10A, p. 10).

The autumn migration was usually less rapid and direct, taking the form of a more leisurely, wide-spread drift towards the wintering grounds, with the general direction being in the reverse of the spring migration (Fig. 9). From the Dismal Lakes area the autumn movement was southwest leading down the Dease River to Dease Arm. The route then followed the north shore of the lake to Smith Arm, where the main route bifurcated. Occasionally a herd would turn northwest and head towards Colville Lake or even Fort Good Hope on the Mackenzie River. More commonly, however, the animals turned south to winter between Smith Arm and Bear River. Other bands travelling westward from the Dismal Lakes area, reaches the southern shore of Dease Arm and, if the migration was late enough to find the lake frozen, crossed the lake from Caribou Point to Etacho Point,

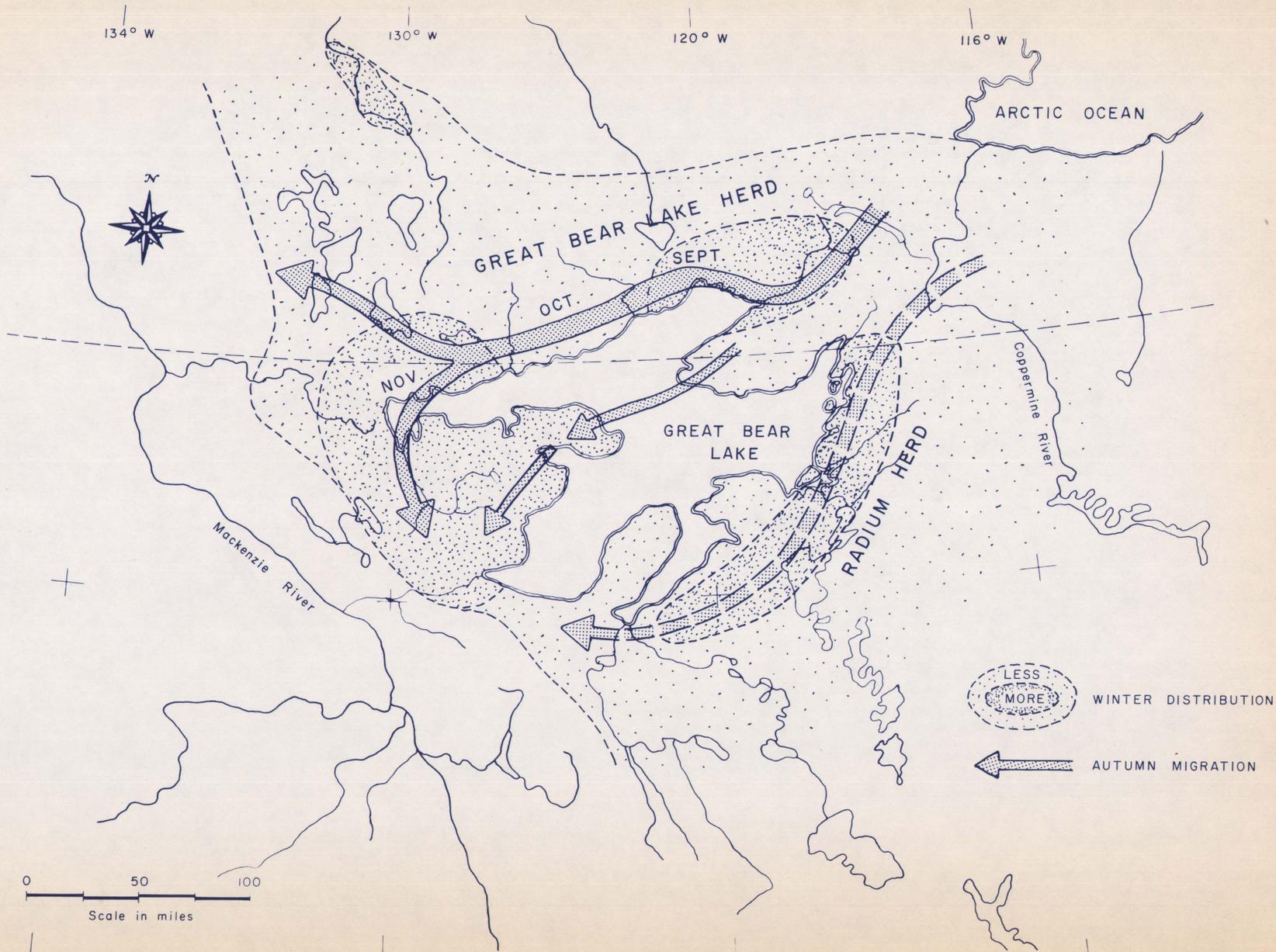


Figure 9 CARIBOU AUTUMN MIGRATION AND WINTER DISTRIBUTION (after Banfield, 1954)

from where they continued southwestwards across Deerpas Bay to the vicinity of Fort Franklin usually by late November or December. From the timber-line on the Coppermine River, bands of the Radium Herd of caribou travelled west to McTavish Arm, from where the route followed the eastern shore southwest to the lower Camsell River and Hottah Lake. Some herds penetrated as far as Johnny Hoe River area (Banfield, 1954, 10A, p. 29).

Three areas around the lake were known to have been favoured by the caribou as winter ranges. A large area west of the lake between Bear River and Colville Lake extended westward to Willow (Brackett) Lake, though Stefansson (1921, p. 29) reported in 1908 that in the past herds of caribou were known to have migrated as far west as the Mackenzie River in the vicinity of Fort Norman. The stragglers of this westward migration frequently wintered at Caribou Point and around Dease Arm. The Radium Herd, with its summer grazing grounds further south along the Coppermine River, usually wintered along the south shores of the lake between Johnny Hoe River and Hornby Bay. Some of the individual areas were completely occupied throughout the winter. In most cases, however, only a fraction of an area was occupied at any given time, and the animals roamed around considerably within the boundaries shown, grazing on lichens, green plants and shrubs which constituted their main dietary requirements (Kelsall, 1968, pp. 72,132).

A thorough knowledge of the migratory routes and seasonal ranges of the caribou was vital to the Satudene since hunting methods were often based on anticipating the caribou's arrival by lying in wait, for example, at well-known summer crossing places such as at Dease Arm or Dismal Lakes.

But such routes were not entirely dependable and, for one reason or another, the caribou did not always return to the same areas. A dry electric storm or the Indian's carelessness might set the tundra or taiga ablaze, destroying vast areas of lichen meadows essential to the nourishment of the caribou, forcing them to detour to another region (Kelsall, 1968, p. 264). Or perhaps several years of successful slaughter by the Indians at an important crossing point had made the caribou wary of returning (Kelsall, 1968, p. 212). Whatever the reason, "though at times the caribou pass in large numbers, again it is possible to travel for days and see none. In those regions the Indians are in a perpetual state of feasting or starving, generally the latter" (Whalley, 1962, p. 338). Although this was said by Hornby more than a century later, there must have been times when this was also true for the aboriginal Indians of this region.

Hunting techniques: There appears to have been no individual ownership of hunting grounds among these Indians (Richardson, 1852, p. 208). Rather, there existed an understanding between the various tribes as to their recognised hunting grounds, and, unless a feud already existed, meetings with each other when in pursuit of the deer were friendly.

Caribou were formerly killed in great numbers along the tree-line and on the barren grounds (Osgood, 1931, p. 40). Methods of kill included spearing, impounding, snaring, decoying, and stalking. The hunting was generally done communally by a band or group of men, and was initiated either by the best hunter or the oldest man. Meat procured was usually given to the latter for on the spot distribution.

Spearing was an effective means of slaughtering the swimming caribou.

Lakes in which the animals sought protection from the flies were watched, and at the proper time, the Indians attacked from their canoes (Osgood, 1931, p. 40; Mackenzie, 1801, p. cxxv). But the big hunts were at the crossing places of the migrating deer usually in the late summer and autumn. "The natives hid themselves and their canoes on the opposite bank of the river or lake the deer were expected to ford, and when the animals were nearly across would rush their canoes ... into the water and pursue the deer ... using short-shafted spears" (Symington, 1965, pp. 9, 51). These were thrust up high in the loins of the animals (Pike, 1892, p. 48). A favourite crossing place where both the Copper Indians and Eskimos, though keeping a respectable distance apart, speared the caribou, was at Dismal Lakes (Hanburg, 1904, p. 221).

For the purpose of impounding caribou, women and children drove the animals between two long fences of trees and brush leading into an enclosure, where they were speared or shot with bows and arrows by men lying in ambush (Osgood, 1931, p. 40). When trees were not available, mounds of upturned turf were sometimes used (Franklin, 1823, p. 243 fn). A type of fence similar to that constructed for impounding was also used by the Copper Indians in the rutting season and spring for snaring caribou, as described here by Franklin (1823, p. 243):

The snares are simple nooses, formed in a rope of twisted sinew, which are placed in the aperture of a slight hedge, constructed of the branches of trees. This hedge is disposed so as to form several winding compartments, and although it is by no means strong, yet the deer seldom attempt to break through it. The herd is led into the labyrinth by two converging rows of poles, and one is generally caught at each of the openings by the noose placed there. The hunter, too, lying in ambush, stabs some of them with his bayonet as they pass by, and whole herd frequently becomes his prey.

The method of decoying caribou was described by Wentzel to Franklin (Franklin, 1823, p. 244). This was a favourite Dogrib method, and its execution implied considerable skill.

The hunters go in pairs, the foremost man carrying in one hand the horns and part of the skin of the head of a deer, and in the other a small bundle of twigs, against which he, from time to time, rubs the horns, imitating the gestures peculiar to the animal. His comrade follows, treading exactly in his footsteps, and holding the guns of both in horizontal position Both hunters have a fillet of white skin round their foreheads, and the foremost has a strip of the same kind round his wrists. They approach the herd by degrees, raising their legs very slowly but setting them down somewhat suddenly, after the manner of a deer, and always taking care to lift their right or left feet simultaneously. If any of the herd leave off feeding to gaze upon this extraordinary phenomenon, it instantly stops, and the head begins to play its part by licking its shoulders, and performing other necessary movements. In this way the hunters attain the very centre of the herd without exciting suspicion, and have leisure to single out the fattest.

Prior to the use of guns, as described here, bows and arrows were used in similar fashion. Since the herd was unable to identify its enemy, the animals ran to and fro in the utmost confusion, making them easy prey for the hunters in their midst.

Caribou were much more approachable in herds than in small groups; it was also easier for a human to approach closer during the migration period than at any other time. Occasionally however a hunter would stalk as close as possible to a caribou and then run after it, with bow and arrow. If the snow was deep and soft as in April, the hunter on his snow-shoes had an advantage over the deer (Osgood, 1931, p. 40). Pike also stated that it was "no hard matter to kill caribou in open country, for the rolling hills give ample cover for the stalk, and even on flat ground they are usually approached on the run, as they will almost

invariably circle head to wind and give the hunter a chance to cut them off" (Pike, 1892, p. 48).

The customs pertaining to the distribution of the kill seem to have varied from one tribe to another. Of the Chipewyans, Mackenzie (1801, p. cxxv) stated that when the deer were speared the game was divided among those who had engaged in its pursuit. When, on the other hand, it was snared it was considered as private property, though any hunter passing by could take a deer so caught, provided that he left the head, hide and saddle for the owner. But Richardson (1852, p. 252) speaking of the Hares and Dogribs around Great Bear Lake said that "custom has established among them a practice universally acted upon - that all may avail themselves of the produce of a hunter's energy and skill; and they do not even leave him the distribution of his own game".

Seasonal selectivity: The value of the caribou to the Satudene varied considerably from season to season during the year. He knew well when the hides would be at their best for making clothes or tent coverings, and when the meat would be at its fattest and most nourishing. A good hunter, therefore, killed the caribou with discretion according to their condition at that season.

During the spring the skins of the caribou are lined with larvae of the warble flies. These begin to appear in summer, when the eggs are deposited on the caribou's underhair, and, as they hatch out into grubs, they bore through the skin and prey on the surrounding flesh. Through the winter they grow bigger, so that by springtime, the number of holes in the carcass render the skin absolutely useless for dressing (Pike, 1892, p. 54). By May they appear as great white maggots "as big as the

first joint of a man's little finger ... later in the season they changed to dark yellowish brown" (Douglas, 1914, p. 179). Another kind of fly lays its eggs in the nostril "with the result that in the months of May and June a nest of writhing grubs, slimmer and more lively than the grubs under the skin, appears at the root of the tongue Of the latter kind the Indians ... have a great horror ... and when ever we killed an animal the first operation was to cut off its head and remove these unpleasant objects" (Pike, 1892, p. 54).

The back warbles hatch out early in June, and by the beginning of August all the grubs have dropped off and the holes healed up, as the annual moult occurs. The new coat grows and the skins are, during late summer, at their best condition (Pike, 1892, p. 55). Until late August, however, caribou are still deficient in fat. Then the bones fill with marrow and the back-fat commences to grow. By the middle of September this back-fat has reached a length of a foot or more and is sometimes a couple of inches thick, extending forwards from the tail right across the back. It was highly prized by the lucky hunter. The caribou are fattest towards the end of September until the first week in October. By the end of October or beginning of November, when the rutting season is over, the males are in very poor condition, and the meat is not at all good eating. "The females then come into demand, but it is not until the end of the year that they show any back-fat at all, and this is always small in comparison with that of a bull killed in the Fall" (Pike, 1892, p. 51).

Caribou were, therefore, taken by the Satudene at different seasons for different purposes and large numbers were required. Kelsall (1968,

pp. 207-8) calculated that the requirement was at least fifty caribou per person per year, and because of the seasonal nature of usefulness of the caribou, a great wastage of caribou was inherent in its aboriginal usage. Kelsall (1968, pp. 207-11) stated that Lawrie's (1948) observations of Eskimo use would pertain also to aboriginal Indians, such as the Satudene, mutatis mutandis:

An entirely protein diet is nutritionally inadequate. This the eskimo recognizes and the rule of a mouthful of fat for a mouthful of lean meat prevails This need for fat while on a meat diet imposes apparently wasteful habits on the eskimo. Thus in the late spring and summer caribou have little fat save in the tongue and marrow while its progressive deposition (elsewhere) ... occurs in the fall. In the late spring and summer eskimo were repeatedly observed to take only the tongue and the lower part of the limbs from their kills - the lean meat, unfortified with fat, being untouched. As the fall progressed the choice of cuts constantly widened until every part of the caribou was utilized save the viscera, neck, shoulders, and thighs which were fed to the dogs ... considerable numbers of caribou are taken annually for their hides Unfortunately hides for most purposes are best in late summer when the weather is still too warm to keep any appreciable amount of meat and so there is great wastage. Conversely, of course, later in the fall when the weather is cold enough to keep the meat the hides are past prime.

Food: Few parts of a caribou in prime condition as food were thrown away: even the tendons were eaten, as were the feet after roasting them until the hooves could be knocked off (Russell, 1898, pp. 90-1). Several explorers (e.g. Hearne, 1795; Mackenzie, 1801) have commented on the Indian practice of killing pregnant females to secure the unborn calf cut from its dead mother; this was considered a great luxury. The udder of a milk-giving doe, which was usually roasted on the spot where the animal was killed, was also held in high esteem. Of the external parts the ribs and brisket ranked highest; a roasted head, too, was not to be

despised. Tongues, either slightly cooked or well roasted, were considered to be among the choicest bits. The long bones were cracked open for their marrow which was eaten raw or roasted (Pike, 1892, p. 51). Such fat provided by the tongues and marrow bones was extremely important for the Satudene when there was little fatty substance to be found on the back of the animal, for "residents of the country say that a man may gorge himself on caribou and in a few hours will be hungry again unless he has also eaten plenty of fat" (Symington, 1965, p. 53). Bouillon made of blood was sometimes carried to the camp in the caribou's stomach, but the "most remarkable dish" utilising the stomach, described by Hearne (1795, pp. 316-17) and others, was that called beeatee, which consisted of the blood, fat, heart and liver torn from the caribou, and placed in the stomach with its half-digested contents, then roasted before a fire.

Boiling appears to have been the commonest method of cooking at the Satudene lodges. Although it took most of the flavour out of the meat, it had the advantage of being easy and economical on firewood. The meat was put into large bark or watape dishes, shaped like a gourd, narrow at the top and wide at the bottom (Mackenzie, 1801, p. 37). A succession of red hot stones were then dropped into the water until the meat was boiled. Some of the Indians around Great Bear Lake also boiled their meat by hanging the bark dishes over a slow fire, high enough to keep the fire from consuming the dishes (Masson, 1889-90, vol. 1, p. 90). Meat was also dried or roasted fresh. During the summer large quantities of meat were usually split very thin and put on a scaffold to dry by the heat of the sun. Since there was always the danger that unless the weather was very sunny meat was apt to become fly-blown or putrid before it could

be properly dried, a low fire was sometimes lit to assist in drying the meat. When it was perfectly dry, the meat was pounded between two stones. Wentzel (Masson, 1889-90, vol. 1, p. 90) stated that prepared this way, it could keep for several years and was tolerably good when mixed with grease.

When there was insufficient fuel to make a fire, as occasionally happened during their incursions on to the Barrens, the Satudene were forced to eat the caribou raw. In times of extreme penury, hides were gnawed upon, and bones pounded and boiled for the purpose of extracting some nourishment from them (Franklin, 1823, p. 298).

Clothing: Most of the Satudene's clothing was made from caribou skins, tanned by the women. All adhering traces of fat and flesh were first removed with a bone scraper. Then the skin was repeatedly soaked in water mixed with moose brains. Alternate stretching and pulling followed, then the skin was smoked and dried over a fire of dried willow. Finally, it was rubbed with a stone scraper and pulled to softness. Skins were sometimes whitened by allowing them to dry and bleach in the sun (Osgood, 1931, pp. 58-9). A description of the clothes worn by the Big Arrow people (Hares) living around Great Bear Lake in the early 1800's, was given by Keith (Masson, 1889-90, vol. 2, p. 121):

Their summer dress consisted of ... an old caribou dressed shirt, a pair of leggins of the same material, and generally an old threadbare caribou robe for a blanket. They have a new dress of the same in winter, with the difference that the hair is left upon the shirt, and with the addition of a 'capuchon' sewed to their shirt In this slight covering very often defective in size and besmeared with an oily nastiness which renders it less efficient against the cold, they will brave the severest weather ... their dress is seldom susceptible of the least ornament.

Robes made of tanned caribou skins sewn together in blanket form, were also an essential part of the dress (Osgood, 1931, p. 45). The caribou's hair was at its proper length for clothing at the end of August. Pike (1892, p. 51) said that the coats of young animals were best, as the hair was short and did not fall off as readily as that made from the hides of fullgrown caribou. Hearne (1795, pp. 50,156) stated that each grown person required the prime parts of from eight to eleven skins to make a complete suit.

Dwellings: Since barren ground caribou were plentiful in this area, their skins were most commonly used for the tipi covering.¹ In winter the skins were used with the hair outside, but in summer skins with the hair removed were used. The sizes of these 'leathern lodges', as they were frequently called by the early explorers, varied greatly, often depending on the ability of the hunter, since the best skins were only available in autumn, summer skins being full of grub holes. The twenty to thirty caribou hides required for a tipi were dressed and sewn together with fine babiche or sinew (Osgood, 1931, p. 47). Snow was cleared and the lodge was erected by the women, who laid spruce branches as a covering for the floor. The fireplace, protected from the brush by flat poles, was located in the centre of the tipi. Cross poles were suspended horizontally from the lodge poles for the drying of fish, meat and clothes. Despite snow being heaped up around the outside edges of the tipi for protection, eddies of wind and smoke usually filled the cold lodges. Moose skins were used for the covering, when caribou skins were not

¹ B. Gillespie (Pers. Com. Dec. 1971) suggests that skin tipis might have been more common after European contact.

available. Hooper (1853, pp. 319-20) also described a conjuring tent located on the shores of Great Bear Lake shaped "like the frustrum of a sugar loaf".

Taboos: The hunting and eating of the caribou, an animal of such significance to the Satudene, was the source of many ancient beliefs and taboos. Several were associated with its unpredictable nature. One widespread belief among the Dogribs was that the caribou would forsake the country if anyone threw a stick or a stone at them. Pike (1892, p. 55) also mentioned the idea that caribou on some occasions, for no known reasons, were reputed to vanish into the ground or disappear into the air. Petitot (1893, pp. 352-3) was told by an old man at Great Bear Lake that the caribou were ancient men, and that inexplicable transformations from one to the other often occurred. Parts of the reproductive system of both male and female caribou were eaten only by the men and boys. Nor were they allowed to be cut with a knife, and if the parts proved to be too tough for the teeth, then they had to be thrown into the fire, for if they were eaten by dogs this would ruin the owner's hunt (Pike, 1892, p. 205). If dogs or menstruating women touched the kill, this would also bring bad luck to the hunter (Osgood, 1931, p. 41).

The barren ground caribou, in their abundance, provided the Satudene, particularly those of the Copper and Dogrib bands, with most of their basic requirements. The Indian's life habits reflected the seasonal rhythms and habits of this animal. Without it, his life became immeasurably more difficult and dangerous.

Fish

Animal meat was preferred but during the months of the year when caribou were scarce or in poor condition, the Satudene subsisted mainly on fish which were found in most lakes for much of the year. Hearne (1795, p. 74) however reported of the Chipewyans that the "uncertainty of meeting with a sufficient supply for any considerable time together, makes the native very cautious how they put their whole dependence on that article [fish] as it too frequently has been the means of many hundreds being starved to death".

Great Bear Lake abounds in whitefish, herring and trout which weigh up to sixty pounds or more. Bluefish, loche, dorys, jackfish, and tul-labees are also available. Whitefish was the preferred fish of the Satudene, but the herring catch was more reliable. Franklin (1828, introduction) was influenced in choosing the western end of this lake as his wintering quarters for his second expedition, 1825-6, by the information he had "of its being the place nearest the mouth of the Mackenzie, known to traders, where a sufficient supply of fish could be procured for the support of a large party". Richardson (Franklin, 1828, p. 99), after his explorations of Great Bear Lake during that expedition, reported that there were "good fisheries in Dease Bay and in various other quarters of the lake; but the fish taken in McVicar Bay are remarkably fine and abundant at all seasons of the year". He added that a great quantity of fish could be procured at Fort Franklin at certain seasons, but that they "are small and of inferior quality".

Osgood (1931, pp. 38-9) described in detail the principle method of taking fish using a primitive type of gill net set with floats and stones,

which was placed under the ice during its formation in the autumn. Even in the coldest months fish were removed from the nets pulled out of the water daily or every two or three days. A long ice chisel of wood and bone kept the two main fish-net holes open, and an ice scoop was used to clear away the ice particles. Richardson (1852, p. 257) reported that the Satudene used nets made of lines of twisted willow bark or babiche.

The seasonal nature of fish availability is evident from a description of Franklin's (1828, pp. 53-4) fishing activities at Great Bear Lake in 1825-6. Fifteen to twenty nets were set opposite their fort to catch mostly "herring salmon of Bear Lake", and occasionally some trout, tittameg and carp. He added (1828, p. 69) that the "season at which the ice begins to form is the most favourable for fishing in lakes of this country, and we procured four or five hundred of them daily". The nets had to be removed from the freezing lake waters during the middle of October, and nearly a month elapsed before it was safe to re-set them under the newly formed ice. By December the fishery was declining, and by February the produce of the nets and fishing lines had been gradually diminished until supplies to the men had to be cut down to three or four small herrings a day, with none for the dogs. The fisheries again improved from the end of February until April, at which time they again declined until the ice had broken up in mid July.

The use of hooks and lines dropping through a hole in the ice, was also a common method of catching fish, especially trout, during the spring (Osgood, 1931, p. 39). A piece of whitefish or herring was preferred for bait. McKenzie (1805, p. 21) mentioned that the hooks used by the Satudene were generally made with the rib bone of the beaver fastened to a small

piece of wood. Franklin (1823, p. 63) stated that "the shortness of days now [December] precluding the Indians from hunting, many came, according to their custom, to spear fish at the head of Bear Lake River (where there was open water all year) and their numbers gradually increased". Spearing was also done through holes in the ice. Rae (Rich, 1953, pp. 156,160) expressed surprise on finding that the Indians around Dease Bay had never tried spearing herring at that end of the lake, although "the custom of spearing herrings is very common near old Fort Franklin". Spears were pointed with bone, horn, or copper from the Coppermine Mountains (Richardson, 1852, p. 257). Fish weirs, according to Osgood (1931, p. 39) were formerly made of stones or brush; trapping baskets were apparently unknown in this area.

Keith (Masson, 1889-90, vol. 2, p. 121) reported that the commonest method of cooking fish when plentiful was by roasting them on the ashes before a fire. Another favourite method was to take a frozen fish and heat it quickly upon the coals until the flesh (next to the bones begins to thaw, by which time the fish is esteemed well cooked; they eat more at a time when so cooked than any other way". When less abundant, the Big Arrow People (Hares) of Great Bear Lake heated water with heated stones in a watape vessel, whereupon

... the fish, scales and all, is cut up and put into the kettle, and immediately after another lot of hot stones is placed above the fish, and the kettle covered with pieces of wood or bark, and remains so until the stones are cooled, by which time the fish is cooked. The fish is then emptied into a wood or bark dish and often upon worn out fir branches, and then all hands fall to work, scumming now and then the top of the kettle so as to lose nothing of the dirty and oily substance remaining of the soup (Masson, 1889-90, vol. 2, p. 120).

A fish diet, by itself, was neither agreeable nor satisfying for any length of time, as attested by Franklin (1828, p. 69) who reported that the fish caught in February, few in number though they were, afforded little nourishment and resulted in "frequent indisposition" with diarrhoea prevalent among his men. The large intestine of the trout, when roasted, was considered a great delicacy, the liver and eggs of the loche also being eaten.

A few taboos pertaining to fish are mentioned in the early literature. Petitot (1893, p. 62) mentioned an antipathy that the Satudene believed to exist between caribou and fish, since one disappeared when the other became more prevalent. It was also taboo for women to cross the ice above a fish net.

Moose

Moose are indigenous to the entire bush country surrounding Great Bear Lake, and may even be located in willow thickets on the tundra (Kelsall, 1968, p. 53). They were seldom hunted communally, but rather by one or two men. Seton (1911, p. 117) claimed that moose hunting was a very special craft and that few men were really good at it.

Hunting techniques: The usual way of hunting moose was during the spring when the hunter could run over the light crust on his snow-shoes, while the moose was impeded by the deep snow, often breaking through to its belly with every step. "The moose are so tender-footed, and so short winded, that a good runner will generally tire them in less than one day, and very frequently in six or eight hours; though I have known some of the Indians continue the chase for two days, before they could come up

with, and kill the game" (Hearne, 1795, p. 283). Oftentimes, the hunter, to be as light as possible, removed much of his clothing, carrying a bow and two or three arrows only.

In winter the custom was to follow the moose trail by making a series of semicircles from its tracks, since before it rests the moose will loop back on its own course to come up wind of any pursuer. Great stealth was needed to locate and kill moose in this way. During the rutting season, the dry scapula of the moose was often used to call that animal. The bone, when rubbed against the willows imitated the sound caused by the moose when it rubs off velvet from its horns. Moose driven into the rivers by the summer flies were also killed with spears and bows and arrows (Osgood, 1931, pp. 39-40).

Osgood (1931, p. 40) stated also that in former times when the Satudene hunter returned to his companions with news of his kill, one of the other men was then sent for the meat. On his return he distributed it among the entire camp. Of the flesh of the moose killed in the chase Hearne (1795, p. 284) said that it "is far from being well-tasted, and I should think must be very unwholesome, from being overheated". Moose, like caribou, was usually boiled or roasted, but because of its shorter supply, it was seldom dried. Moose nose, though rubbery, was considered a great delicacy (Osgood, 1931, p. 41).

Tanned moose skin was particularly important for the making of moccasins which were more durable than those made of caribou. Even so, men hunting on the barrens often required several pairs in a single day. Mittens were also made with moose hide, trimmed with beaver or other furs when available.

When a moose was killed by the Bear Lake Indians, its ears were immediately cut off and thrown into a tree. According to Father Ducot (Duchaussois, 1923, p. 259), Satudene who were lucky in the chase left a bladder full of blood to be found by the wolverine, whose good will they valued. Keith (Masson, 1889-90, vol. 2, p. 108) claimed that moose nose was taboo for women, and Pike (1892, p. 56) added that the Dogribs believed that a woman who ate the gristle of the nose would grow a beard.

Musk-ox

Musk-ox were found in abundance on the barren grounds in former times. Even as late as 1898 Russell (1898, p. 71) stated that "five or six years ago, the musk-ox were found west of the Coppermine ... but each year hunters had to penetrate farther into the Barren Ground ...". Franklin (1823, p. 331) reported that "musk-ox herd together in bands and generally frequent the barren grounds during the summer months, keeping near to the banks of the rivers, but retire to the woods during the winter". Pike (1892, p. 106), however, said that the musk-ox remained on the barren grounds in winter, living off lichens, "and defies the cold that has driven every other living thing into the woods for shelter".

Musk-ox seemed to be less watchful, according to Franklin (1823, p. 331) than most other wild animals, and when grazing were not difficult to approach, provided that the hunters went against the wind; when two or three men got so near the herd as to fire at them from different points, these animals, instead of separating or running away, huddled closer together, thus making it easy to kill several. Although Franklin here referred to the use of guns, Keith (Masson, 1889-90, vol. 2, p. 103)

stated that the "musk buffaloe is numerous" at the eastern end of Great Bear Lake, where they were killed in a manner similar to that described by Franklin, with bows and arrows. Like caribou they were also taken by the use of snares, or else speared by Indians lying in wait at the known crossing places of large bands (Hanbury, 1904, p. 220).

Most of the early explorers agreed with Hearne's (1795, p. 138) comment that "the flesh of the musk-ox no ways resembles that of the western buffalo, but is more like that of the moose or elk The calves and young heifers are good eating; but the flesh of the bulls both smells and tastes so strong of musk, as to render it very disagreeable". Rae (Richardson, 1852, p. 297), commenting that the musk-bull meat was too strong for his own men added that the natives relished it greatly.

In winter the musk-ox have thick, fine wool growing at the root of the long permanent hair, which is black and glossy and resembles a sheep's fleece (Pike, 1892, p. 106). Shedding in summer, it was used for making musk-ox robes which also duplicated as bedding (Osgood, 1931, p. 45).

Hares

The snowshoe rabbit or hare (Lepus americanus) is widely distributed in the forest area (Kelsall, 1968, p. 53). For most of the Great Bear Lake Indians, but more especially those to the northwest, furthest away from the caribou migrations, hares were a major source of subsistence. They were, however, less significant in this region than along the Mackenzie River where fish were often scarce. If the fluctuations of the hares, which occurred in approximately seven year cycles, coincided with a period when caribou, too, were in short supply, then starvation

was common. Snaring was the principal method used for catching hares, while roasting was the chief method of cooking (Osgood, 1931, p. 46).

The hares furnished the Indians not only with food but also clothing. Although they preferred garments of caribou not all families were able to secure sufficient hides, especially those farthest away from the caribou. Mackenzie (1801, p. 44) in 1789, was the first to mention that several of the Indians close to the Ramparts on the Mackenzie River were clad in hare-skins. The dress was similar to that of the Bear Lake Indians, except that it was woven from twisted rabbit skins. Robes of plaited rabbit skins were also occasionally seen. Children were more apt to wear rabbit skins, since caribou clothes were always preferred by adults.

Minor Animals

Meats that formed a minor part of the diet of the Satudene included beaver, bear, lynx, muskrat, squirrels, and others. These were significant in providing variety to the diet, and at times when fishing and caribou hunting had failed, proved invaluable to the Satudene's survival.

Beaver were most easily taken during the spring, by shooting an arrow into the lodges previously destroyed. Traps and babiche nets were also used (Osgood, 1931, p. 41). The beaver's tail was considered a particular delicacy. Petitot (1893, p. 204) mentioned that according to Satudene beliefs it was impossible to hunt beaver with snow-shoes already used for hunting deer.

Black bears are found everywhere within the timber limits during the summer. Richardson (1852, p. 257) mentioned that the black bear was

snared or shot, but that few of the Dogribs would venture to attack the "brown barren ground bear" whose fierceness or "potent medicine" appalled them. It was killed by them, however, without risk, when they detected it hibernating under the snow in spring. Franklin (1823, p. 343) stated that the Indians did not eat the flesh of the bear. However, this was contradicted by Keith (Masson, 1889-90, vol. 2, p. 108) who claimed that because of its scarcity, bear flesh was considered a delicacy by the Satudene. Women who touched bear were told that they would die.

The Canadian lynx, preying on the hares, was also subject to cyclic population fluctuations, likewise becoming very scarce approximately every seven years. They, too, were caught in snares and usually roasted. Muskrat and ground squirrel supplemented the monotonous diet when available. The wolf, dog, and wolverine were strongly tabooed as food and only eaten during times of great starvation. Hearne (1795, p. 197) and others mentioned that the Indians considered the fat warbles found in the caribou skins a great delicacy, and these were eaten alive and raw; they were reputed to taste like gooseberries. Head lice, too, were eaten, especially by children.

Although this region was considered later by the traders to be poor beaver country, marten and muskrat were abundant. There was also a variety of foxes, as well as some otter and mink. Snares of twisted sinew or babiche were used primarily for taking these animals. Deadfalls were used only for marten, using a piece of dried fish for bait. Because of their limited food value none of these animals were sought prior to European contact except in times of dire need. Only occasionally was their fur used as trim for the caribou clothing.

Game Birds

Keith (Masson, 1889-90, vol. 2, p. 102) reported that in 1812 Great Bear Lake was poor country for birds since few of them resided there, the majority staying only a short while on their migrations north or south. Of the game birds, ducks, geese, and loons were hunted chiefly on arrival in the spring when fish was in short supply. Franklin (1828, p. 80) reported the arrival of ducks at Fort Franklin in 1826 on the eighth of May, preceded by swans and geese a day earlier. Osgood (1931, p. 42) reported that in autumn, they collected in flocks for their southward flight at the foot of McVicar Bay, and, to a lesser extent, in the lakes between Deerpass and Bell Bays, as well as on the main lake. These birds, particularly ducks, were easily killed in the spring when they were forced to gather on the narrow bodies of open water near to the shore. On their return during late summer and autumn, they were not so easily taken by the Satudene who were limited by their small canoes and bows and arrows.

Other Natural Resources

Although animals provided the major share of the diet, most of the clothing and some of the materials used in the construction of dwellings and in the manufacture of tools and utensils, the daily life of the Satudene required also that animal products be supplemented by other resources of wood, plants and metals.

Plants

During the summer months and early autumn, berries were an extremely important addition to the diet, the most common being cranberries, raspberries, whortleberries, blue-berries, and crow-berries. It was the lot

of the women and children to collect large quantities of these berries, the only fruit in the diet.

Long flexible roots of the hedysarum boreale which tasted like sweet liquorice were much eaten by the Satudene in summer; later they became woody and lost their juiciness (Richardson, 1852, p. 135). These Indians were also fond of chewing spruce gum. A dwarf variety of Labrador tea, found in the muskeg, was believed to make an excellent substitute for tea, and the "black, hard crumply moss, which grows on the rocks and large stones," was invaluable when animal food was not available. When boiled it turned into a gummy substance which made good soup when water was added (Hearne, 1795, p. 328). This was the tripe de roche and various kinds of gyrophyra on which Franklin's party (1823, p. 416) subsisted during their disastrous return from the Arctic Coast in 1821.

Hooper (1853, p. 318) remarked that the Satudene medicine men were acquainted with many herbal and mineral remedies, "among which are emetics, and cures for spasms, also plants for staunching blood, and of healing properties". Keith (Masson, 1889-90, vol. 2, p. 102) and others, however, claimed that the natives made no use of medicinal plants in this area.

Franklin (1828, p. 19) made the interesting comment that:

... the banks likewise contain layers of a kind of unctuous mud, similar, perhaps to that found on the borders of the Orinoco, which the Indians, in this neighbourhood, use occasionally as food during the seasons of famine, and even at other times, chew as an amusement. It has a milky taste, and the flavour is not disagreeable We used it for whitening the walls of our dwellings: for which purpose it was well adapted.

Although Pike (1892, p. 29) noted that the Slave Lake Indians some-

times smoked a "wooly red berry known as cannicannick" as well as the inner bark of the red willow, Mackenzie (1801, p. 31) believed that the habit of smoking appeared to be intrusive, as the natives in 1789 did not appear to know the use of tobacco.

Timber

Most of the lower areas around Great Bear Lake are wooded; spruce is commonest, with quite tall trees located along the river valleys but deteriorating in size and frequency towards the tree line; poplar and tamarack are also common with birch being much more rare. Willows abound around the smaller lakes and rivers.

Besides providing shelter for man and beast, the abundance of timber around the lake shores provided the Satudene with accessible firewood. Keith (Masson, 1889-90, vol. 2, pp. 122-3) reported that two pieces of metallic ore or sulphurous stones, carried always by the Satudene in a small bag, were struck together to produce the few sparks necessary to ignite the spongy substance found upon the bark of the smooth poplar trees. Firewood was often carried by the Indians during their periodic incursions on to the Barrens, and a small plant, somewhere between heather and moss, and a wiry black moss were used as fuel when this ran out (Pike, 1892, p. 38). Fires were made at almost every camp stop. Most tents also had a fire in the middle, but occasionally two tents facing each other would share a fire situated between them (Mackenzie, 1801, p. 37).

In addition to, and probably of even earlier derivation than the skin tipis, were the bush-shrub shelters mentioned by Keith (Masson,

1889-90, vol. 2, pp. 116,121) who referred to the Dogribs and Slaves in the west as having oblong huts built from pieces of wood and interlaced with branches. They were about two to three feet high and no more than eight feet long. Pine or fir branches were used as flooring and sitting places, interlaced by the women after the men had cleared the snow, and the smoke escaped through chinks in the walls. Trees were usually felled by burning their bases, although stone axes were available.

During the summer the Satudene relied chiefly upon the water routes, formerly using canoes constructed of birch bark sewn over spruce frames. The pieces of bark were sewn together with split spruce root, covered along the seams by a light coating of spruce gum. Spruce bark was often used in this area, when birch was scarce. Two kinds of canoe were common, both with flat bottoms, and pointed at both ends. A very light, small hunting canoe, ela-ja, approximately seventeen feet long, was used principally for visiting the nets during late spring and summer. It was seldom occupied by more than one person, and was easily carried by the occupier. The larger canoe, gitsi-tco, which might have been developed later due to contact, was used for transporting the family. It was about twenty-three feet long, and much wider and deeper than the hunting canoe. Paddles were generally hewn from spruce. There is no evidence to show that sails were used prior to European contact, and in fact, it would appear that the Satudene seldom ventured far from the shore on their travels across the lake (Osgood, 1931, pp. 50-1).

Snowshoes made from birch, willow, and babiche webbing were worn throughout the winter. Children were taught to walk in them at a very early age. Different sized snow-shoes were used for various purposes,

ranging from the larger, stronger hunting shoe (approx. 6 feet long) for use in the deeper snow, to the smaller trail shoe (approx. 3 feet long), used after the trail had been hardened. The style of each was basically the same, of an elongated oval shape, pointed and upturned at the front, tapering towards the back (Osgood, 1931, p. 52).

Dogs used early in this region were probably few in number and very small in size. They were not used for dragging toboggans, nor is it supposed that they were used for packing until after European contact. Instead, toboggans were hauled by the women. They were made of two or three hewn boards of birch, necessarily narrow because of the lack of large timber. Since the snow could not support the weight of the toboggans it was necessary to go ahead and arduously break trail on snow-shoes.

Other Materials

Cutting tools such as blades, adzes, scrapers, knives, and awls were either made entirely from wood, bone, horn, flint, stone, or native copper, or from a combination of these materials. In addition to the use of sinews for lines, a great variety were made from willow and spruce root twines. Such lines were used for sewing, tying together, net making, and other purposes. Watape, the name given to tightly woven divided roots of spruce, fir, and birch were used as containers for food, and pieces of bark utilised for plates when necessary; spoon-like ladles were made out of musk-ox horn, cut and expanded by the use of heated stones. Arrows, knives, and spears were pointed with bone and, occasionally, native copper. Bows were made of dried willow, generally about

five feet long, with strings of twisted sinew. They were held in the left hand, palm upwards, at an angle nearer to horizontal than vertical. Arrow shafts were made of a particular kind of spruce, and eagle feathers were preferred for flights (Osgood, 1931, p. 58).

The Satudene in Relation to His Food Supply

Many early writers depicted the situation of the Athapascan Indians, the Satudene among them, in two ways. When game was scarce, the Indians were in dire straits, with starvation common. At such times abandonment of the very young and old, and cannibalism was reported. In times of plenty, these people would indulge in extravagant feasts associated with an improvident attitude towards the future. But a more realistic view of the prehistoric Satudene's life was probably neither gormandizing nor cannibalising but rather as Pike (1892, p. 116) said later, one which did not include worrying at the scarcity of food, "as I was by this time accustomed to empty larders and had fallen into the happy Indian method of trusting that something would turn up". Hearne (1795, p. 83) had observed of the Chipewyans, "as their whole aim is to procure a comfortable subsistence, they take the most prudent methods to accomplish it; and by always following the lead of the deer, are seldom exposed to the gripping hand of famine", as was so frequently recorded by the fur traders after they had altered the way of life of these people.

The success of the Satudene's delicate balance with nature in this severe environment hinged upon his freedom and ability to search for food and other material requisites wherever they were to be found. For the essentials of his existence, as we have already seen, were not all pro-

curable at any one place nor at each and every season. It was necessary to hunt at one place for part of the year and fish at another for the remainder of the year. The migratory and transient nature of the caribou meant that the Satudene had, for much of the year, to be constantly on the move. If sufficient meat and hides were obtained, then he and his family might camp for a while at one location, particularly if this location also supplied them with fish. The Indians could not, however, survive for any length of time on fish alone, as was often times suggested by the early explorers, since fish, too, proved to be seasonally unreliable as well as unsuitable to eat. When the supply of meat and/or fish had ended, the search for animals had to be continued. At other times, it was necessary for the hunter and his family to wander almost unceasingly, following the small bands of caribou across the edge of the barrens. Mobility was crucial to his existence; as long as he was free to follow the caribou and kill them as they were required, his existence, if not always ascertained, was generally secured. Occasionally, the unpredictable nature of the caribou resulted in famine, but prolonged periods of extreme hunger were almost certainly the exception rather than the rule, in aboriginal times.

The early explorers and traders had often accused the Satudene of improvidence. Accumulating large quantities of food for some future date, however, was not practical for the nomadic Satudene. Such quantities would be heavy and bulky to carry, impeding his progress as he tried to keep in touch with migrating caribou. Nor was it expedient for the Satudene to cache meat, since a cache would be safe from neither the marauding wolverine and wolves who followed the caribou (Richardson,

1852, pp. 290-1), nor from another family which might discover the cache and avail itself of the contents. Furthermore, it was quite unlikely that a cache would be available to its nomadic owner at the moment of greatest need, and to ensure that its location was advantageous would be self-defeating, since that would curtail the hunter's freedom to follow the wandering caribou and thus reduce the possibility of successful hunting. There is little evidence to suggest that the Satudene did resort to caching prior to European contact. Only later, when the Indians hunted around the forts for the explorers and traders, did caching become feasible.

At certain times of the year, as noted earlier, the meat had little food value; meat that was very lean had little nourishment unless a sufficient supply of fat could be obtained with it. Many caribou were killed, therefore, in the early summer, primarily for their fatty tongues and marrow bones, needed to supplement the lean meat of a few animals. Furthermore, when the hides were at their best for clothing, the late summer days were still too warm for keeping any appreciable amounts of fresh meat for long. Large quantities of caribou and fish were, however, smoked and dried for ease of transportation in the fall. Similarly, meat was pounded into pemmican.

The precarious nature of life in such a harsh physical environment militated against any ideas of the Satudene enriching himself in the future. With life so short and tenuous, tomorrow he might be dead; today is what mattered, and his ability to provide for himself and his family at the present time or immediate future. For the most part the Satudene treated his struggle for survival fatalistically, feasting when meat

was available, continuing the search when it became exhausted and believing in a natural equilibrium of supply and demand.

Summary

All that the Satudene required - his food, clothing, shelter, and artifacts - were procurable around Great Bear Lake. Most of these were met by the migratory barren ground caribou, whose tracks the Indian followed for many months of the year. The many lakes, too, supplied him with an almost constant supply of fish of varied types. The variety necessary to his diet was well supplied by moose, musk-ox, hare, other small animals, birds, and berries, whilst wood, bones, horns, and a few metals supplemented the hides and babiche of the caribou, for his dwellings, tools, and utensils.

Other materials too were available but their potential had not yet been realized. The Satudene, however, had identified the kinds of resources necessary to meet adequately his daily requirements, and had likewise, over the years, developed the techniques necessary to explain and appease the elements surrounding him. But what of the structure of his society? How did its organization and customs facilitate or restrict his utilisation of these resources and his potential for deriving maximum benefit from them? How did their social organization influence the distribution of the Satudene around Great Bear Lake? What customs encouraged or retarded their numerical growth?

CHAPTER II

SOCIAL ORGANIZATION AND CUSTOMS OF THE LATE EIGHTEENTH AND EARLY NINETEENTH CENTURIES

Nature had strongly stamped its impress on the lives of the aboriginal Satudene. The environment had shaped not only their material world but their social organization, social customs, and religious ideas as well. Until the arrival of Europeans the Satudene culture was the product of a long evolution and it strongly reflected special adjustments to the physical environment. How was their social behaviour related to the natural environment from which the Indians extracted their living? How did their customs, their culturally based modes of living, attitudes, and goals, affect the way in which they sought this livelihood? It is with these and similar questions that this chapter is concerned, for a knowledge of the aboriginal social organization and customs is essential to an understanding of the Satudene demographic changes which occurred during the eighteenth and nineteenth centuries and the reasons underlying these changes. These changes will be described and analysed in the remaining chapters.

Historical accounts describing the social aspects of the Satudene in the eighteenth century are less reliable than those describing their economic way of life. Trade had achieved significant changes in their culture prior to the arrival of the Europeans. However, while changes in the material culture such as the replacement of the bow and arrow by the gun, twine nets for fibre nets, and the adoption of European clothing and food, were easily recognizable by the early writers and were not so

liable to misinterpretation, changes in the non-material aspects of culture were subtle and difficult to detect. As well they were subject to the limitations and biases of the non-Indian observer. In this context Benedict's (1959, p. 228) warning is not inappropriate here: "There is always the possibility that the description of the culture is disorientated rather than the culture itself Then again, the nature of the [cultural] integration may be merely outside our experience and difficult to perceive".¹

Social Organization

The organization of the various Indian tribes located around Great Bear Lake was relatively simple. Each group comprised four social levels: the tribe, macro-assemblages or regional bands, local bands, and family units (Helm, 1968, pp. 118-125; Helm, 1961, pp. 166-8). From the point of view of the early writers, the tribe appeared to assume greatest significance. These writers usually identified a certain individual according to his tribal entity. From the individual Indian's viewpoint, it seems certain that, in aboriginal times, the tribe was of minor significance, and the traditional Satudene's social life centred around his nuclear and extended family, "a relationship continually reinforced by patterns of mutual aid and reciprocal obligation" (Chance, 1966, p.52).

¹ In view of the paucity of information regarding the Indians located around Great Bear Lake during the eighteenth century, it has been necessary to draw on information both from surrounding Indians, such as the Chipewyans, and from accounts written at a later date.

The Tribe²

Four tribes were believed to have occupied the vicinity of Great Bear Lake in the late eighteenth century; Hares to the northwest, Slaves to the southwest, Dogribs to the southeast, and Yellowknives or Copper Indians to the east (Fig. 10). These tribes comprised several groups of scattered bands, having no central governing authority, and being very similar in speech and customs, especially where there was considerable contact between the groups. MacNeish (1956, pp. 133-5) stated that at the tribal level

... we know that in earlier days the lack of sense of affiliation with, or, more emphatically, the sense of being in opposition to certain other groups was sometimes actively manifested in hostilities against others. This negative expression is the nearest thing to political behaviour we have ... it is plain that consistent or all inclusive tribal-wide co-ordination or integration in regard to external relations was not the case. This condition has its parallel in the lack of any sort of actions, co-ordination and role and power differentiation regarding inter-tribal matters. The tribe had no internal affairs in the political sense

The distances between their hunting grounds and the difficulty of securing enough game in one locality to support a large, if transient population precluded an amalgamation of all the bands of the tribe, even for a few days. Contacts with neighbouring bands, whether belonging to the same tribe or not, were, therefore, much more significant.

² Defined by Helm (1968, p. 118) "as the greatest extension of population throughout which there is sufficient intermarriage to maintain many-sided social communication."

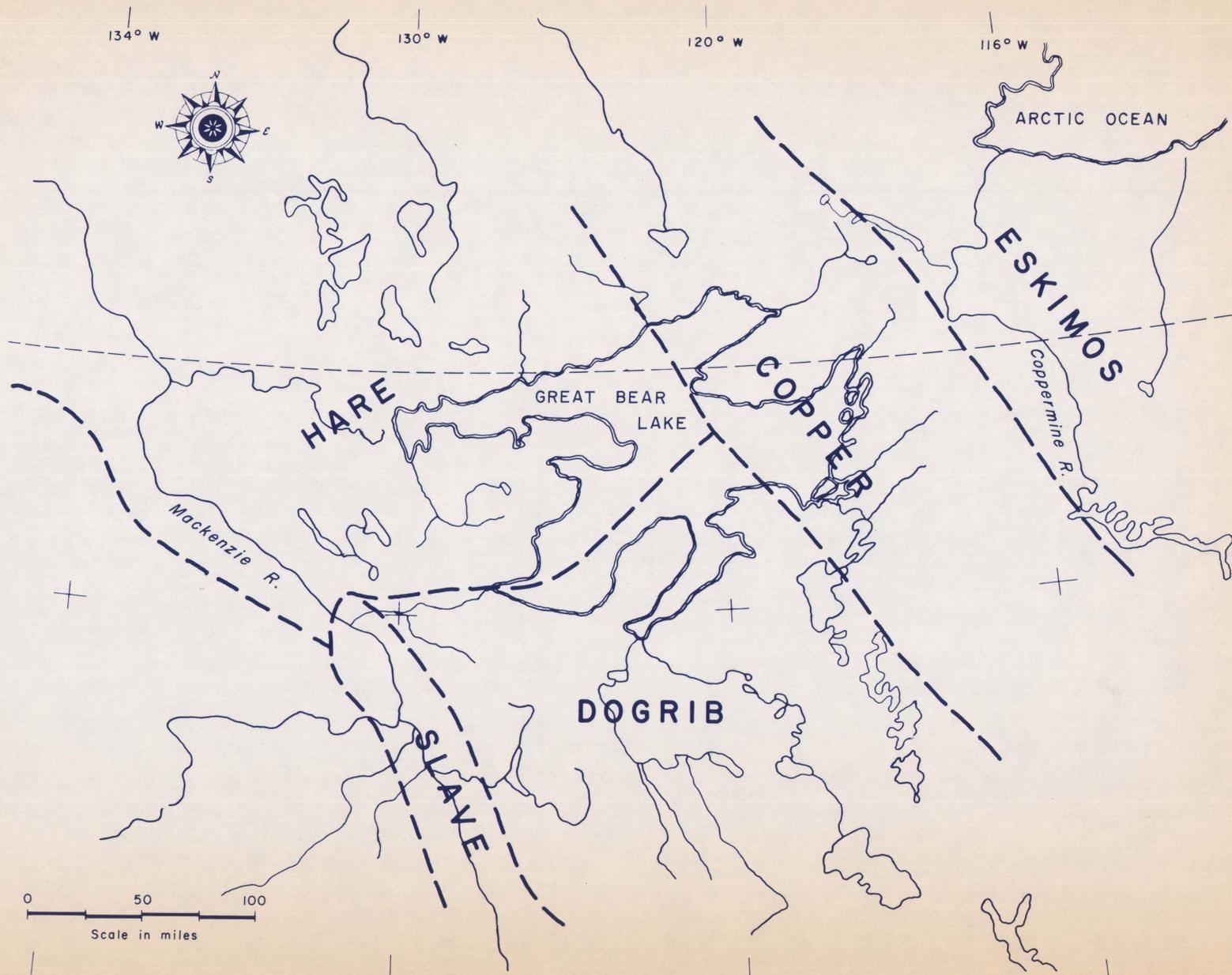


Figure 10 INDIANS AND ESKIMOS IN 1725 (AFTER D. JENNESS)

Bands

These physical groupings, based on the exploitation of the various and variable resources within a recognized range or territory, exerted some political influence though still at a very primitive level (Helm, 1968, p. 119). The band comprised:

... a group of people who travelled and camped together, sharing the take of large game in common. A single nuclear family might sustain itself as a discrete territorial and economic unit apart from others for an indefinite period of time. This condition may be taken as the extreme of population minimality of the local group. More commonly, several nuclear families grouped together to pursue their livelihood. The number of families involved might range from two or three to perhaps a dozen There were no formal ties or commitments to bind the component families to the band. Any family might part from the group, either to go it alone or to join another band as economic circumstances and/or personal inclinations directed. The group was therefore relatively unstable; personnel altered and bands fragmented and coalesced ... these bands were composed of kindred, in all likelihood with a linkage of primary relations extending between all the families composing the small bands ... (MacNeish, 1956, pp. 134-5).

The band "had a sort of corporate life that commonly extended over a continuous and relatively long interval of time" (MacNeish, 1956, p. 135). Another type of grouping was intermittent and brief in nature, drawing for its personnel all or selected members of either one or several bands. MacNeish (1956, p. 135) referred to these groups as "macro-assemblages", of which the "task group" associated with the caribou hunt was the most significant (Helm, 1968, p. 121). Whole families would congregate together, partly to afford protection for the women and children when left behind by the hunting men, and partly to share in each others success, particularly since the survival of less able members often depended on their being able to avail themselves of

a share in the spoils of the better hunters. Such camps were located at various points around Great Bear Lake known to be frequented by caribou; major crossing points of rivers and lakes were particularly favoured, such as at Teshierpi (Dismal) Lakes, Cape MacDonel, Etacho Point, Deerpass Bay, McVicar Arm, Leith Peninsula, Hottah Lake, Haldane River area, and the indented eastern McTavish Arm (Fig. 3). Similar "task group" camps were also formed seasonally to exploit the best fish runs. Known examples were located at the head of Bear River, referred to as Telini ("from where the river starts"), the excellent whitefish fisheries of McTavish Bay, McVicar Arm, Cloud Bay and Deerpass Bay, and situated between Smith and Keith Arms, the Tuitatui ("among the small lakes") Lakes area (Pers. comm. with Ft. Franklin Indians, 1969). Those locations frequented by caribou and fish were particularly favoured.

Besides these groupings of a primarily economic nature, the Satudene would often have gathered during the warmer summer months for the main purpose of sociability, also using that opportunity to change their band affiliations and possibly arrange marriage associations. Established close to a reliable and plentiful fish supply, the Indians were able to relax after the hard toil of winter, subsisting on fish and berries, and participating in their favourite amusements of drum-dancing, stick-gambling, and wrestling (Osgood, 1931, pp. 68-70).

War parties were another possible variant of these temporary groups. Aboriginal warfare existed however, if at all, on the fringes of this region. Generally, observers (Richardson, 1852, p. 293; Franklin, 1828, p. 287) have commented on the docile, timid nature of the Satudene, driven to satisfying blood feuds through stealth and treachery rather

than outright warfare. But such war parties might at some stage, have existed among the Copper and Dogrib element.

The fluid and regenerative nature of these groupings was essential to a continuation of life. As resources fluctuated so it became necessary to redress the balance of people existing off those resources. When caribou and fish were abundant, groups could be larger; but when they were scarce, survival of the entire group depended on a dispersal of its inhabitants. These smaller groups sought elsewhere for the requirements of their survival.

Leadership: "In this unstructured milieu of group 'government' by consensus and custom the only differential in role and power to be discerned is in the figure of the leader" (MacNeish, 1956, p. 140). Each family group and each band had a nominal leader. Richardson (1852, pp. 26-8) stated that:

Superior powers of mind, combined with skill in hunting, raise a few into chiefs, under whose guidance a greater or smaller number of families place themselves The chief ... regulates the movements of his band, [and] chooses the hunting ground

The leaders were usually older men whose experienced judgement was respected. Superior shamanistic skill and supernatural powers also gave some a special influence over others, which was often of longer duration than the former's influence. Occasionally, if and when required, war leaders were chosen, but such leadership was restricted to the duration of the raid.

Chiefs or leaders were neither elected nor appointed; they were recognized by common assent as the persons most capable of fulfilling the particular needs of the group at that time. With the constant

changing of the groups, leaders were frequently changed from one season to another, although occasionally a man of outstanding ability and superior hunting skill might remain a leader for several years, maintaining large groups of semi-permanent followers. The Copper chief, Akaitcho, or the Chipewyan leader, Matonabee, were such examples, however, none emerged in the early literature from around Great Bear Lake.

Law and Order: Theoretically, every individual in a band was equal to every other so that its leaders enjoyed few or no legal or economic privileges, and held his position only for as long as he was considered superior to the rest. Neither did any of the chiefs assume the power of punishing crimes. Order among the Hares and Dogribs as explained by Richardson (1852, p. 258) was maintained solely by public opinion:

It is no one's duty to repress immorality or a breach of laws of society which custom has established among them, but each opposes violence as best he may by his own arm or the general assistance of his relations. A man's conduct must be bad indeed, and threaten the general peace, before he would be expelled from the society; no amount of idleness, nor selfishness, entails such a punishment.

Ownership: The concept of individual ownership was very weakly developed among the Satudene. Strong feelings of primitive communism dominated, and within the group they would freely give and take things among themselves. For example, a person might avail himself of the produce of a hunter's energy and skill, regardless of his lack of effort in procuring it (Richardson, 1852, p. 251). Nowhere was this attitude more evident and essential than within the family unit.

The Family

The family was the fundamental unit of Satudene society. The members

of the family unit shared the same common shelter, had a common larder, and to some degree used the same tools and equipment. Often two closely related families lived in the same tent, and all economic activities were usually based on this unit or an extension of it (Osgood, 1931, p. 70).

Sexual Division of Labour: Much has been written about the status of Satudene women in former times (e.g. Wentzel in Franklin, 1823, p. 290; McLean, 1932, p. 244; Richardson, 1852, pp. 247-8). Of the Copper Indians around Great Bear Lake, Keith (Masson, 1889-90, vol. 2, p. 107), commented on "the barbarity, drudgery and toil to which the women are exposed ... [and who] live for the most part in abject slavery". A more balanced picture depicts the respective functions of men and women in society. Existence depended primarily upon the success of the hunt, and every other aspect of daily life, at least during the hunting season, revolved around this factor. Opportunities for successful hunting precluded the carrying of heavy packs by the men when travelling. Had they been weighed down by their family possessions, few though they were, the chances of success in the hunt would have decreased (Glover, 1958, p. xix). The hunter usually carried nothing more than his bow and arrow; at times, he even discarded some of his clothing to increase his mobility in the chase. All family belongings were packed by the women and older girls. Hearne (1795, p. 90) claimed that the women could carry 8 to 10 stone (112 lbs. to 140 lbs.) in summer, and haul a much greater weight in winter.

Back at the camp, the hunter needed to rest from the exertions of the chase. The survival of his family depended upon his maintaining his strength, and when food was scarce, his requirements had to be met first,

whilst the women who did "all the preparation of food ... ate last after all men finished eating" (Glover, 1958, p. 57) and in times of scarcity "it is a maxim with them [Hares and Dogribs] that the woman who cooks can be well sustained by licking her fingers" (Richardson, 1852, p. 250). If there was a shortage of food, the men took off to hunt, leaving the erection of the tipi to the women. However, if meat was already in abundance, the husband usually stayed to help his wife. He would clear away the snow with his snow-shoes and bring in the spruce brush for the floor covering; he would also cut and carry new lodge poles if they were required. His wife would then erect the tipi, lay the floor covering and make the fireplace.

Richardson's (1852, p. 250) additional comment that "the women are not, however, generally discontented with their lot" is probably a reasonable assessment, even though their life must have been hard. But their labours were indispensable to the members of their society. Matonabee, a Chipewyan with at least six wives of his own, obviously spoke with authority to Hearne (Glover, 1958, p. xix) concerning the status and usefulness of women in such northern hunting societies. When the men

... meet with success in hunting, who is to carry the produce of their labour? ... women ... were made for the labour: one of them can carry, or haul, as much as two men can do. They also pitch our tents, make and mend our clothing, keep us warm at night; and, in fact, there is no such thing as travelling any considerable distance or for any length of time, in this country, without [a woman]

According to Hearne (1795, p. 89) the prime "wifely requirement was strength.

In a country like this where a partner in excessive hard labour is the chief motive for the union, and the softer endearments of a conjugal life are only considered as a secondary object, there seems to be great propriety in such a choice.

Beside all the packing or hauling, cooking and sewing, the women, naturally, had to look after and carry the infants. Children were encouraged to emulate and assist their parents from an early age, and it was their task to collect and haul the firewood. Older girls usually looked after the younger children, and the older boys assisted in the hunt. Elderly relatives also helped with the daily chores, to the best of their ability. The key to family relationships was cooperation, an attitude instilled early in the child's life, for the economic and social security of the individual was largely drawn from the family unit, and the giving and receiving of assistance was expected as a matter of course.

Social Customs

An examination of the social customs pertaining to birth, puberty, marriage and death is essential to a study which attempts to investigate the changes in demographic structure. Not only is it necessary to understand how the Satudene obtained their basic daily requirements of food, clothing and shelter, and how they organized themselves socially to acquire these and other needs, but it is also vital to understand something of the mechanics of the individual's life customs, from birth to death.

Birth

The mother continued her normal activities up to the time immediately

before birth took place.³ The necessary period of rest following the birth was extraordinarily short (Osgood, 1931, p. 75). Richardson (1852, p. 295) cited an instance at Fort Confidence in which a woman gave birth to her first child, an event which "delayed the mother's departure about two hours". He added,

She then set out dragging a sledge, and having her first-born suspended between her shoulders, in a bag or Indian cradle. She was not suffered, however, to profit by the well-beaten path pursued by the rest of the party, who had gone before her, but she had to make a new track parallel to it through the loose snow, always a laborious task, even to a stout man. Want of success in hunting, or some other calamity, was sure to befall an Indian who should incautiously tread in her footsteps. This was the custom; no slight or unkindness was shown to her; her husband was, I believe, really fond of her; and her sledge was a light one, being loaded only with things belonging to herself.

The mother's clothing allowed for the inclusion of the child to be carried upon her back next to the skin, close to the warmth of the body, "in which condition they are perfectly comfortable and in a position convenient to be suckled" (Mackenzie, 1801, p. cxxii). The lactation period usually lasted for two to three years, until the child could masticate the meat and fish which would next predominate in his diet (Jenness, 1963, p. 149). Children's names were given to them by their parents or next of kin. The idea of reincarnation seemed to be common, the new born child being spoken of as natli, meaning 'born again', and among the Hares, the first child conceived after a decease in the tribe was considered to be a reincarnation of the dead person (Petitot, 1893, p. 277).

³ No reference could be found to indicate the position of the mother during parturition, but a semi-kneeling position, as opposed to a prone one, is considered most likely.

There were probably, in former times, a great many taboos and prohibitions connected with birth. The example already mentioned by Richardson (1852, p. 295) of the necessity of women having to break their own trail, is one of the most commonly recorded in the early literature. Among the Hares and Dogribs it was customary not to give babies nourishment for the first four days, that they might better be able to endure starvation periods in future years (Ross, 1866, p. 305). Both Petitot (1876, p. 78 and 1893, p. 24) and Mackenzie (1801, p. 36) referred to the practice of circumcision, at least among some of the people. Osgood (1931, p. 76), however, found all the evidence to the contrary. Osgood (1931, p. 75) also mentioned that around Great Bear Lake it was considered a very bad omen for a woman during pregnancy if her husband killed an animal or bird with claws.

Although mother-lore handed down from generation to generation must have taught the women many practices concerning childbirth, the conditions of life were so difficult, and the ignorance of certain elementary rules of health and child welfare so general, that infant mortality must have been very high. Many of the early writers (e.g. Franklin, 1828, p. 64; Simpson, 1843, pp. 32, 187, 202) cited numerous examples of the practice of infanticide and child abandonment as being common among the Satudene. Although it can be stated with reasonable certainty that infanticide was practiced prior to European contact, it is impossible to state the extent with any accuracy. Hooper (1853, p. 319) stated in 1849 at Great Bear Lake that "infanticide, which was at no distant period universally prevalent as regarded female children, appears to have much diminished ..." suggesting that its practice had been much more widespread in

earlier times. This is no doubt accurate, but whether the "earlier times" was the period just prior to direct European contact, or even earlier, before even indirect contact had been established, is discussed at greater length in chapter 3.

Puberty

Puberty customs for girls were very rigorous among the Satudene. From the age of eight or nine years, the girls were prohibited by custom from joining in the most innocent amusements with children of the opposite sex; they were constantly watched and guarded by the older women (Hearne, 1795, p. 311). Among the Chipewyans, Hearne (1795, p. 314) added that

When those symptoms make their first appearance, [the young girls] generally go a little distance from the other tents for four or five days, and at their return wear a kind of veil or curtain made of beads, for some time after as a mark of modesty as they are then considered marriageable ... and, of course are called women.

Osgood (1931, p. 77) mentioned, similarly, that for the Satudene girl, a little spruce brush shelter was made at some distance from the family tipi where she retired with an axe and a pail in which to boil pieces of meat. After staying there for several days, she was then allowed to return to the family tipi, but "the girl might not talk or look at anyone for from two to four months. During the entire period, she used special eating utensils and drank water through a swan's bone".

Similar taboos and restrictions were enforced with each re-occurrence of a woman's menses, and each time she was required to move out of her husband's tent and live by herself in a small hovel at some distance from the other tents. At this period she was also restricted from touching any animals, since it was believed that the game would be

offended and not permit itself to be caught, neither was she allowed to touch any utensils used by the men (Mackenzie, 1801, p. cxxiii). The custom of breaking a new trail after childbirth has already been mentioned; this taboo was extended to each menses period. Hearne (1795, pp. 313-4) with manly indignation added that the necessity of this temporary separation was often used as an excuse enabling the wives to leave their husbands during any misunderstanding:

I have frequently known some of the sulky dames leave their husbands and tent four or five days at a time, and repeat the farce twice or thrice a month, while the poor men have never suspected the deceit, or if they have, delicacy on their part had not permitted them to enquire into the matter.

Only Petitot (1893, pp. 366-7) mentioned any significant puberty rites for boys. The emphasis on the boys' puberty rites, however, was cultural rather than physiological, and related to the boy's first solo hunting expeditions. Little ceremony was attached to the event.

Marriage

It is difficult to extrapolate an accurate picture of marriage customs in aboriginal times from the large number of conflicting comments on the subject found in the early literature (e.g. Franklin, 1828; Simpson, 1843, Richardson, 1852; Petitot, 1893). On few other subject areas of culture have the early writers written with, seemingly, so much personal bias. Furthermore, social upheaval and disintegration had already occurred prior to the arrival of these writers at Great Bear Lake. Increased promiscuity and sexual aberrations are common in all societies under such periods of social stress. Richardson (1852, p. 257) observed that the lax behaviour of Indian women in this region with respect to

female chastity seemed contrary to their national character, and he wondered if "some of the corruption may have crept in through their acquaintance with white people". How many of the practices described here then were truly aboriginal and how many were the result of human crisis is, to some degree, speculative.

The majority of the Satudene probably had little regard for chastity, but without deserving the charge of licentiousness. Sexual relationships between the unmarried were overlooked and it is unlikely that adultery was regarded with the same sense of disapproval as it was viewed by those with moral ideas based on a different culture (Osgood, 1931, p. 72).

Satudene children were given in marriage at an early age, usually before puberty. Keith (Masson, 1889-90, vol. 2, p. 114) commented that the mother usually disposed of her daughter by the time she was ten to twelve years old, with little regard for the future welfare and happiness of either party. According to Petitot (1893, p. 339) the ancient custom around Great Bear Lake was for a man to adopt an eleven to twelve year old girl, train her to be obedient and respectful, and to work and take care of the home, becoming his wife when she was old enough. Such arrangements gave the girls little choice but to obey their parents. The parents, in turn, would endeavour to marry their daughters to those who seemed most capable of maintaining them, "let their age, person, or disposition be ever so despicable" (Hearne, 1795, p. 310).

Skill in hunting was regarded as the prime qualification of the man seeking the consent of the girl's parents, not only so that he might provide for his wife and family, but also that he might ease the burdens of his parents-in-law. It was usual for the bridegroom to live with his

father-in-law, sharing in his travelling and hunting. If the wife was from another band or tribe, it was customary for the couple to live with the girl's father for a year or two and then return to the husband's people (Osgood, 1931, p. 78). There was little ceremony attached to marriage. The man simply attached himself to the household of his wife. Keith (Masson, 1889-90, vol. 2, p. 114) stated however that "a man can scarcely call a woman his own until such time as has got a couple of children at least, on account of the frequency of elopements". He added that because of the early betrothal of girls by their parents, that "it is no wonder that the daughter in riper years should take the liberty sometimes of choosing for herself, in which case she seldom meets the opposition of her parents, provided the new son-in-law is more industrious and a better hunter".

Many of the early writers described the practice of wife stealing, by members of another tribe. The Copper Indians were, apparently, notorious for being the most active perpetrators of this custom in the Great Bear Lake region. Wife capture among members of the same tribe or band was also common according to Keith (Masson, 1889-90, vol. 2, p. 107) and the women were sometimes literally dragged away by the hair. He added that the medicine men were supposed to have been the worst offenders, since the parents, for fear of spiritual attack, dared not object. A woman desired by a stronger man was simply carried or dragged away from her husband. Oftentimes wrestling matches ensued between the competing men, while the women looked on with composure and impartiality (Richardson, 1852, pp. 256,296). The fights consisted of "hauling each other about by the hair of the head; they are seldom known either to strike or kick one

another" (Hearne, 1795, p. 105). The offended husband's means of retaliation was simply to take, in similar fashion, a weaker man's wife. A hard working, fecund woman might expect to change husbands several times before settling down, always going from the weaker to the stronger man, whereas a weak man might find himself with no wife or a lazy one. Younger children generally followed the mothers, though the father could retain them if he so chose. Such wrestling matches were, however, usually for younger women, since men were seldom prepared to take on women who already had children (Hearne, 1795, p. 105).

"Divorce" was not uncommon among most of the Northern Indians. Petitot (1893, p. 434) reported barrenness among the women as a cause for "divorce", but, according to Hearne (1795, p. 312) want of "wifely accomplishments considered necessary" was the more frequent cause. Hearne (1795, pp. 127-8) also stated that adultery was also occasionally the reason, although adding that the women were seldom guilty of incontinency "not even those who are confined to the sixth or even eighth part of a man" (Hearne, 1795, pp. 127-8). Of the Slave and Dogrib women of Great Bear Lake Keith (Masson, 1889-90, vol. 2, p. 115) said that they did "not scruple to dishonour the nuptial bed, which is sometimes punished by a few stripes, and more frequently with a general reprimand, or absence on the part of the offended for a few days or weeks, according to the circumstances. All blame rests generally with the women". Elsewhere, speaking of the Copper Indians, Keith (Masson, 1889-90, vol. 2, p. 147) remarked that the "fair offender" often ended up in an "untimely grave". Usually, when the seducer was a married man, the idea of retribution was properly embodied in the perpetration of a similar act by the injured

husband (Osgood, 1931, p. 72). In general many instances of strong attachment between the married couples, were witnessed by the early traders and explorers.

Polygamy, or more specifically, polygyny, was almost certainly practiced among the Satudene, though probably the proportion of cases was small on account of the difficulties involved in supporting several wives and children, as well as in protecting more than one woman from attack (Masson, 1889-90, vol. 2, p. 112). The customary polygyny of the Chipewyans mentioned by Hearne (1795, pp. 310-12) might possibly have been a result of their increased migrational activity as intermediaries between the fur posts and western Indians and the need for several wives to carry the furs. More appropriate to the different circumstances of the Satudene is Franklin's (1823, p. 289) remark about the Copper Indians: "Few of this nation have more than one wife at a time, and none but the leaders have more than two", the leaders, by definition, being the better hunters.

"The degree of affinity that the Satudene permitted in marriage in former times is questionable, but incest was not uncommon and was not regarded as criminal or indeed with any great disfavour (Osgood, 1931, p. 79). Keith (Masson, 1889-90, vol. 2, p. 115) reported of the Slaves and Dogribs at Great Bear Lake that

The children of two brothers [parallel cousins] are permitted to become partners in life; this is the nearest affinity in marriage openly averred amongst them, but it is pretty well known that some fathers do not scruple, though with as much secrecy as possible, to make their daughters subservient to their brutal lust, and brother with his sister, and brother-in-law, openly with his sister-in-law and so on.

Of the Copper Indians Franklin (1823, p. 289) said that "there is no prohibition to the intermarriage of cousins, but a man is restricted from marrying his niece".

Levirate, according to Petitot (1893, p. 24) was the ancient custom among the Satudene. In a hunting society where the incidence of adult male deaths would probably have been high, such a custom would afford protection to the women and children, as well as maintaining a greater tie between families within a band. Wentzel (Masson, 1889-90, vol. 1, p. 86), speaking of the Beaver-Slave Indians mentioned that "one woman is common to two brothers and often three, and in the case of the death of either brother, the other then considers himself bound to support the children of the deceased". Hearne (1795, p. 129) mentioned the extension of a similar custom to include close friends, partly for the purpose of strengthening ties between the two families.

Hearne (1795, p. 312) had this to say about the sizes of Chipewyan families:

Providence has been kind in causing these people to be less prolific than the inhabitants of civilized nations: it is very uncommon to see one woman have more than five or six children; and these are always born at such a distance from one another that the youngest is generally two or three years old before another is brought into the world.

Evidence provided later will indicate that this is a fairly accurate statement regarding the Satudene family size.

Death

The Satudene were, apparently, very much afraid of death when they were enjoying good health, but once they felt certain that death was near, they were "singularly fearless, often joking at the prospect"

(Osgood, 1931, p. 79). Several aboriginal methods of disposal of the dead are recorded for the Satudene and their neighbouring tribes in the early literature.

According to Keith (Masson, 1889-90, vol. 2, pp. 96,109,116) the Great Bear Lake Indians placed their dead on scaffolds, entombed in wood, these rough coffins being elevated from three to seven feet above the ground. Osgood (1931, p. 80) stated that excavations around Great Bear Lake revealed that the body was flexed. A few of the deceased's belongings such as a birch basket or bow and arrow would usually be interred with the body. Others mentioned interment in ground caches (Mackenzie, 1801, p. cxvii), wooden tombs (McLean, 1932, p. 249), pits excavated under the tipi fireplace in winter (Osgood, 1931, p. 80), bodies either covered with trees or left to be devoured by beasts and birds of prey (Hearne, 1795, p. 341; Mackenzie, 1801, p. cxxviii).

Mourning: Most early writers (e.g. Wentzel in Masson, 1889-90, vol. 1, p. 87; Franklin, 1823, p. 158, 471; Petitot, 1893, p. 106) reiterate Hearne's (1795, p. 341) comment that the death of a close relative affected them greatly, and that ritual mourning of the dead was usually continued for long periods. Speaking of the Satudene Keith (Masson, 1889-90, vol. 2, p. 109) said that "the relations cut, bite and scarify the flesh of the body in a shocking manner, and those most nearly related destroy all their property without reserving the most necessary The most distant relations only sacrifice part of their property". The deceased's canoe was placed with the grave objects or launched in the current; all other belongings which could not be interred with him were burned, thrown into the water, or hung in trees (Osgood, 1931, p. 81).

Wailing apparently took place every morning at dawn and also at sunset for more than a year. This function was usually performed by a female relative (Masson, 1889-90, vol. 2, p. 109). It appears also to have been the custom around Great Bear Lake for the elder son, or some other close relative, to give a feast in honour of the departed.

Deaths, other than those such as hunting accidents whose causes were obvious, were usually attributed to conjurers, either fellow-countrymen, or someone of another tribe. Suspicion often fell also on the Eskimos which, according to Hearne (1795, p. 338) was one of the principal reasons why there was never peace between the two peoples. This could certainly have been applicable to the Indians at the eastern end of Great Bear Lake.

Religion

The religious concepts of the Satudene revealed a simple form of animism but the economic aspects of religious practices cannot be ignored since virtually every act of the individual had some supernatural implications. It was believed that animals and even the elements were endowed with human characteristics and were able to reason and react like men (Petitot, 1893, pp. 352-3). Animals allowed themselves to be taken by men unless offended in any way, whereupon the animal would withdraw its presence to the detriment of human survival (Spencer, 1959, p. 255). Most religious behaviour thus lay in attempting to placate or influence the animals or elements (Osgood, 1931, pp. 81-2). Furthermore, every man stood in special relationship to a particular animal. Once such an association had been formed, the medicine animal could not be killed or

eaten by that individual, since it provided him with a source of power and protection (Osgood, 1931, p. 83). Many taboos relating to animals had their origins in myths, such as the belief that the Dogribs were partly descended from dogs, which elevated both the wolf and dog to an almost sacred position, and even during the most dire straits, people would seldom eat them (Duchaussois, 1923, p. 258). Similar taboos existed for many of the other animals, beliefs which in times of hunger exerted extra pressures on the larder, especially in the case of women, for whom so many animals or parts of them, were prohibited.

References to a Supreme Being in the early literature are somewhat vague and contradictory, and possibly influenced by the religious concepts of the writers. A certain good spirit referred to as Newetsini was associated with the Creation, but it appears that he was of no greater influence than most of the other spirits. Similarly, Kitsili, the bad spirit, was "more likely to scare people and play evil tricks than do serious harm" (Osgood, 1931, p. 82). The souls of the dead were believed to live in "a vaguely defined land of the hereafter where life is much the same as it is on earth" (Osgood, 1931, p. 82).

Medicine Beliefs: Although each individual could exert a degree of control by ostensibly magical means over the animals and elements, the medicine man or shaman was believed to have a greater degree of such power and so enjoyed a greater intimacy with the supernatural world. The more powerful shamans were reputed to be able to kill or injure their enemies from a distance. Some medicine men were extraordinary seers and prophets, foretelling all kinds of things, such as the expected route of the caribou. In such an instance, if the caribou failed to arrive and the snares had

been set in vain, blame was usually placed on a rival medicine man of greater strength (Osgood, 1931, p. 82).

Since the Satudene, like their neighbours, attributed sickness and death to sorcery, medicine men were called to extract from the patients' bodies, the effects of the evil deed, often assumed to be in the form of small fish, frogs, etc. Humming or singing certain charm songs by the shaman was accompanied by biting and pulling with their teeth, and sucking and blowing on the parts affected (Masson, 1889-90, vol. 2, p. 105). There is little doubt that the shamanistic seance was a real and vital experience for these Indians (Hearne, 1795, pp. 191-2; Hooper, 1853, p. 318). Hearne's (1795, p. 190) description of this practice is particularly amusing:

For some inward complaints; such as, griping in the intestines, difficulty in making water, etc., it is very common to see those jugglers blowing into the anus, or into the parts adjacent, till their eyes are almost starting out of their heads: and this operation is performed indifferently on all, without regard either to age or sex. The accumulation of so large a quantity of wind is at times apt to occasion some extraordinary emotions, which are not easily suppressed by a sick person; and, as there is no vent for it but by the channel through which it was conveyed thither, it sometimes occasions an odd scene between the doctor and his patient.

The shamen appear to have performed their services in a specially constructed conjuring tent, similar to a smaller version of the tipi (Hooper, 1853, pp. 319-20).

Most of the early writers denied the presence of herbal remedies in this region; only Hooper (1853, p. 318) mentioned their use. For advising the people, foretelling their future, curing their diseases, killing their enemies, or protecting them from the influences of others, payment

to the medicine man was an absolute necessity.

Myths and Story Telling: The Satudene appear to have been great story tellers, delighting especially in myths relating to their origins, tales of monsters, and flood legends (Osgood, 1931, pp. 87-91). Morice (c.1910:p. 108) pointed out that "a Dene is never supposed to tell the truth in his first account of anything" and elaborate deception when telling a story was considered an art. Certainly it did not mislead other Indians, but the practice was often misconstrued and disliked by the early writers, who frequently accused the Indians of lying (e.g. Richardson, 1852, p. 253; Simpson, 1843, p. 336).

Environmental Adaptation

The Satudene social organization, in aboriginal times, may be recognized as a subtle and effective adjustment to severe environmental pressures. Its dominant character in all phases was adaptability. The size of the groups depended on seasonal fluctuations of the available resources, and the functioning socioeconomic unit varied from the simple biological family of from two to six persons in times of greatest shortage, through to the regional bands of perhaps forty or fifty families in times of plenty. Thus spatial adjustment was possible redressing the balance according to the distribution of available resources.

Flexibility of leadership suited this pattern; strong or dominant leaders might, in order to maintain their prestige, have forced the group to stay together in larger numbers, even when the resources would not allow it. Nor did rival chiefs emerge to contest against each other at gatherings of several groups, resulting in friction. Such action would

have endangered the freedom of the groups from meeting with each other peacefully, and would thus have restricted their mobility to a more limited territory. When several groups did come together in these large assemblages the medicine men were often called upon to assume authority for decision making, but since theirs was not a leadership which required a 'following', they did not compete against each other in the same manner as band chiefs might have.

Such flexible social arrangements, therefore, enabled the aboriginal Satudene to exploit effectively an environment of diffuse and varied resources. Their simple material culture also enabled them to adapt easily to the environmental conditions, whereas a more complex material culture would have hindered such adjustment, by reducing their mobility, and mobility was essential - to follow the migratory caribou, to chase a lone moose, to visit the fish lakes. Carrying large supplies of either food or belongings restricted this mobility. So too, did the caching of food, since it could only be of value if the owner could rely upon it with absolute certainty, and if the cache happened to be in the vicinity of the hunter at his time of greatest need, both of which were unlikely.

An individual was most aware of belonging to his family. As a member of a small, independent, closely-knit, highly co-operative family unit, temporarily adjoined to other family units as the resources permitted, he could feel most secure, obtain his economic needs most easily, and gain greatest personal gratification. It appears that family affections would have been particularly strong, and his ties to other than his immediate family, of necessity, weaker, since they would often

be separated from each other. The strength of the individual's bonds was reflected in the social customs relating to marriage and death. Marriages were for convenience, a partner being necessary to provide for the complementary needs of the other; neither single men nor women could survive effectively in this environment. But ties to the partner were seldom strong at first, and certainly would have been subordinated to kinship ties until after several years of marriage and a few children. Thus marriages among kin and band members were preferred to exogamous marriages when possible, since they helped maintain close family relations and decreased the disruptive influences caused by the death of one partner. Long and painful mourning customs followed the death of a relative, and it seems much more credible that children and old relatives were indeed cared for, and only abandoned in times of extreme penury, for the sake and survival of the remainder of the family; in this light, babies were sacrificed not out of callousness, but because of stronger attachment for the older children, whose lives were otherwise endangered. Although practices associated with birth, such as menarche, menses and parturition, signified uncleanness, the number of taboos associated with these events suggest that birth was, nevertheless, an event of considerable significance, particularly if it was a boy.

It has been noted that it was possible for the Satudene to satisfy his material, social and religious needs in the Great Bear Lake region, provided that he had sufficient mobility to utilise these widely distributed resources of a seasonal and migratory nature and that the population remained at a low level. Furthermore it must be realised

that hunting was not merely a subsistence technique but was a way of life for the Indian. Hunting was the active process and integrating force which put motion and direction into the Satudene's "morphology, technology, social organization and ecological relations" (Laughlin, 1968, p. 304). These aspects of his life described were not isolated components of his daily existence but part of the entire process which enabled him to function effectively in the region around Great Bear Lake in aboriginal times.

CHAPTER III

SATUDENE DEMOGRAPHY IN THE LATE EIGHTEENTH AND EARLY NINETEENTH CENTURIES

It is not known just how long the Great Bear Lake region has been inhabited. According to traditions among the Hare Indians, when they arrived at Great Bear Lake long before the coming of the white man, there were already people there whom they referred to as T^rou-ne or People of the Lake. Petitot (1893, pp. 66-7) claimed that these were not Indians but Eskimos, probably from the Coppermine area.

Population Distribution and Size

At the beginning of the eighteenth century the Dogribs and Slaves are believed to have hunted mainly "on the border of Great Slave Lake" (Mackenzie, 1801, p. 20). Similarly the Copper Indians, an offshoot of the Chipewyan Indians, previously occupied an area east of the Dogribs, northeastward from Great Slave Lake to the Coppermine and Back Rivers (Mackenzie, 1801, p. 17). During the early to middle part of this century it would appear that all three tribes were pushed closer to Great Bear Lake by the war-like activities of the fur-trading Crees and Chipewyans (Zaslow, 1956, p. 536). At about the same time, the Hares occupying the lower Mackenzie valley region were forced southward by the Mackenzie Eskimos (Richardson, 1852, p. 13). In view of the nomadic habits of these Indians it is possible that some bands of each of these tribes had frequented Great Bear Lake region in earlier times, but that during the mid-eighteenth century their numbers increased as those under attack moved into the area.

By the time the first European traders arrived in this region bands of the four tribes were hunting around the lake (McKenzie, 1805; Keith and Wentzel in Masson, 1889-90; Franklin, 1823 and 1828). North and south of Smith Arm were the Hares (Fig. 10), the Copper Indians occupied the eastern shores of the lake southwards from Dease Arm, the Dogribs occupied the southern regions especially between Johnny Hoe River and Hottah Lake, and the Slaves were to the southwest of the lake and south of Bear River. Copper Eskimos probably frequented the northeastern area along Dease River and the Dismal Lakes area to the Arctic coast, but care was taken to avoid contact with the Indians since a mutual fear existed between them (Richardson, 1852, p. 209). It would appear that there was considerable contact between the Slave and Dogrib bands, whereas the Hare and Copper Indians tended to remain more independent (Keith in Masson, 1889-90, vol. 2, p. 111).

How many people would have roamed the shores of Great Bear Lake at the height of its occupation? There is no single figure recorded for this area prior to Petitot's (1893, p. 66) estimates of 1866,¹ and all attempts at arriving at population figures for this early period are only educated estimates, based on the scanty data available. Mooney's (1928, p. 26) estimates, a rough approximation subject to error, are one available source. For the entire population of these four tribes, he estimated as follows:² 430 Coppers, 1,250 Dogribs, 1,250 Slaves, and 750 Hares,

¹ Petitot's estimates of numbers and location are for the post-1850 era.

² Figures are for 1670, but Mooney commented (p. 25) that in this region there was "no essential change until after 1800".

totalling 3,680, a figure which is of course far too high for the region defined to include the Satudene. Steward (in Helm, 1961, p. 169) basing his estimates on band sizes, arrived at these figures for the same tribes in aboriginal times:

The Slave had five bands, averaging 220 individuals each; the Hare had five, numbering 120 or more each. The Dog Ribs had three, numbering 380 persons each - Osgood gives four bands; a Yellow Knife band is stated to have numbered 190 persons.³

Applying these estimates based on band divisions it is possible to arrive at a tentative figure for the Satudene. Osgood (1931, pp. 33-5) stated that one band from each tribe, though of fluid tenancy, frequented the Great Bear Lake region. Accordingly, the Satudene would have comprised approximately 120 Hares, 220 Slaves, 280 Dogribs,⁴ and 100 Copper Indians.⁵ This total of 720 inhabitants is almost certainly overgenerous, but a minimum population of 500 for the entire region during the late eighteenth century might not be unreasonable.

Thompson (1966, pp. 418-24) utilising an "equilibrium model" was able "to calculate the potential limits of the aboriginal Chipewyan population" basing his figures on the carrying capacity of the barren-ground caribou in Chipewyan territory. Applying the same model, subject to similar limitations, it was possible to arrive at tentative figures

³ Steward's total of approximately 3,030 is lower than Mooney's estimate of 3,680, the major discrepancy being due to his inclusion of only one Copper band, whereas Mooney included a wider Copper Indian base.

⁴ Taking Osgood's (1931) and Petitot's (1893) divisions of four rather than three bands.

⁵ This is the figure for the segment residing east of Great Bear Lake according to McKenzie (1805, p. 20).

for the potential limits of the Satudene in the Great Bear Lake region (approximately 20,000 sq. miles) as follows:

Minimum population = approximately 700 (670 people)

Maximum population = approximately 1,600 (1,581 people)

Population expectation = approximately 1,000 (940 people).⁶

According to these calculations⁷ the resource base in this region was certainly sufficient to support the 720 inhabitants in Steward's estimates.

Population Structure

According to Lorimer (1954, pp. 101-2) "The interrelations of environment, culture and fertility" are complex and elusive, and any conclusions with respect to marginal societies, such as existed in the Great Bear Lake area, must be drawn with considerable care.⁸

Birth Rate and Family Size

The most critical factors governing the rise and fall of population among primitive peoples are fertility and mortality rates among infants

⁶ See Appendix A for detailed calculations and explanations.

⁷ Dr. J. Helm (Pers. comm., Feb. 1972) considered these figures to be to high.

⁸ Since accurate statistical evidence is not available for the pre-European-contact period, calculations and comments referring to the aboriginal demography are based on: the known population characteristics of primitive peoples in general obtained from demographic literature, numerical and descriptive data obtained from the earliest traders and explorers, and numerical estimates made by later missionaries, explorers and other scientists. All these were considered in conjunction with the local socio-cultural and natural milieux. The result is speculative to a degree, but it is hoped that the conclusions arrived at will not seem unreasonable in the light of the evidence and arguments presented.

and children. Childbirth, although regarded by the early writers as a comparatively easy process, must, as previously mentioned, have been fraught with dangers for both mother and child. Little care or attention was given to the act of parturition. Although the young girls would have learnt much about infant care from their mothers, conditions at the time of parturition would often have been unsuitable and unsanitary, and fetal mortality rates must have been high. Often, as stated earlier, if a group was on the move, a stop of a few hours at the most would be made at birth, with the mother having then to break her own trail through the snow (Richardson, 1852, p. 295). Furthermore, the strenuous work required of women made to lift, carry, and pull heavy loads must have increased the frequency of miscarriage and still-births.

Soon after birth, if that was survived successfully, the infant would be subjected to new dangers seriously threatening his existence. Gastro-intestinal infections were among the most common illnesses in aboriginal times (Masson, 1889-90, vol. 2, pp. 105,118). Brought about by unsanitary personal hygiene and eating habits, even mild attacks would have been particularly dangerous to infants; dehydrated babies and small children soon shrivelled up and died. Respiratory ailments, too, would have taken their heavy toll of the infants. During times when food supplies were short, the infant would be threatened by a decrease in the mother's supply of milk. Since women were always the last to eat at such times (Richardson, 1852, p. 250) this was no unreal danger to the suckling child, and the dangers would have continued until the late stages of weaning. Even for a child of three the change from mother's milk to meat and fish must have been a difficult and dangerous step; precipitating

such an action even earlier must have had disastrous effects. With all these hazards to encounter, the infant survival rate must indeed have been low.

Epidemics had already swept through most of the country before the arrival of the first recorders; nevertheless, some of the early statistics and descriptions can still be of use and are indicative of aboriginal conditions. Epidemic diseases, when they first reach an area of people having no immunity to the disease, commonly strike down a whole family or else miss it entirely (Aschmann, 1959, p. 135). Had large families been common before the arrival of the early traders and explorers, some of them at least would have remained intact. Such large families are not reflected in the early accounts except for Franklin's (1823, pp. 306-7) single reference to one of Akaitcho's brothers, who "is remarkable among the Indians for the number of his descendents; he has eighteen children living, by two wives, of whom sixteen are at the fort at this time". According to the total figures given for Akaitcho's encampment, the remaining thirty or so couples had an average of less than two children each. Franklin (1823, p. 60) also said that the Copper women were "not prolific, having upon an average of not more than four children of whom two may attain the age of puberty". Mackenzie (1801, p. 33) referred to several families situated along the banks of the Mackenzie River; a camp near the exit of Bear River with five families of Dogribs and Slaves, totalled 25 to 30 persons (p. 33), a group of Hares from further east comprised "three or more families of twenty-four persons" (p. 42), two other Hare families totalled seven persons (p. 43), and at another location, "three men, three women and two children camped together" (p.45).

Although these figures would appear to indicate that large families were not common in aboriginal times, by themselves they are inconclusive. Other factors need to be considered, such as the relationship between the customary early marriages and the initiation of pregnancies (Richardson, 1852, p. 256), as well as factors liable to influence the frequency of conception during marriage, and those likely to terminate it.

Hearne (1795, p. 314) cited the only numerical reference to a girl's age at menarche, stating that "some of those periods are not more than thirteen, while others at the age of fifteen or sixteen have been reckoned as children", the appearance of the first menstruation being regarded as the initiation of womanhood. Petersen (1969, p. 175) stated however that

Menarche is only one step, the most clearly marked one, in a long process, and the regular development of healthy ova usually begins later. For several years, during a period of adolescent subfecundity, the female is able to produce a child, but the probability that she will do so with a given amount of exposure is less than at maturity. Apparently the earlier the menarche, the longer the adolescent subfecundity lasts, so that regardless of the age at menarche, full sexual maturity of females is reached roughly between the ages of 16.5 and 18.25 years.

A further deterrent to childbirth during adolescence might have been the somewhat promiscuous practice of frequent wife-stealing among the Satudene (Richardson, 1852, p. 296). Lorimer (1954, p. 23) while acknowledging that there is little reliable evidence on the subject stated that "tolerance of promiscuity, especially prior to puberty, may lower final fecundity, even in isolated societies not exposed to venereal diseases".

It appears, therefore, that the early ages at which females were

customarily married, would not have led to an increase in the frequency of pregnancies, since, according to Petersen and others, it would not have extended the initial period of conception probabilities; indeed, such marriage customs might even have decreased the fertility rate, a conclusion borne out by Hearne (1795, p. 312):

The women among the Northern Indians are in general more backward than the Southern Indian women, and though it is well known that neither tribe lose any time, those early connections are seldom productive of children for some years.

Hearne (1795, p. 312) and Franklin (1823, p. 60) mentioned that the suckling period lasted at least two to three years, which is common for the nursing period in similarly primitive societies. The infant gradually learnt to eat more and more solid food, at first pre-chewed by the mother. Even so, it must have been a difficult transition for the child of three. Any action which necessitated the infant being weaned more abruptly could have been followed by sickness or even the death of the child (Lorimer, 1954, p. 87). Not only would a period of famine have brought this about; another pregnancy during this period would also have provoked a crisis, or rather, two crises, "one when lactation was interrupted in the last few months before parturition, and another when the second child had to share the available milk" (Aschmann, 1959, p. 133). In favourable years the child might survive these crises, but "in ordinary seasons of scarcity, and especially in ... famine years, a second pregnancy at a shorter interval could well mean death to one or both children".

An additional deterrent to bearing children at short intervals was the impediment to travel. The wife, as already noted, was responsible for packing or dragging the family's personal possessions during the

migrational periods. If she was already hampered by carrying a child on her back, caring for more than the one pre-walking infant would have been almost impossible, and would certainly have added to the family hardships by retarding their movement.

What mechanics operated to reduce the frequency of conception or to maintain the spacing of the surviving children in the family? The physiological implications of an extended lactation period may be considered as one possibility.

After a woman has given birth, if she does not breast-feed the child, the menstrual cycle normally begins again in about two months and the ovulation cycle two months later still. The recurrence of regular ovulation, and thus the probability of another pregnancy, are usually impeded so long as the mammary glands remain active (Petersen, 1969, pp. 177-8).

Although lactation only incompletely and/or sporadically suppresses ovulation (Birdsell, 1968, p. 243) it can be ascertained that protracted nursing among the Satudene (Franklin, 1823, p. 60) reduced fecundity to a certain extent. Similarly, the frequent miscarriages or still-births would have constituted "a longer interruption in the reproduction potential than the period of pregnancy itself" (Petersen, 1969, p. 178). However, other factors must have been in operation to maintain a low reproductive rate.

Polygamy, or more specifically, polygyny, as already noted, was certainly practiced among the Satudene, though the proportion of cases might have been small (Masson, 1889-90, vol. 2, p. 107). Studies to date have shown conflicting associations between polygyny and fertility. Lorimer (1954, p. 98) stated that

... on a priori grounds it would seem probable, in view of what we now know about the ovulation cycle and the chances of conception, that even a moderate dispersion of the husband's sexual acts would be likely to cause some reduction of the fertility of married women.

The example previously cited of Akaitcho's brother having eighteen children from two wives (Franklin, 1823, pp. 306-7) or an average of nine per wife, would appear to dispute Lorimer's conclusions. However, this is not the case with the remainder of the statistical evidence referring to the Northern Indians in general. According to Hearne (Glover, 1958, p. 45) Matonabee had seven children from five wives, and Mackenzie (1801, p. 95) mentioned a Mountain Indian located on the banks of the Mackenzie River as having two wives and two children. Whilst at Great Bear Lake in 1812 Keith (Masson, 1889-90, vol. 2, p. 107) referring to the Copper Indians visiting him, said that "polygamy is permitted amongst them and is intended as a means of satiating their passions, and to serve convenience more than to propagate the species. They have seldom more than six children of both sexes ...", that is, an average of three per wife. He (p. 112) also referred to the offspring resulting from polygamous Dogrib and Slave marriages, "which I am induced to think amounts in most cases from four to eight children of both sexes". Although polygyny was only practiced among the better hunters, it would certainly appear to have caused a reduction on the average in the fertility of each wife compared with results from the monogamous union.

It has been suggested (Lorimer, 1954, p. 22) that there might well be a relationship between environmental conditions, such as nutrition, climate, and mode of living, and the capacity for procreation. Such a relationship has been hinted at by Hearne (1795, p. 89) who stated that

in this harsh environment "the softer endearments of a conjugal life are only considered as a secondary object". Franklin (1823, p. 60) was even more explicit about the Copper Indians, who were "exposed constantly to fatigue and often to famine, hence they are not prolific".

Besides these physiological and environmental restrictions to fertility, societies where people were forced by limited resources to move in small bands in search of sustenance, as was the case around Great Bear Lake, usually approved of a variety of cultural methods for restricting fertility. Or, according to Lorimer (1954, p. 199)

... perhaps more commonly, their cultures in the absence of strong motives for high fertility may be indifferent, ambivalent, or permissive with respect to anti-natal practices.

The aboriginal Satudene, in view of the general absence of herbs used for medicinal purposes (Masson, 1889-90, vol. 2, p. 102) probably did not use them as contraceptives either. Similarly, the use of "coitus interruptus" is not mentioned in the early literature; however, its omission need not necessarily mean that it was unknown or that it was not practiced, since it has been considered "the most popular, widely diffused method of contraception ... probably nearly as old as the group life of man" (Petersen, 1969, p. 186).

The last potential means for keeping the children in the family well spaced involved direct action on the part of the mother. Both abortion and infanticide are considered to be among the oldest and commonest methods of controlling the family size. "Motivation for fertility in all societies is toward children, not toward live births as statistical data. A baby at the breast is worth more than one lying in the womb and

one lying neglected on the ground" (Lorimer, 1954, p. 87). The dangers facing a baby who had to be weaned too abruptly and the difficulties resulting from having two pre-walking youngsters, would have been common knowledge to the Satudene women. It would, therefore, have seemed natural for the mother, in order to protect the life of the older child or children to destroy the life of the unwanted conception either through abortion or infanticide, especially during times of famine.

There are no direct references to abortion practices in the early literature, although it seems highly unlikely that the Satudene would not be familiar with some means of inducing premature births, whether by means of a mechanical or medicinal agent.⁸ There are, however, many references to the practices of infanticide (Masson, 1889-90; Franklin, 1823, Franklin, 1828; Simpson, 1843; Hooper, 1853). The extent of this practice under aboriginal conditions is particularly difficult to estimate from the early literature, since the expansion of this practice has often been, and almost certainly was among the Satudene, a symptom of social disintegration experienced by a primitive group thrown into contact with a more advanced one (Aschmann, 1959, p. 141). Similarly, there must have been instances when the mother, already possessing one or two children, while not deliberately taking the life of the new baby, might not care very much whether another survived at that time. Female infants were the

⁸ Absence of abortion methods in the literature, as well as the absence of contraceptive methods, could have been due to partial ignorance on the part of the male writers, subjects considered too immodest to print - several of Wentzel's observations in his letters to R. McKenzie were considered unfit for printing - or, more likely, since such practices were obviously not easily observed, reluctance on the part of the natives to disclose the methods used.

most likely to be destroyed (Masson, 1889-90, vol. 2, p. 119).

Indications from the literature suggest that few women would have lived to reach the age of natural menopause. Hearne (1795, p. 89) commented of the Chipewyan women that "the care of a family, added to their constant hard labour, soon make even the most beautiful among them look old and wrinkled, even before they are thirty". Childbirth, too, under such difficult and unhygienic conditions would have endangered the mother's life, as would miscarriages and abortions; each would have taken its toll and shortened the child-bearing potential.

It seems reasonable to state, despite the paucity of information available, that a normal, but not invariable monogamous family pattern among the Satudene, would have been in the region of four or less surviving children spaced at least two to three years apart. Polygamous marriages would have resulted in a slightly higher number of children per family unit.

Death Rates and Population Fluctuations

In a stable⁹ population the death rate matches the birth rate, even though the balance may be achieved only over a period of years or even decades. According to conclusions derived from people elsewhere living in similar conditions, an average life expectancy at birth of about twenty-five years could have applied to the aboriginal Satudene (Petersen, 1969, p. 350). But this would have been the age at which deaths were least likely to occur, notwithstanding hunting accidents for men and

⁹ A stable population is one "in which the proportion in each age group remains constant" (Petersen, 1969, p. 83).

childbirth hazards for women. Most of the deaths would have occurred in two concentrations, either earlier or later, the concentration among infants and small children being most marked.

Epidemic or contagious diseases probably were not present prior to European contact, but there is evidence to suggest that there were other illnesses. Morbidity appears to have been the result of the cold or unclean living and eating conditions, since gastro-intestinal and respiratory infections were commonest. Keith (Masson, 1889-90, vol. 2, p. 105, 118) at Great Bear Lake was quite emphatic that "the diseases to which the Natives are subject originate principally, if not entirely, from the dirty and loathsome manner in which they cook and prepare their food, particularly fish". As a result, colic, dysentery (flux) and diarrhoea are frequently mentioned (Franklin, 1823; Franklin, 1828; Mackenzie, 1801; Hearne, 1795). Pulmonary diseases such as consumption (tuberculosis), bronchitis, and possibly pneumonia are mentioned less frequently. Smoke from the fires lit in the tipi interiors, causing the mucous membranes of those constantly exposed to become inflamed, would also have aggravated such conditions. While these ailments would have weakened the adults, they would have been particularly deadly to infants. Skin ailments such as sores, scabs, and ulcers were apparently common, probably the result of vitamin C deficiency in the diet, as well, according to Mackenzie (1801, p. 35), as "their habitually roasting [their legs] before the fire".

Feuds were probably very limited in the Great Bear Lake area prior to the increase of trade goods, and probably amounted to disputes between family units of different tribes. Most of the early writers have

commented on the timidity of the Satudene, who lived in continual dread of enemies surrounding them, both real and imaginary, and who usually fled at their approach or suspected approach (Richardson, 1852, pp. 131, 209, 251). Their timidity occasionally impelled them to treachery which seemed to be the only way of repelling aggression by other more forceful tribes or bands (Richardson, 1852, p. 251). Evidence clearly indicates that during the period of early contact, of the four Great Bear Lake tribes, the Copper Indians were by far the most aggressive and were feared by all the surrounding Indians. This was probably due to their earlier contact with the fur trade. They were, according to Keith (Masson, 1889-90, vol. 2, pp. 110-12) cruel and domineering over the other tribes frequenting Bear Lake Castle,¹⁰ raiding them and carrying off their women and anything else they could acquire.

The blood-feud, perhaps accidentally started, was also sometimes a reason for fighting. Formerly, according to Osgood (1931, p. 72) a bond of brotherhood was established between individual hunters on Great Bear Lake and those of other tribes. It was called si-kli and was fundamentally a guarantee of personal protection from other tribes, since a murder by them would be avenged by the dead man's blood brother in the offending tribe. The belief that someone of another group was maliciously using 'medicine' against them was frequently responsible for initiating such conflicts (Osgood, 1931, p. 63). Wars or feuds might, therefore, have been responsible for a certain percentage of adult deaths, and indirectly, infant deaths, but prior to the introduction of European

¹⁰ Later renamed Fort Franklin.

weapons to the surrounding tribes, the incidence in this area was probably very slight.

Accidents during the hunt would almost certainly have accounted for a greater number of deaths (Dunn, 1968, p. 224). Hunting must have been a precarious occupation, taking its share of the men and older boys; deaths by drowning are frequently mentioned in the early literature (Simpson, 1843, p. 193; Franklin, 1823, p. 471) and accidents with the bow and arrow and spear, in the heat of the chase, must also have occurred: Petitot (1893, p. 160) mentioned the loss of an eye among those hunting in the woods, as a common occurrence. Children were often burnt from falling into fires, "and from their tender age had been unable to extricate themselves" (Hooper, 1853, p. 318).

While hunter-gatherers with a variety of dietary resources are seldom exposed to relative dietary deficiencies leading to malnutrition, gross deficits resulting in starvation were probably an important cause of death among the Satudene (Dunn, 1968, p. 223). Although there is little doubt that periods of hunger increased later with the introduction of European epidemics and the disruption of the ecological balance, famine periods - years when the caribou failed to arrive at the expected crossing point or came in too few numbers, seasons when the hare cycles were at their ebb, very cold winters when lakes which could usually be relied upon to produce fish, were completely frozen - must also have occurred periodically during aboriginal times. Those suffering most would have been the very young and the very old, the death rate of the children under three being quite responsive to environmental changes as they affected the food supply, since a sharp curtailment of the mother's

food supply would seriously weaken if not starve a nursing child. Adult mortality due to hunger would only occur in extremely bad seasons, and would then most likely affect only the oldest and demographically least significant adults. A single bad season might have doubled the number of infant deaths, but these losses could have been redeemed almost immediately by a corresponding rise in the birth rate, since mothers who had lost a child would have no deterrent to another pregnancy. Several recurrent unfavourable years in which most nursing children died, however, would produce a gap in the age structure of the population that could not be overcome for a long time, since the number of potential mothers for the next generation would also be reduced. These would also have been the years when infanticide, particularly female infanticide, would most likely have been practiced, aggravating the shortage of possible parents, especially mothers, in future years. In these instances, more than a generation would be required to return that population up to its earlier level. Conversely, a series of years in which most infants lived to reach an age at which they could care for themselves would result in an established gain. Presumably such cyclical fluctuations in the population of the Great Bear Lake region, involving reductions and increments did occur, but only over long intervals.

Many of the early writers severely criticised the Satudene for their practice of abandoning the old and the very young orphans. Most of these same authors also cited many examples of affection and care being shown to the aged and sick (Masson, 1889-90, vol. 2, p. 113; Richardson, 1852, p. 253), as illustrated by Richardson (1852, p. 286) who

... saw on several occasions children attending their sick and aged parents with tenderness and solicitude. Instances of desertion which undoubtedly have occurred, are to be ascribed to the pressure of famine, which has urged the able-bodied to hurry on in quest of relief, disregarding those who were unable to keep up with the line of the march.

Examples from the literature revealed that the children abandoned were invariably orphans, who, having lost their parents, had to depend on other families for support. These foster parents, in times of dire distress, were more likely to abandon the orphans before parting with their own children. Presumably other "social mortality" (Dunn, 1968, p. 225) practices, such as cannibalism and murder, were also practiced among the aboriginal Satudene prior to European contact (Hearne, 1795, p. 108; Franklin, 1828, p. 291).

Morbidity, feuds, social mortality, starvation, and, in particular, accidents, would have resulted in a fairly high death rate, highest among the infants, lowest among the younger adults. As the numbers fluctuated checks to redress the balance were possible within the society, so that at times when food resources were lacking a variety of anti-natal measures were possible, and conversely, when food supplies were abundant the losses could be made up, although several years or even decades might pass before approximate equilibrium was restored. Territorial adjustment was another means of redressing the balance, since the gains and losses would most likely affect individual groups or small areas rather than the entire population of the whole region. When one area became severely depleted, it was probably customary for the remainder of the group to join with another more prosperous group, until such time when that group grew too large for the resource base. Then family groups would begin to drift

away and form smaller hunting groups of their own. In this way, continuous, though probably lagging, territorial adjustments could be expected to parallel the social ones (Aschmann, 1959, p. 144).

Conclusion

A consideration of practices and conditions tending to reduce fecundity, fertility, and survival clearly indicates that the birth rate, although high enough to allow for a continuation of the species, could nevertheless not have been very high compared to the present birth rate. Several practices militated against frequent conception: the extended lactation period, polygyny, low mortality-ages of prospective mothers, and the possible use of contraceptives (Fig. 11). The relation between decreased fecundity and both early marriages and nutrition and environmental conditions are less conclusive. Conditions resulting in stillbirths, miscarriages, and abortions meant a large number of prenatal

Fig. 11 Summary of practices and conditions tending to reduce fecundity, fertility and survival among the aboriginal Satudene.

Fecundity (Biological Potential)	Fertility (Actual Performance)	Survival
early marriages ?		infanticide
extended lactation period	still-births	abandonment
		diseases
polygamy	miscarriages	famine
	abortion	-----
nutrition and environment ?		accidents
contraceptives		feuds
mother's early death		childbirth

deaths. If infanticide is to be included in this group, then the survival rate for babies must be considered as low-moderate. If to this is added abandonment, and the effects of diseases and famine on the younger children, then the survival rate for infants (under three) must have been very low.

As a result the natural rate of growth of the Satudene in aboriginal times was probably low. Population fluctuations would have been slight except when relatively long periods of food shortages or abundance occurred. Then the natural increase would presumably be above or below the long term rate in accordance with the ecological conditions in the Great Bear Lake area. Regional population adjustments also resulted from population shifts, re-grouping of bands, and the occupation of lands abandoned under hard times. Indians in the Great Bear Lake region may have reached the estimated maximum size of between 500 and 700 during the late eighteenth century due to the influx of other Indians. Within this region few or several family groups of the Hare, Dogrib, Copper and Slave bands migrated seasonally, probably maintaining a discrete distance from each other for much of the time. But such a pattern was to change as the fur economy of the Europeans and the associated cultural pressures advanced towards the Satudene.

CHAPTER IV

THE SPREAD OF EUROPEAN INFLUENCE TO GREAT BEAR LAKE: A BRIEF HISTORY¹

A North West Company outpost erected at Great Bear Lake in 1799 marked the arrival of the first known Europeans among the Satudene (Innis, 1967, p. 201) (Fig. 12). The several decades preceding the construction of this post had witnessed a gradual encroachment of traders from the east and south towards the northwest in their search for more and more furs, particularly beaver. The effects of this activity must have been felt at Great Bear Lake through the trading intermediaries, some time prior to 1799. The next fifty years saw the expansion of trading and exploring activities into this region. A new way of life was introduced to the Satudene as the white strangers periodically made Great Bear Lake their home and the centre of their temporary and sporadic activities. Then as their interests in this immediate area waned and they moved elsewhere, they were replaced for the next half-century beginning in the 1860's by a sequence of missionaries, intent on Christianizing the "pagan savages". European influence prior to 1900 thus came to Great Bear Lake in three stages: indirectly from the east and south prior to 1799, through the traders and explorers centred at Great Bear Lake, 1799-1851, followed by the missionaries.

Indirect European Contact

From the East

Trade from Hudson Bay to the interior developed rapidly after 1713.

¹ See Appendix B for Table of Chronological order.

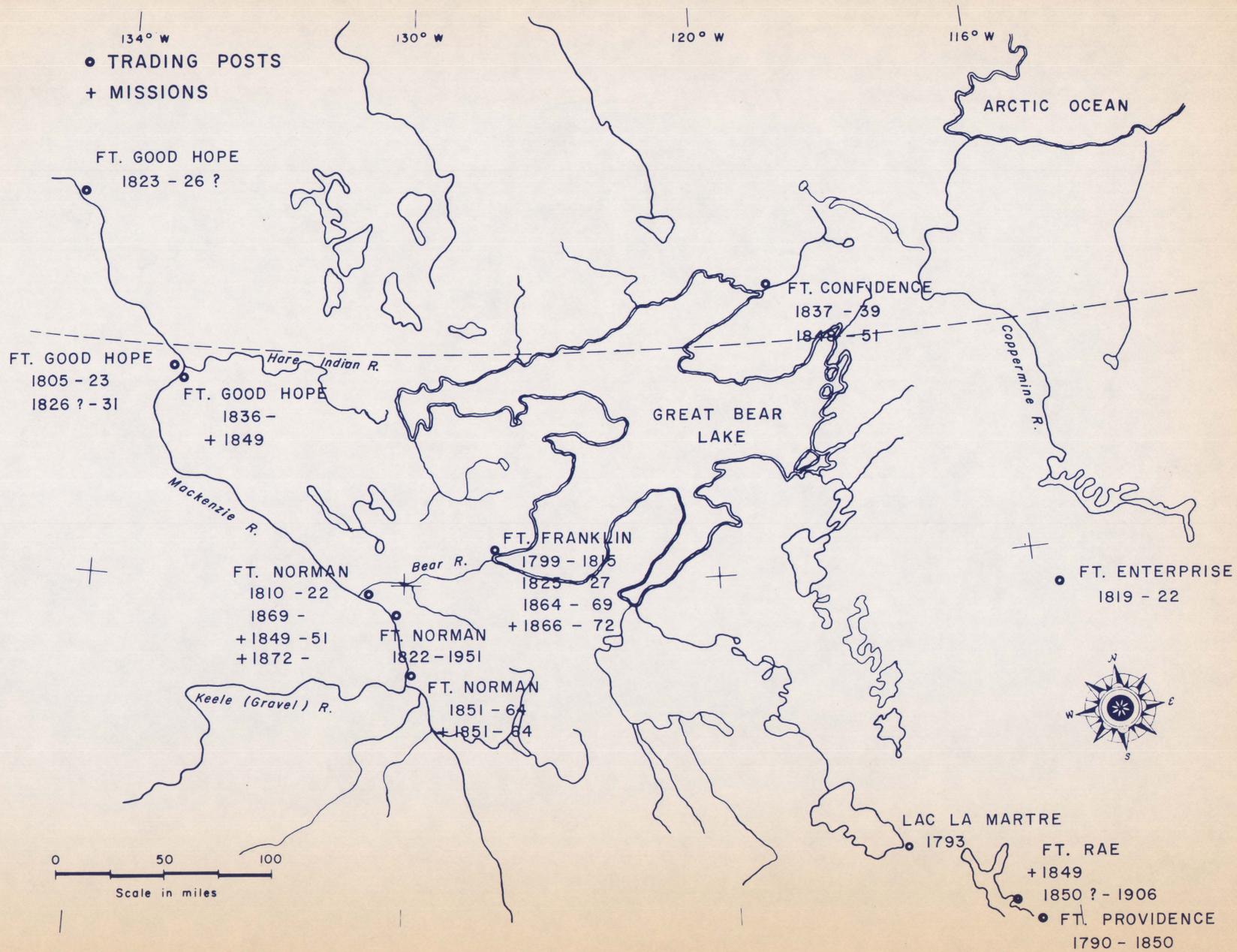


Figure 12 FUR TRADING POSTS AND MISSIONS 1790 - 1900

With the opening of trading posts such as York Factory and Fort Prince of Wales, the Chipewyan Indians were encouraged to develop trade as middlemen with the Dogrib, Copper, and other Athapascan Indians to the west (Innis, 1967, pp. 149-50). With their acquisition of firearms, trading was dominated by the Chipewyan intermediaries who exchanged goods obtained at the posts for the furs obtained from Indians inhabiting the edge of the barrens at "ten times the price" (Hearne, 1795, p. 176).

In December 1770 Samuel Hearne, an employee of the Hudson's Bay Company, set out from Fort Prince of Wales in the company of several Chipewyans including their famous chief, Matonabee, hoping to discover the source of the copper which had often been brought to the post from the interior. Hearne not only reached the Coppermine River, less than a hundred miles from Great Bear Lake, his sketch map of his travels also provided the first record of Great Slave Lake (Robinson, June 1946, pp. 246-7). Hearne's (1795, pp. 78,267) journal recorded that some European goods had penetrated at least as far west as Dogrib and Copper territory by the middle of the eighteenth century.

From the South

Less than ten years after Hearne's travels fur traders of the North West Company in Montreal penetrated the Mackenzie District from the south with the intention of cutting off the Hudson's Bay Company's supply of furs at its source (Robinson, June 1946, p. 247). Peter Pond's house, erected in the winter of 1778-9 on the banks of the Elk River, "was the only one in this part of the world till the year 1785" (Mackenzie, 1801, p. xxxvii). In 1786 Cuthbert Grant, under Pond's direction, established

a trading post on Great Slave Lake - Fort Resolution - a short distance from the mouth of Slave River. In the same year, Laurent Leroux of the competing Gregory, McLeod & Co. was also sent to build a house in the same location (Innis, 1930, p. 108). Bloody competition between the two companies that winter led to their amalgamation in 1787, with Alexander Mackenzie placed in charge of the Athabasca District for the reorganised North West Company. Mackenzie's voyage took him past the mouth of Bear River, but ninety miles from Great Bear Lake, where he met a few Indians camped along the river banks. Mackenzie's expedition successfully mapped out the northern fur fields and provided for a rapid expansion of trade (Innis, 1967, p. 201).

The Cree or Knisteneaux, as Mackenzie called them, were as important as middlemen in this region as were the Chipewyans in the interior. With European guns they drove the Slaves down the Slave River into the region north of Great Slave Lake around 1775-77 (Innis, 1967, p. 203). During the last decade of the century three more posts were established further north. The first post on the Mackenzie River proper was built by Duncan Livingston in 1796, eighty miles below Slave Lake, a short distance from the mouth of Trout Lake River (Wentzel, 1889-90, p. 98). Livingston traded successfully for three years then travelled down the Mackenzie River. In 1799, he established a post at Great Bear Lake, four miles from the entrance of Bear River (Stager, 1962, p. 237a). By 1800, only two depots, widely separated, served the Mackenzie River Indians: Rocky Mountain Fort, replacing Trout Lake River post, built by John Thompson in 1800 opposite the mouth of the North Nahanni River, and Livingston's post at Great Bear Lake (Wentzel, 1889-90; Voorhis, 1930, p. 150).

The traders had at last arrived at Great Bear Lake. Three times in the past they had been within a hundred miles or less of the lake, on the fringes of the Satudene hunting regions: Hearne at the Coppermine River in 1771, Leroux at Lac la Martre in 1789, and Mackenzie past the mouth of the Bear River in the same year. As a result of these peripheral trading activities, the aboriginal Satudene culture had undergone several changes prior to the arrival of Livingston at Great Bear Lake.

Traders and Explorers: 1799-1851

During the next fifty years or so following the establishment of the North West Company trading post at Keith Arm, Great Bear Lake region received increased recognition and importance, not so much for its trading potential but rather as a base for many expeditions which were to traverse the northern continent during this period of exploration (Fig. 13).

For a while, however, the region remained the prerogative of the traders. Alexander McKenzie of the North West Company, seeking to increase the trade opportunities discovered fifteen years earlier by his uncle, Alexander Mackenzie, arrived at Bear Lake Castle, as the trading post was then called, in October 1804. He proceeded at once to re-build the old house "as present one is not fit to pass the winter" (McKenzie, 1805, p. 4). He also dispatched a party of men to "Bear Island" (Leith Peninsula) at the southeast end of the lake so that the resources might be more evenly distributed (1805, p. 4). There were already a few Indians located at the site but soon other Indians around the lake, encouraged by McKenzie, began bringing their furs and meat to the fort

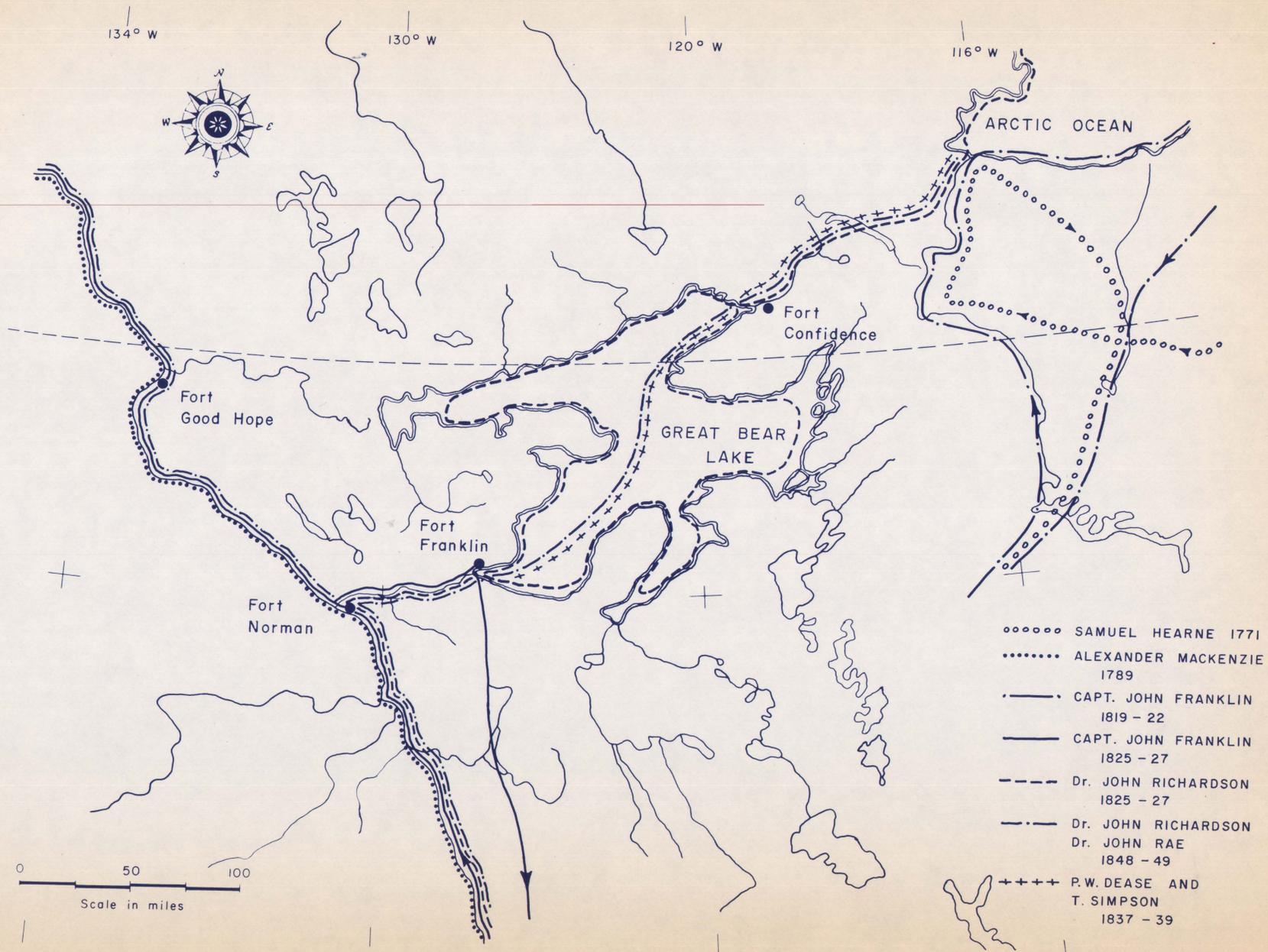


Figure 13 EXPLORATION OF GREAT BEAR LAKE REGION 1771 - 1850

(1805, pp. 4-20). Trading, however, was not peaceful; a splinter group called the XY Company, established in 1798, competed for trade in this area. McKenzie (1805, p. 13) made only one reference to their presence: "Two Indians ... arrived ... his wants was great but got nothing but abuse for having entered the Opposition Fort". Morton (1939, p. 518), commenting on the violence between both companies said that in "the winter of 1804-5 McDonnell shot the master of the North West Company's post on Great Bear Lake during a quarrel over Indians". Keith (Masson, 1889-90, vol. 2, p. 123) added "but, in consequence of a coalition of interests having taken place, [the violence] only lasted one winter".

McKenzie survived the shooting and left Great Bear Lake with Charles Grant in June 1805 determined to extend trade relations with the "Quarelleurs" (Loucheux Indians) of the lower Mackenzie River area. After establishing contact with these Indians at Trading River, McKenzie returned up the Mackenzie River. Grant was left to build a fort near Blue Fish Creek (McKenzie, 1805, p. 28)² about sixty miles below the mouth of Bear Lake River (Keith, 1889-90, fn. p. 105). Meanwhile Alexander Henry was left in charge of Great Bear Lake Castle for a short period. Next to arrive at the post was George Keith in October 1811,

² According to Voorhis (1930, p. 75), Innis (1967, p. 202), Wentzel (1822, plate xvii), and Stager (1962 May, p. 4), a fort had already been established in 1804 on the left bank of the Mackenzie River at Blue Fish Creek, just below the Ramparts (closer to Hare Indian River). From McKenzie's description it would appear that his "Blue Fish Creek" was, in fact, "Carcajou River" located above the Ramparts. McKenzie, however, makes no reference to the presence of any other post or traders in this area, although he must have passed the alleged 1804 fort on his travels.

to be replaced in the winter of 1814 by Ferdinand Wentzel.³ By 1815 the Athabasca region, which hitherto had been regarded as the special preserve of the North West Company, was invaded by the Hudson's Bay Company with the erection of Fort Wedderburne on Coal Island, Lake Athabasca (Voorhis, 1930, p. 176). With the decline of the North West Company many smaller posts were closed, among them Bear Lake Castle (Masson, 1889-90, vol. 1, p. 114).

After the absorption of the North West Company into the more powerful Hudson's Bay Company in 1821, the Blue Fish River post, Ft. Good Hope, was in 1823 moved downstream to the mouth of Trading River at the request of the Loucheux people (Stager, 1962, May, p. 6). Since neither this trade nor trade with the Eskimos materialised, around 1826-7 the post was moved "about 100 miles further upstream to the south to Manitou Island near the Ramparts The fort on Manitou Island being destroyed by ice in 1836, the Hudson's Bay Co. rebuilt (1836-39) on the mainland, the present location on right bank" (Voorhis, 1930, p. 75) at the mouth of Hare Indian River. Another post, Fort Norman, was also erected probably in 1804, by the North West Company, on the right bank of the Mackenzie River, opposite Redstone River (Wentzel, 1822, plate xvii; Stager, 1962, May, p. 4).⁴ In 1823 it was moved downstream and located on the west

³ Both Keith and Wentzel were requested by Roderick Mackenzie, in charge of the North West Company, to send him detailed accounts of the country and the customs of the native people, as he intended writing a book. Although Mackenzie never wrote the book, the published letters provided an invaluable source of information about the Satudene and other Indians for this early nineteenth century period.

⁴ Robinson (1946, p. 46) gives the date for Fort Norman as "before 1810".

side of the river about thirty miles above the mouth of Bear River (Stager, 1962 May, p. 6).

With the closure of Bear Lake Castle, these two Mackenzie River forts, and later, Fort Rae after its establishment in 1852, although located outside the limits of Satudene country, nevertheless played an important role in the trading history of this region during the nineteenth century. But now it was the turn of the explorers to invade Great Bear Lake.

During his 1819-22 expedition to the Arctic, Capt. John Franklin established Fort Reliance on the Yellowknife River approximately half way between Great Slave and Great Bear Lakes. Accompanied by Akaitcho's band of Copper Indians, he proceeded to the Arctic Coast down the Coppermine River where, at one point, he was but "a distance of three days travel" from Great Bear Lake (Franklin, 1823, pp. 335-6). As a result of this almost disastrous expedition (1823, pp. 360-493) Franklin decided that his second expedition to the Arctic Ocean must be assured of more dependable food resources. Accompanied again by Dr. John Richardson, Great Bear Lake was chosen as the wintering quarters of the party. Franklin's (1928, p. xii-xiii) selection of this locality was "influenced by the information I had of its being the place nearest to the mouth of the Mackenzie, known to the traders, where a sufficient supply of fish could be procured for the support of a large party". Dease, a Hudson's Bay Company factor, was sent ahead in July of 1825 to erect the necessary buildings. After a rapid return voyage to the Arctic Ocean, Franklin arrived at Great Bear Lake in September 1825. Richardson had arrived a few days earlier.

The new sturdy fort which was to be the home of some fifty persons for the next two winters, was situated on a low sandy bank, at the site of the former North West Company post (Fig. 14). Franklin had intended naming it Ft. Reliance, but his men had already named it Ft. Franklin (Franklin, 1828, p. 55). Since the party was too large to be supported entirely at the one locality, two houses were constructed at four and seven miles distant from the Fort, to which fishing parties were sent. Another more important fishery, referred to as Richardson's Fishery, was also established at McVicar's Arm. Parties of Dogribs and Slaves occasionally visited the Fort bringing a quantity of furs for the Hudson's Bay Company and dried meat for the expedition; however, distrust for the Europeans seemed high, since the Satudene were convinced that "the white people intended to destroy the Indians" (Franklin, 1828, p. 61). When the days grew shorter and the Indians were no longer able to hunt, many came to Bear River, where there was open water all year round, to spear fish, as was their custom.

The short summer months were spent exploring the Arctic Coast. Franklin returned from the west up the Mackenzie River, whilst Richardson returned from the east via the Coppermine River and north shore of Great Bear Lake. After spending another winter at Fort Franklin, they departed February, 1827, and for another ten years the Satudene were left to their own designs.

In order to ensure the renewal of their trading rights in Northern Canada from the British Government, the Hudson's Bay Company encouraged a considerable amount of exploration in northern areas (Innis, 1967, p. 286 f.n.). To this purpose Governor George Simpson in 1836 instructed

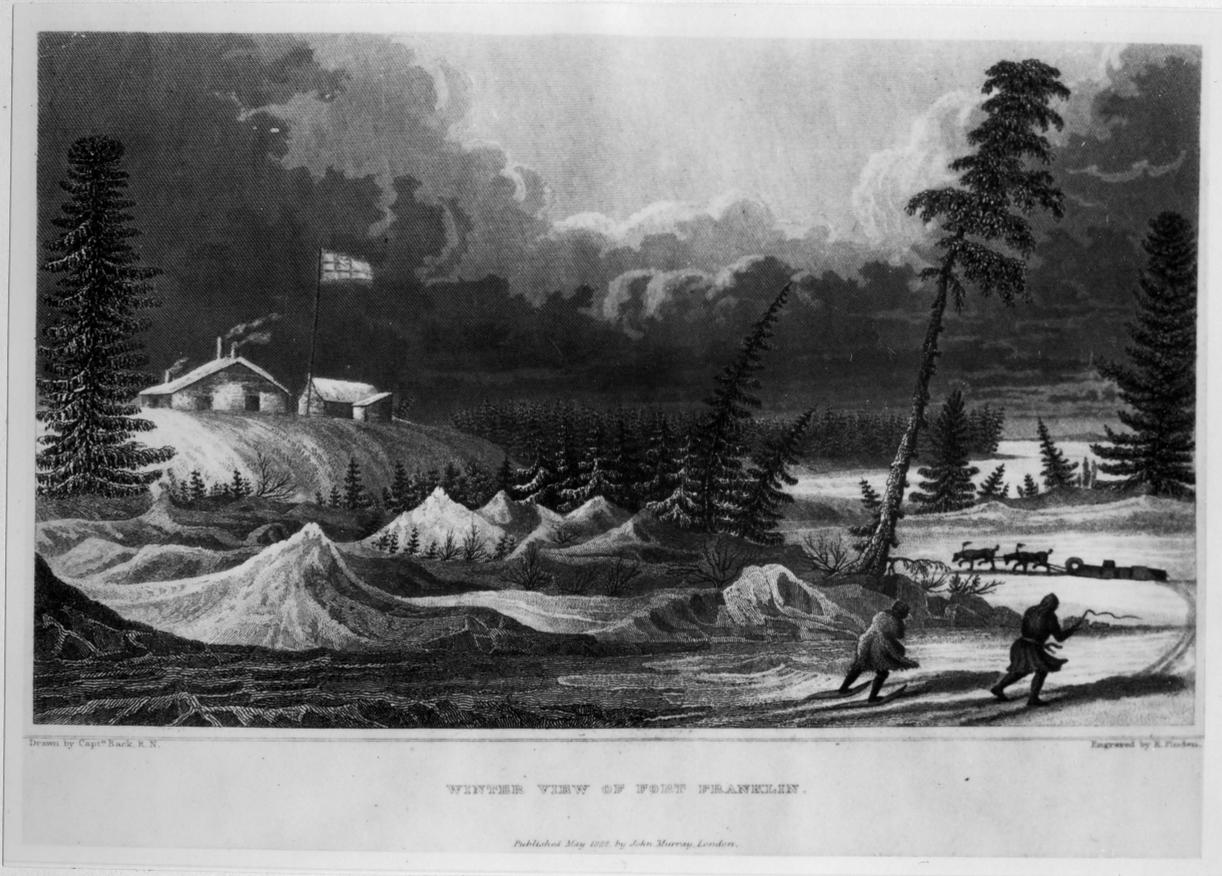


Figure 14: Fort Franklin, 1825-27 (after Franklin, 1828)

Thomas Simpson and Peter Dease, officers of the Company, "to complete the discovery and survey of the Northern shores of this Continent" (Simpson, 1843, p. 3). Dease and Simpson returned from the Arctic coast in September 1837 to winter at Fort Confidence at the northeast arm of Great Bear Lake, a post already erected by Ritch who had been sent on ahead (Simpson, 1843, p. 194). During their two year stay at this location they were frequently visited by both Dogrib and Hare Indians. Simpson (1843, p. 318) added that the Dogrib and Hares who had "long groaned under cruel injuries from the "Copper Indians, in 1823 "fell upon their persecutors by surprise and cut off a considerable party The terror of this act of retribution is undoubtedly the cause why we were visited by no Copper Indians during our long residence at Fort Confidence".

After their departure in September 1839, Great Bear Lake again saw no more white men until John Bell arrived in the summer of 1848 to construct suitable winter quarters on the site of the former Fort Confidence which had been burnt down by the Indians (Richardson, 1852, p. 278). In September he was joined by Richardson and John Rae, who had been searching along the Arctic Coast for the long overdue members of Franklin's third expedition. Since resources were insufficient for all his men, Richardson (1852, p. 200) dispatched two men to old Fort Franklin to maintain the fishery. Again, as with previous expeditions, they were frequently visited during the winter by many of the Satudene. Departing for England in the spring of 1849, Richardson left Rae to complete their explorations, but he too abandoned Fort Confidence in September 1849 (Rich, 1953, p. xlix).

Shortly afterwards, Lt. W.M. Hooper, a member of the H.M.S. "Plover"

expedition in search of Franklin, returning via the Mackenzie River, decided to spend the winter of 1849-50 at Fort Franklin, where there would be ample sustenance for him and his men (Hooper, 1853, pp. 269, 283). A small hut belonging to an Indian family was "cleansed and put to right" since Fort Franklin was by now "but a shapeless mass of rubbish, and a few stones still remaining of some of the chimneys" (1853, p. 304). He stayed until April of 1850. Shortly after, Rae was ordered to resume the search for Franklin and in October returned to winter at Fort Confidence in preparation for the 1851 expedition. At Fort Confidence Rae found the houses still in good condition and they were soon made habitable. A fishery was also established at Fort Franklin (Rich, 1953, p. lxiv, 84). After a brief attempt at reaching Victoria Island during the summer Rae departed from Fort Confidence in October 1851. Rae's departure, but for one brief interruption (1864-9) signified the end of both traders and explorers at Great Bear Lake until the end of the century. In their stead came a number of missionaries, among them Fr. Emile Petitot.

Missionaries: 1859 - c.1900

Catholic and Protestant missionaries alike were active in the Great Slave Lake region in the late 1850's, and news of the churches' teachings was carried further north by the nomadic Indians and Company coureurs de bois. Both Fr. Grollier and Reverend Kirkby arrived at Fort Rae in 1859. The fort had been moved around 1850 from the Yellowknife River, where it had been named Fort Providence, "to a point of land near the northern terminal of the North Arm" of Great Slave Lake (Voorhis, 1930, p. 143),

and a Hudson's Bay Company post had been established there in 1852 (Robinson, 1946, p. 46). By now it had become an important centre of food supplies for the traders with between eight and ten thousand caribou being brought there annually for further distribution to the other forts (Duchaussois, 1923, p. 213).

Meanwhile in the winter of 1858-9, Archbishop Hunter continued northward down the Mackenzie River stopping at Forts Norman and Good Hope. The following summer, 1859, Fr. Grollier also erected missions at both of these forts. Both men were assisted by the Hudson's Bay Company who provided them not only with passage on their boats, but also with hospitality during their stay at the posts (Duchaussois, 1923, pp. 9, 252, 270; Cody, 1908, p. 53).

By 1844 the Hudson's Bay Company had moved the location of Fort Norman yet further upstream to near Gravel (Keele) River (Voorhis, 1930, p. 129). In 1851 the post was again moved close to the mouth of Bear River (Voorhis, 1930, p. 129).⁵ "Then came a great flood which drove away the new colony. Fort Norman was transferred in [the spring] 1864 to the Fort Franklin site ... on the west side of Keith Bay, near the ruins of Fort Franklin" (Duchaussois, 1923, p. 254). It was to this site that the famous Fr. Petitot came in the autumn of 1864. During the next fourteen years eight winters were spent by this energetic missionary visiting the Satudene camps in the neighbourhood of the Franklin-Norman Mission. He used to journey to the lake on snow-shoes from Fort Good

⁵ There is considerable ambiguity in the literature concerning the exact dates and locations for these moves.

Hope (350 miles) and then return by canoe on the Bear and Mackenzie Rivers (260 miles) (Duchaussois, 1923, p. 254).

When Petitot first arrived at Great Bear Lake, he found that the Hudson's Bay Company, at the request of the Dogribs and Hares surrounding this lake, had delegated a Metis called John Hope to rebuild the post at Fort Franklin, re-naming it Fort Norman (Petitot, 1893, p. 2). Much to Petitot's surprise the new Fort Norman post, built by Taylor who succeeded Hope, was erected about half a mile from the original Fort Franklin site on the beach close to the channel which separated the Little Lake (Ttattèh t'oué) from the main lake (Petitot, 1893, pp. 49, 81). About three hundred feet from the Fort Norman-Franklin post, Petitot built a small log house of prayer, which served as a Chapel and a home for him during his visits to Great Bear Lake. The first church services were held there on May 10, 1866 (Petitot, 1893, p. 102). Petitot returned to Great Bear Lake during the winters of 1867, '68, '69, '71, '77, and '78. Besides all his travelling in conjunction with his missionary activities, he also mapped the area with considerable accuracy, and described the life of the Satudene in great detail.

In 1869 Taylor removed the Hudson's Bay Company fort to the confluence of the Bear and Mackenzie Rivers, where it has since remained (Petitot, 1893, p. 50). In the meantime, Bishop Bompas had in 1866 erected a school at Ft. Norman to look after the many orphans left in this area after the disastrous smallpox epidemic of 1865. It was closed in 1868 (Cody, 1908, p. 57). Then in 1872 the Mission of Ste. Theresa was also removed to the Fort Norman site. The Christian welfare of the Satudene was left to the periodic visits of the missionaries to the

Indian camps and the infrequent sojourns of the Satudene at the forts, especially Fort Norman. In 1876 Fr. Ducot arrived at Fort Norman, where he remained for forty years, journeying "much between the camps of his immense district" (Duchaussois, 1923, p. 255). He was assisted by several other missionaries during the remaining years of the nineteenth century.

Summary

The impact of the European fur trade encroaching from the east and south, was felt at Great Bear Lake some time prior to the actual arrival of the Europeans in 1799. During the next fifty years the repeated incursions of the explorers and traders, using this lake as a base for their activities, introduced a new way of life and a new material culture to the Satudene, but the transient and sporadic nature of their visits was not sufficient to establish clearly a new economic and cultural framework for the Indians. After the temporary location of the Fort Norman Hudson's Bay Company post and the Catholic Mission at Fort Franklin, the Satudene were again left alone, but for the missionaries' occasional visits, until a new influx of traders, scientists and white trappers arrived at Great Bear Lake in the early 1900's.⁶

By the end of the second decade of the twentieth century, a small Indian settlement, comprising some eighteen log houses with large stone chimneys, had grown up at Fort Franklin, where the Satudene resided for

⁶ As news of gold in the Yukon travelled south in 1897, some prospectors travelled via the Mackenzie and Porcupine Rivers to enter the Yukon by the "back-door". The first R.C.M.P. detachment in this area was established at Fort Norman in 1916 (Robinson, July 1946, pp. 44-5).

part, if not all of the year (Mrs. S. Cho, Pers. Comm., September 1969).⁷ Very few families still lived a nomadic existence around the shores of the lake. It was the beginning of "sederunty"⁸ where the old hunting economy was now supplemented by some trapping activity, neither of which were carried out with much success.

⁷ This site was located about a mile east of Franklin's original Fort. It was evacuated between 1920 and 1930 to the new settlement located at the present site. Of this earlier site, only the stone chimneys, now fallen into mounds of rubble covered with grass, remain.

⁸ Honigmann coined this term "to express the tendency of the society to abandon unlimited mobility in favour of settled or permanent patterns of residence" (Honigmann, 1946, p. 125).

CHAPTER V

DEMOGRAPHIC CHANGES IN THE NINETEENTH CENTURY

The demographic pattern depicted after the arrival of European traders, explorers, and missionaries reflects several distinct changes from the estimated aboriginal demography described earlier.¹

Population Distribution and Size

In aboriginal times the four main tribal units, Hare, Copper, Dogrib, and Slave Indians, inhabited areas northwest, northeast, southeast, and southwest of Great Bear Lake, respectively. Although there was certainly much seasonal movement among the people with some peripheral interaction occurring between the different tribal bands, in general they maintained their own hunting territories. Two new foci, however, were introduced to the area with the establishment in 1799 of Bear Lake Castle (Fort Franklin) on Keith Arm at the western end of Great Bear Lake, and in 1837, Fort Confidence on Dease Arm at the eastern end of the lake. Each trader-explorer reported a considerable admixture of the tribal entities present at each fort, as the Indians came either to trade their meat and furs for ammunition, guns, rum, tobacco, blankets, and other wares, or simply to 'live off' the trader-explorers. McKenzie (1805, p. 20) mentioned the presence of Hares, Coppers, and "Slaves (say) Dogribs" as regular visitors at Bear Lake Castle in 1804-5. Keith (Masson, 1889-90, vol. 2, p. 106) added that they had frequented "this post since its

¹ See Appendix C for methods used and problems encountered in determining population.

establishment". Franklin (1828, pp. 64, 77, 281) in 1825-7 mentioned the arrival at Fort Franklin of Hares, Coppers, Dogribs, and even a Loucheux Indian from the lower Mackenzie River area. During 1836-9 Simpson (1843, pp. 240, 328) described the visits at Fort Confidence of Hares from Smith Arm and even from the Colville Lake area closer to Fort Good Hope. Dogribs and Slaves were also frequent visitors at this Fort. There were, however, no Copper Indians present, presumably in view of their recent (1823) "massacre" by the Dogribs (1843, p. 318). Richardson's (1852, p. 208) comments in 1849-50 were similar:

Thus our presence at Fort Confidence was sufficient to determine various bands of Hare Indians, Dog-ribs, and Martinlake Indians to resort to the northeastern arm of Great Bear Lake; and but for a deadly feud with the Dog-ribs, which twenty years ago greatly reduced the number of our old friends, the Copper Indians, we should have had their company also.

In addition, all the explorers had brought with them some Chipewyan hunters from the Great Slave Lake-Athabasca region, as well as many Métis voyageurs.

The establishment of the two forts at Great Bear Lake, therefore, altered the distribution and migrational habits of the Indians with movement centred around the southwestern end of the lake for the first thirty years of this period, and towards the northeastern end for the next twenty years. This was the beginning of the real centralizing of activity orientated towards Great Bear Lake. After the virtual extinction of the Copper Indians in 1823, bands of Hares to the north and Dogribs to the south dominated the area, with the Slaves, who were now orientated more to Fort Norman, forming a minority to the southwest. In like manner, the remaining bands of Hares were orientated to Fort Good Hope, as were

the remaining Dogrib bands to Fort Simpson and later, Fort Rae. Although there was still, possibly, considerable movement and contact between various bands of the tribes, a certain "inward" and "outward" identity, in relation to their orientation to the lake, was being firmly established.

With the closure of Fort Confidence in 1851, and the re-establishment of a trading post at Fort Franklin in 1864, this western location became and remained the focus for Satudene activity for the remainder of the century. This focal point was further reinforced with the establishment of a mission there from 1866 till 1872, so that by 1866 Petitot (1893, pp. 65-6) could state:

Mais, depuis l'établissement du nouveau fort-de-troque, ces Indiens se sont définitivement fixés autour du Grand Lac des Ours, et chassent à une si petite distance du Fort Norman (Franklin), que nous entendions leurs coups de feu et apercevions les fumées de leur camp.

Petitot described the Satudene as being composed primarily of members of three bands: Eta-tcho-Gottinè (Hares), Tsè-Ottinè (Dogribs), and Kk^r a-lon-Gottinè (Slaves) (Fig. 15).

After the abandonment at Fort Franklin and re-establishment at Fort Norman of the trading post in 1869 and mission in 1872, the Satudene were now obliged to travel there. At first the post was visited only during the summer months when furs were taken down Bear River to be sold in exchange for the trader's produce. Both before their journey down river and on their return in the early fall, it became customary for the various Satudene bands to congregate at Fort Franklin with its close proximity to the river entrance and its abundant supply of fish. During the remainder of the year priests from Forts Norman or Good Hope continued for a while

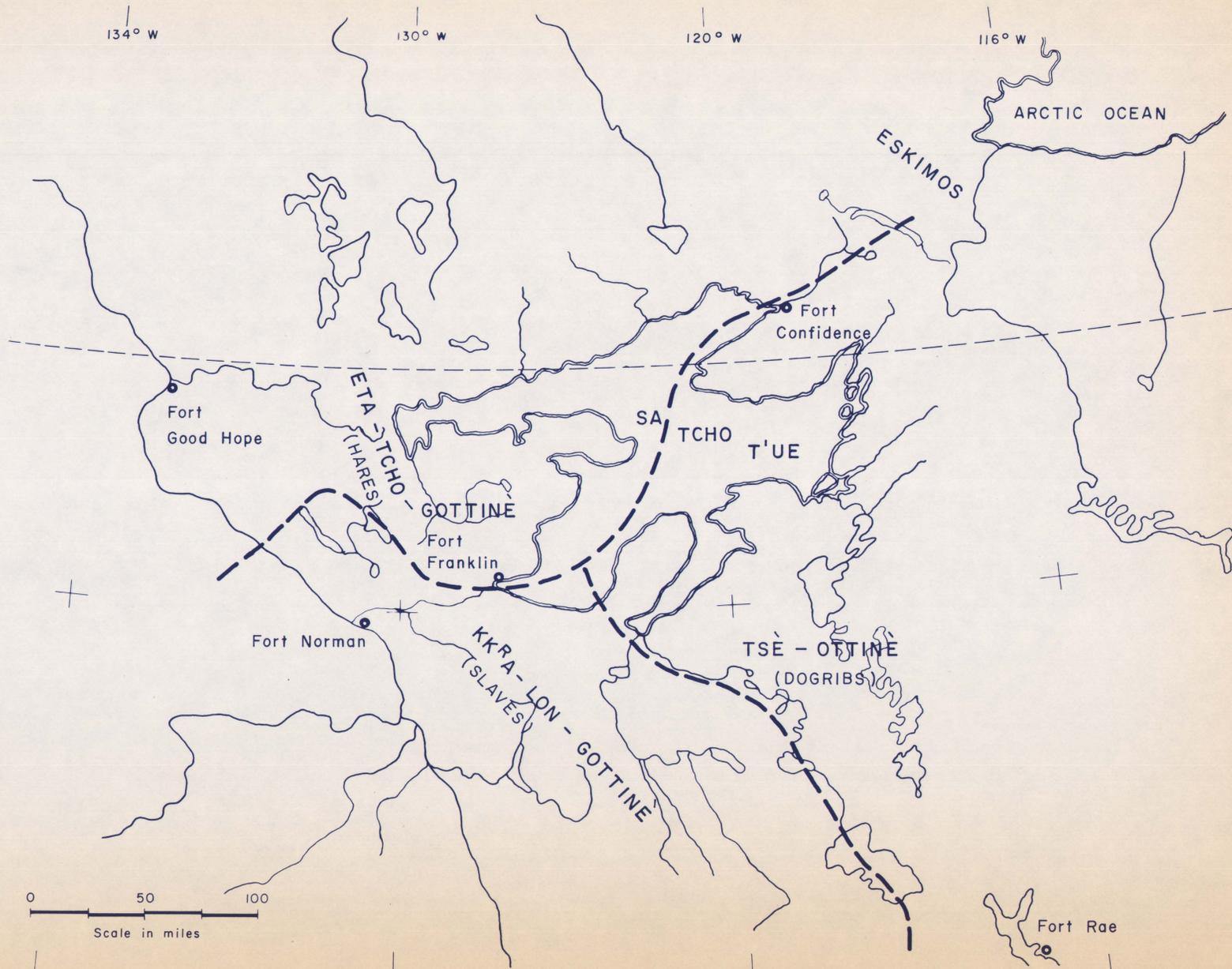


Figure 15 INDIANS IN GREAT BEAR LAKE REGION : 1866 (AFTER PETITOT)

to travel from camp to camp among the Indians (Duchaussois, 1923, p. 223). In 1886, Fr. Ducot told the Indians during a visit to Great Bear Lake "that for the first time he would keep Christmas that year at Fort Norman, and there would be midnight Mass" (Duchaussois, 1923, p. 261). From then on it became customary for the Satudene to make two annual expeditions to Fort Norman.

Few population figures for this region are found in the literature. McKenzie (1805, p. 26) referred to Copper Indians visiting Great Bear Lake Castle as being "twenty-five men with their families". Keith (Masson, 1889-90, vol. 2, p. 106) stated that "the Slave (say) Dog Rib Indians is about 250 men and boys" although he did not say how many of these visited the Fort. He added (1889-90, p. 106) "The Hare Indian is supposed to be 300 men of which only 115 have been at our Trading Posts". Stager (1962, opp. p. 305), basing his information on the Hudson's Bay Company Reports on Districts (1829, p. 12), compiled a distribution map for the 1829 Indian Population of the Mackenzie Region (Fig. 16). There were approximately 400 people located within the Great Bear Lake region, a figure which "if in error ... would be an underestimate rather than overestimate" (1962, p. 305). It can be seen from Fig. 16 that the main concentration at that time was to the west in the vicinities of Fort Franklin and Fort Norman. During the periods of European activity at this western end of Great Bear Lake, most of the Satudene had abandoned the more easterly hunting regions. They did not return in large numbers until Fort Confidence was established by Dease and Simpson in 1837. (Simpson, 1843, pp. 203, 242).

In 1864, according to Petitot (1882, p. 81) about 300 Indians

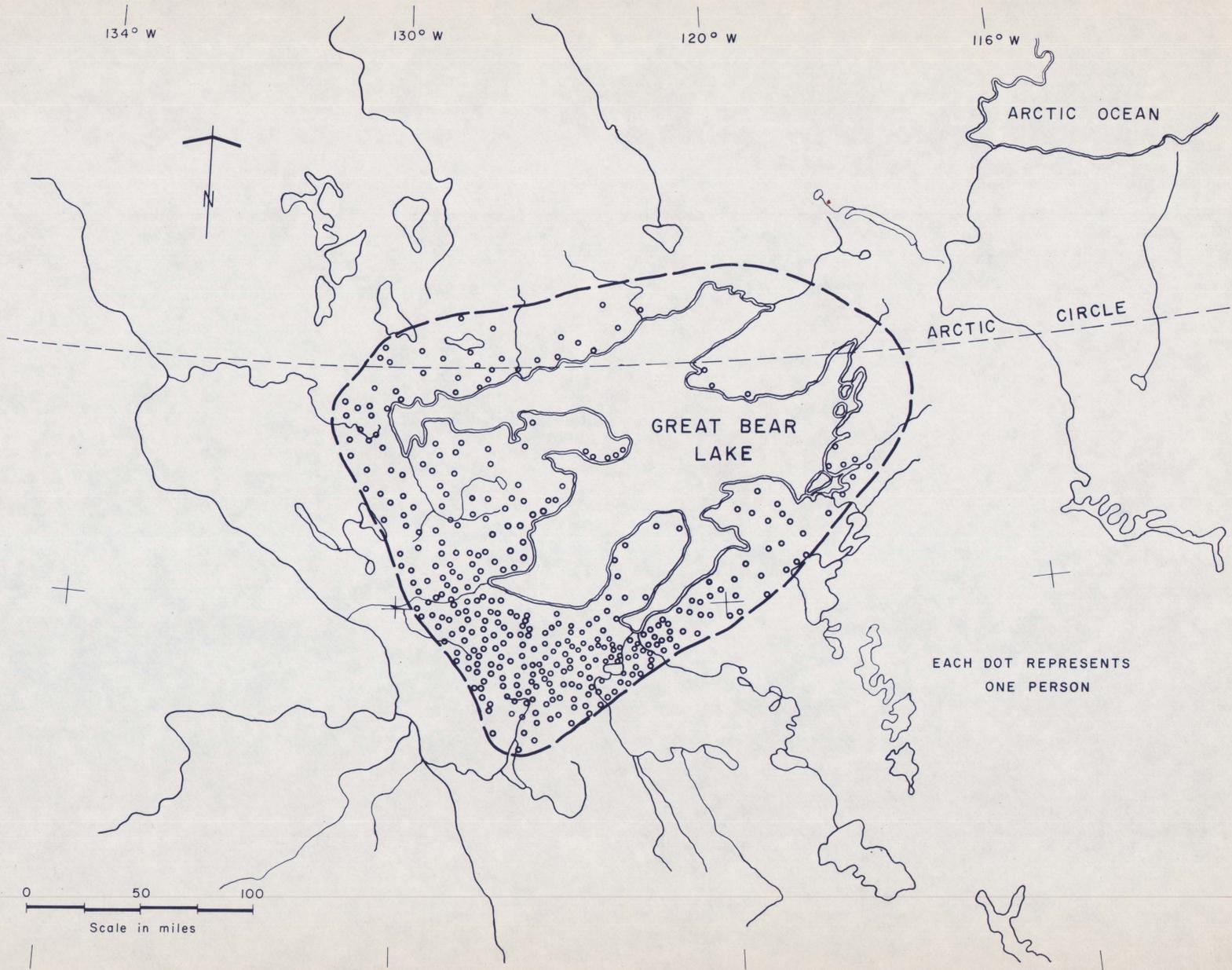


Figure 16 INDIAN POPULATION AS KNOWN IN 1829 (AFTER STAGER)

depended on the mission at Great Bear Lake. Later he (1893, p. 66) claimed that in 1866 "cependant l'entière population peau-rouge de cette région désservie par le fort Norman-Franklin n'excédait pas alors 250 âmes, et je doute qu'elle ait beaucoup augmenté depuis". This figure also included those Indians such as a few Eta-Ottinè (Mountain Indians) who were normally orientated to Fort Norman, but who visited Great Bear Lake when the trading post and mission were located at Keith Arm (Petitot, 1893, p. 66). In 1868, Petitot (1893, p. 203) claimed that "J'avais des lors 212 chrétiens pratiquants, au Grand Lac des Ours". By 1869, the Satudene comprised 97 Slaves, 47 Dogribs, 85 Hares, as well as 43 Mountain Indians which had moved to Great Bear Lake with the transfer of the Fort Norman mission and post in 1864 (Petitot, 1884, p. 53).² This total of 272, comprising almost the entire Satudene population at that time, possibly represented approximately half the eighteenth century figure of between 500-700 estimated by Steward and Mooney. By the end of the nineteenth century the Satudene population had declined to a little more than 100.³

Fig. 17 depicts the descendants of twenty Satudene individuals known to be living around 1830.⁴ This graph includes only those from whom the present Fort Franklin population are known to have descended. It by no

² Petitot also stated elsewhere (1893, p. 274) that in 1869 "le nombre des chrétiens du lac des Ours a 268 ... sur ce chiffre, les Peaux-de-Lièvre Hares comptaient 188 ames, et les Flancs-de-chien [Dogribs] , 80".

³ This figure is based on the Mission records. The first Government Census for this area was taken in 1931.

⁴ Refer to Appendix C for methods used in determining Fig. 17.

means reflects what happened numerically to the entire population of this region. From the data available on these ancestral families, however, it has been possible to elicit a brief description of the probable character of the Satudene population for this period. Fig. 18 shows a comparison of both population estimates, one line depicting the estimated descendants of these twenty individuals and the other indicating the estimated rate of decline for the entire Satudene population. It can be seen from the recorded ancestral population graph that the 105 people living in 1900 had descended from only 20 people (ten couples) in 1830, whereas during this same period the entire population had actually decreased from about 400 in 1830 (Stager, 1962) to about 105 in 1900 (Mission records).⁵ The remainder of this and the next chapter will discuss what possibly happened to the remaining 380 (approx.) people presumably living around Great Bear Lake in 1830 and their prospective descendants.

Out-migration

Population decreases are due to natural decrease where deaths exceed births, an excess of out-migration, or a combination of both. There is no way of telling exactly how many people moved away from Great Bear Lake during the nineteenth century.⁶ Certainly at the beginning of the

⁵ By the beginning of the twentieth century the Mission records were complete enough to consider this figure as being a reasonable assessment of the entire Satudene population at that time.

⁶ Insufficient data until 1860; later, the lack of adequate records at Fort Rae and the frequent name changes mentioned in Appendix C, make this an almost impossible task.

Fig. 17: Population estimates for the antecedents of the present Satudene population (Mission records).

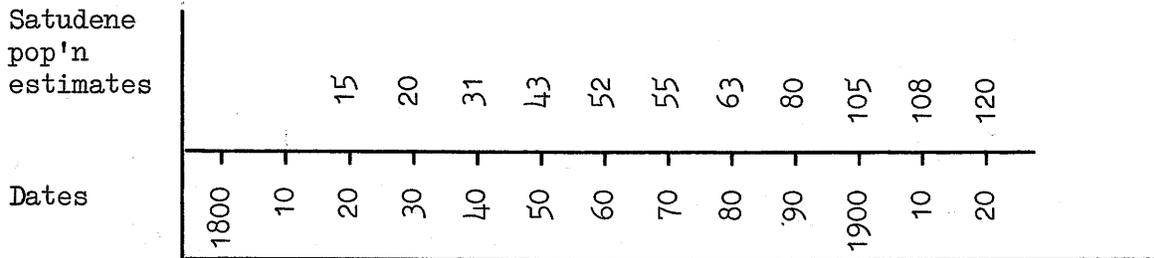
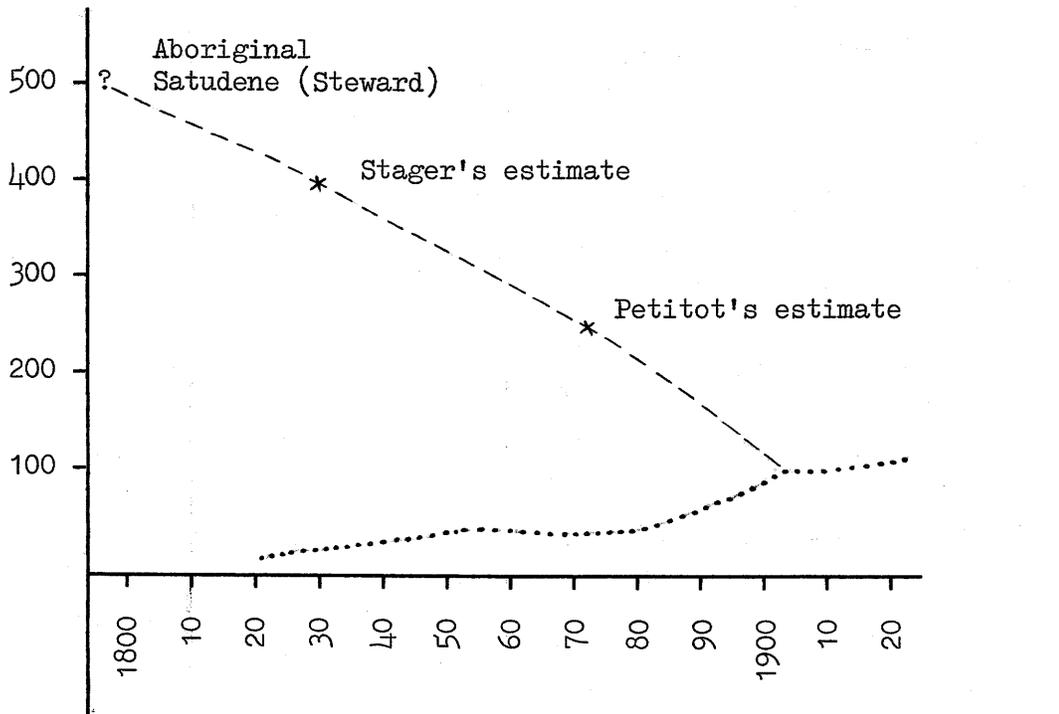


Fig. 18: Population estimates for Satudene during nineteenth century.

- population estimates for the antecedents of present Satudene population (Mission records).
- population decline of entire Satudene (according to Steward (1955), Stager (1962), and Petitot (1893)).



nineteenth century there must have been movement to and from various forts as they were established. But once Great Bear Lake region had been recognized as a trading area, it appears to have attracted people (Petitot, 1893, pp. 65-6). Statistics for the population trading at each fort, subject to periodic fluctuations, indicate that no major changes occurred after the 1850's (Fig. 19). It is likely, however, that out-migration during years of famine did account for some of the population decrease at Great Bear Lake, certainly among the fringe elements of the Satudene, and also possibly due to marriage. Other demographic factors must also be considered to explain the rapid population decline during the nineteenth century.

Fig. 19: Population estimates for Forts Rae, Norman, and Good Hope.

P: Petitot (1882, pp. 39, 80, 81; 1893, p. 189).

R: Russell (1898, p. 160, after Canadian Government Census, J.S. Camsell).

S: Seton (1911, p. 259, after Canadian Government Returns).

	Aborig. est. Pre-1800	1858	1864-6	1881	1898	1905
Rae	1200 (P)	657 (R)	788 (P)	615 (R)	711 (R)	c.800 (S)
Norman		363 (R)	240 (P)	254 (R)	324 (R)	c.300 (S)
Good Hope	700-800 (P)	467 (R)	541 (P)	583 (R)	547 (R)	c.500 (S)

Shifts in Population Structure

Despite the paucity of records for this period, enough data can be extrapolated from the mission and other records to allow for a description of the structure of the Satudene population and to show some of the major changes which occurred at that time. Indices of particular pertinence are: crude birth rate, crude death rate, sex ratio, nuptiality, and age distribution. Some analysis of the crucial demographic questions of fertility and survival for the declining Satudene population was also possible from the data available.

Birth Rate and Infant Survival Rate

The statistical evidence available is not sufficiently accurate and detailed to allow for precise crude birth rate figures for this period. Fig. 20 depicts the estimated survival rates extrapolated from

Fig. 20: Approximations of Crude Survival Rates for those Satudene having living descendents (Mission records).

Period Date	Estimates of total Satudene antecedents mid-year	Total no. survivals for 10 yr. periods	Av. no. survivals per year	Approx. CSR/1000	Av. CSR for 20 yr. periods
1846-55	46	20	2.0	43	41.5
1856-65	52	21	2.1	40	
1866-75	62	19	1.9	30	34.5
1876-85	68	27	2.7	39	
1886-95	81	26	2.6	32	31.5
1896-05	105	33	3.3	31	

the mission records. These figures include only those who survived long enough to attain puberty; they do not, of course, indicate the crude birth rate for the entire population, but merely indicate the minimum crude birth rate, since at least this many children had to be born for this many to survive.⁷ The actual birth rate might, therefore, have been considerably higher than the survival rates quoted here; this will become clearer after studying the death rate figures. The decline indicated might mean a declining birth rate, or a declining survival rate. The anomalous 1866-75 figure undoubtedly reflects the effects of the scarlet fever and measles epidemics which affected Great Bear Lake during this period (Petitot, 1893, p. 95) and the 1876-85 figures might represent a compensatory higher birth rate. These figures could also be due to insufficient data available and averages for the twenty year periods have therefore been included.

Death Rate

The mission records also preclude the calculation of accurate crude death rates, because only adult deaths were faithfully recorded in the earlier years. The deaths of small children and babies occurring between the infrequent visits of the priests were indicated in descriptive terms such as "beaucoup de morts d'enfants". It was possible, however, to calculate the female mortality rate for forty-two women on whom there

⁷ Even the completed records would be only slightly more useful than the above in indicating birth rates, since it was baptisms and not births which were recorded; infants and young children who died before being baptised were not entered in the records, and many years sometimes elapsed between visits from itinerant priests.

was sufficient data (Fig. 21).⁸ These figures are based on adult female figures and do not include infant female mortality. On the basis of these forty-two women some idea of the female mortality rate of the Satudene can be surmised. Accordingly, 90.5% of the girls surviving to puberty might have attained twenty years of age. Almost half of all adult females had died before reaching thirty years of age, and two-thirds had died before reaching forty years. These figures clearly indicate that the most hazardous years for a female were between 21 and 30 years of age, followed by the 31 to 40 age period. Assuming that these ages are associated with the high birth period for women, perhaps the reason for this unusual situation is due to the high incidence of deaths during childbirth.

Fig. 21: Estimated female mortality ratios among the Satudene based on 42 females living between 1820 - 1900 (Mission records).

Mothers' age at death	15-20	21-30	31-40	41-50	51-60	over 60 yrs.
Numbers died (total of 42)	4	16	8	3	2	9
Accumulative percentage dead	9.5%	47.6%	66.6%	72.2%	78.5%	100%
Percentage Survived	90.5%	52.4%	33.4%	23.8%	21.5%	0%

⁸ Of these forty-two women the actual ages of eleven were known (birth and death dates recorded); for twenty-two women their ages were based on the known birth date and date of husband's re-marriage (ages might be too high), and for the remaining nine women ages were based on known birth date and date of birth of last child (age might be too low).

Further clues to the death rate are indicated by the frequency of re-marriage (Fig. 22).⁹ Of the known 55 marriages solemnized during this period, only 14 were single marriages (each partner married only once). Of the remaining 41 marriages, 10 men were married twice, two men three times, and one man four times; 6 women were married twice, one woman three times, and another four times, totalling 49 marriages (add C: b, c, and d). However, eight of these unions involved the re-marriage of widows and widowers, hence the actual number of marriages involving re-marriage ($C = b + c + d - f$) was 41. When the number of male and

Fig. 22: Estimated marriage and re-marriage trends among some Satudene (Mission records).

	a	b	c	d	e	f	g
	Married once	Md. twice	Md. three times	Md. four times	M/F req'mts sub-total	Widows and Wid'ers	M/F total req'mt
A Males	14	10	2	1			
A Females	14	6	1	1			
B Fs req'd	14	20	6	4	44	8	36
B Ms req'd	14	12	3	4	33	8	25
C Total marriages	14	32	9	8 =	sub-total no. marriages 63 -	8	Total no. marriages 55

⁹ Since the missionaries would only recognize and record re-marriage after the death of one spouse, these figures give an accurate if limited picture of adult deaths.

female partners required for these marriages are totalled (B: g), it can be seen that 25 men required 36 women as partners. This would indicate that the death rate among adult women was considerably higher than that among adult men, since the frequency of men losing their wives as opposed to women losing their husbands was in the ratio of 30:19.

Sex Ratio

The practices, referred to earlier, of both polygyny and female infanticide in aboriginal times indicated that the sex ratio was either equal or possibly reflected an abundance of surviving females. Evidence for the nineteenth century appears to indicate very clearly the contrary. At Great Bear Lake in 1812 Keith (Masson, 1889-1890, vol. 2, p. 107) said that "the male sex appears to be predominant and I presume that the female sex while in infancy are much neglected". These remarks appear to be substantiated by figures for all the Indians in the Fort Good Hope area in 1827, which included 120 men, 70 women, 57 boys, and 54 girls (Hudson's Bay Company, Reports on Districts, Mackenzie River, 1827), giving an adult sex ratio of 171.4 and a children's sex ratio of 105.5. Later figures for the Outer Hare Indians (a division of the Hare Indians residing around Colville Lake) in 1829-30, reflected a similar trend: 58 men (hunters and one chief), 44 women, 51 boys, and 33 girls (Hudson's Bay Company, Reports on Districts, Mackenzie River, 1829-30), giving an adult sex ratio of 131.8 and a children's sex ratio of 154.5.

These ratios indicate a marked preponderance of males in the society and, conversely, fewer women. Although both Keith and Wentzel have suggested that this imbalance was primarily due to female infanticide, the

figures in Fig. 21 revealed that adult female mortality associated with childbirth was also very high. This factor was further confirmed by the frequency of re-marriages, where the loss of female spouse to male spouse was in the ratio, according to the figures in Fig. 22, of 30:19.

Nuptuality

According to Petitot (1893, p. 339), by the 1870's the former custom of men taking young girls to be their wives had discontinued and now young men preferred older women:

Quand j'en avais demandé la raison aux garçons, ils m'avaient répondu: 'Les jeunes filles ne sont bonnes à rien, il faut tout leur dire, tout leur apprendre; elles rechignent à tout et ne pensent qu'à jouer. De plus, elles aiment à se parer pour se faire aimer et rechercher par les garçons. Les femmes faites sont déjà rompues aux travaux du ménage, elles ont de l'expérience, savent tout faire, nous soignent, nous dorlotent, nous aiment pour nous-mêmes, et nous sont fidèles jusqu'à la mort'.

Petitot added, "Mais nous étions tellement élevés contre un usage si immoral et abusif, que la jeunesse chrétienne était tombée dans l'excès contraire".

Although there is no evidence in the records of the very early marriages mentioned, neither is there evidence of the much older females marrying young men, at least not at first marriages. The marriage ages for the very small group of those born prior to 1850 (7 men and 3 women) for whom figures are available ranged from 22 to 45 years for the men, averaging 31 years, and from 22 to 30 years for the women, averaging 26 years. It must be remembered that these ages reflect church marriages, and unions might have been contracted at much earlier ages prior to the arrival of the priests. A larger group (17 men, 12 women) of those born

between 1850 and 1900 indicated that ages for first marriages for males ranged from 18 to 36 years, averaging 25.3 years, and females ages ranged from 15 to 30, averaging 21.8 years. In all but three instances of first marriages, the husbands were older than their wives, and only in one instance, 36 years to 50 years, was the wife considerably older than the husband; however, records where the ages of both spouses were given were very incomplete. The ages of wives at second and third marriages revealed a wide range, and were the records more complete, could possibly have indicated the marriages of young men to older women, not only for the reasons mentioned by Petitot (1893, p. 339) but also due to the marked shortage of available young females as indicated earlier. The sex ratio was such that there would be more than enough potential husbands available for all the women and the necessity for a man to have a wife, if only for socio-economic reasons, meant that all the women were kept in a state of matrimony throughout their reproductive ages.

Age Distribution

Age structure is a significant index of both the actual and potential growth or decline of a population. Some indication of this factor was obtainable from the mission records (Fig. 23). There appears, from these figures, to have been a marked decline in the percentage of children to the total population during this period. In 1835 children under 15 years of age accounted for 38 percent of the total population, whereas in 1905 they only accounted for 24 percent. This would reflect a decreasing infant survival rate due to a reduced birth rate and/or an increased

infant mortality rate. If the declining infant survival rate indicated by this group was reflected in the entire Satudene population, then it would also mean a declining potential for procreation possible, since fewer children eventually mean fewer adults.¹⁰

Fig. 23: Age structure of those Satudene with living descendants, and children (under 15 years of age) as percentages of the total population (Mission records). Note: this "total population" figure represents only the antecedents of the present Fort Franklin population (Figs. 17 and 18).

Year	No. of pop. under 15 yrs. age	No. of pop. over 15 yrs. age	Total pop.	Children as percentage of total pop.	Average percentages of total pop.
1835	8	13	21	38 %	
1845	14	19	33	42	40 %
1855	18	29	47	38	
1865	16	35	51	31	
1875	20	29	49	40	35 %
1885	20	45	65	30	
1895	23	61	84	26	25 %
1905	25	80	105	24	

A considerable fluctuation is to be expected in such a small population group with its high rates of birth and infant mortality, but the low figure for 1865 was almost certainly related to the scarlet fever and

¹⁰ The actual totals for children and adults shown in Fig. 23 have increased from 1835 to 1905, but it must be remembered that these figures are of the surviving descendants of an original ten couples. For the entire population, it is the trend as indicated in the percentages, which is significant.

measles epidemic which would have killed even more children than adults (see Crude Survival Rates, Fig. 20) followed later by what might have been a compensatory higher survival rate.

Family Size and Structure

The demographic statistics for the late eighteenth century revealed a population which was both stable and stationary. Each woman had, on average, from four to six children, of which two to three survived to attain puberty, spaced two to three or four years apart, although, any one woman in any one year might depict a markedly different rate, since these ratios reflected the changing ecological conditions. Fig. 24 is based on the data available for the Satudene sub-group, indicating the number and spacing of surviving children during the latter part of the nineteenth century.

The group, although much too small to allow for any definitive conclusions to be drawn, does indicate the low infant survival rate and the wide, irregular spacing between children. It must also be remembered that women who died with no surviving children would not have shown up in these figures. The high adult female mortality rate (Fig. 21) resulted in a high ratio of re-marriage (Fig. 22). This meant that those women who survived must have been married throughout the duration of their reproductive ages, which would allow for the possibility of a high birth rate among them. The infant survival rate, however, continued to decline (Fig. 20), as did the percentage of children to the adult population. This decline is even more significant when one realises that, under the pattern of frequent re-marriage, less adults (males) are required to

Fig. 24: Number and spacing of surviving children for some Satudene women (Mission records. Note: Selection of women based on available information in records).

Indiv. women date married	Age at marriage	Date of 1st surviving child born	Date of last surviving child born	Total no. of surviving children born	Average spacing of children in yrs.
1868	?	1868	1893	5	5 +
1869	28	1876	1889	2	15
1871	20	1871	1888	4	5
1871	?	1900	1900	1	--
1872	?	1882	1889	2	8
1885	21	1884	1884	1	--
1886	?	1890	1901	3	4
1886	15	1904	1922	4	5
1892	?	1898	1898	1	--
1893	?	1893	1904	3	4 +
1896	?	1896	1910	2	14
1896	?	1906	1906	1	--

procreate than under single marriages.¹¹ In view of the frequent re-marriages among the Satudene, the declining proportion of children in the society is even more spectacular.

¹¹ For example: if three women, each married to one man, had two children, the ratio is 6 adults to 6 children or 50 percent children in total population; however, if the three women were married successively to the same man, and had two children each, then the ratio is 4 adults to 6 children, or 66 percent children in total population.

High infant mortality and high female mortality were the two crucial factors in the declining Satudene population, since they were both a symptom and a cause of that continued decline. New age classes were cut off regularly before they could reach the reproductive age; this was true of all infants, but in view of the tendency to female infanticide, particularly so for females. A woman is most fertile between the ages of 19 to 35 years, with maximum fecundity occurring between the ages of 20 and 27 (Lorimer, 1954, pp. 52-3), yet these were precisely the ages at which female mortality was highest (Fig. 21). This factor would, therefore, have tended to offset the very high birth rates expected from a population whose women were kept in a constant state of matrimony.

The family structure, in view of the necessity for frequent remarriage, would have been very unstable. The birth rate associated with any individual woman would undoubtedly have been very high, but for women in general, in view of the high female mortality rate, the birth rate would have been reduced considerably. More crucial, however, was the low survival rate of infants, since this lowered the procreative potential for the whole population. A higher death rate among females than males reduced the reproductive capacity of the population even faster. The result was a declining population associated with a declining potential for reproducing that population.

Demographic Adjustment

Certain demographic factors are themselves responsible for causing further demographic changes. For example, high female mortality which results in a lowering of the reproductive capacity, will result in a

lowering of the birth rate. But to ascribe the population decline and changes in structure solely to demographic factors is only the first step towards explanation. Human reactions to changing stimuli and conditions are seldom explicable in simple terms. The entire foundation of the changing Satudene ecology must be considered in order to find clues to the answers of such questions as: why was the infant mortality rate higher than in aboriginal times? why was the female mortality rate higher? why wasn't there a corresponding increase in the birth rate to compensate the higher death rate? why did ratio of children to adults decline so rapidly? why were children no longer evenly spaced in families?

CHAPTER VI

CAUSES OF DECLINE IN THE SATUDENE POPULATION DURING THE NINETEENTH CENTURY

The appearance of Livingston at Great Bear Lake in 1799 might have surprised the Indians camped there, but the arrival of the white man and his fur trade into the region was scarcely unheralded. During the previous three decades traders of the North West Company had pushed further north in their relentless search for more furs, erecting several trading posts around Great Slave Lake. Trading relations had also been established between the Hudson's Bay Company in the East and the western Indians through the Chipewyan intermediaries. Mackenzie had made contact with several bands of Indians on his way to the Arctic Ocean and introduced them to new trade items. The Cree with white man's weapons had pushed the more timid Slave and Dogrib Indians farther north. Diseases such as the destructive smallpox epidemic of the 1780's had killed hundreds of unsuspecting Indians. This succession of events occurring on the fringes of the Great Bear Lake region must surely have affected the relative stability of the Satudene's world, but he was to witness many more changes during the century which followed.

Petersen (1969, p. 255) warned that "analysts have found it all too easy to ascribe as the cause of depopulation any prior condition, either the continuation of elements of the native culture, or the changes in these by acculturation, or whatever". Some correlations between the changing human ecology and the demographic changes which occurred in the nineteenth century, however, can be postulated.

Disease

Certain diseases and ailments were prevalent among the aboriginal Satudene. Keith (Masson, 1889-90, vol. 2, p. 118) listed their most common complaints as "colics, attended with 'gripes', squeamishness of the stomach and diarrhoea", diseases which "originate principally if not entirely, from the dirty and loathsome manner in which they cook and prepare their food". The communicable diseases introduced by the Europeans such as consumption, smallpox, measles, scarlet fever, syphilis, and influenza would have been new to the Indians and as such they would have had no immunity with which to combat the vicious attacks associated with these virulent diseases (Petersen, 1969, p. 355). The Satudene had already established indirect trade contacts through the Copper and Dogrib Indians with the Chipewyans and Crees, and although there is no historical record, it seems likely that diseases affecting the latter would also have reached Great Bear Lake and possibly diminished the population there.

Diseases introduced were soon carried throughout the region by these nomads. With little conception of preventive medication and care, little protection from the elements and no natural immunity, they were helpless to fight this new enemy. Even the simple care involved in remaining warm and inactive was impossible for a hunter, and he often "faced the Hobson's choice of remaining in his lodge, and along with his family, dying of starvation or of remaining active and surely dying of the disease" (Symington, 1969, p. 142). Cases were later reported of Indians who in their fear and ignorance had tried to escape from the disease by endeavouring to run away, tearing off their clothes and even abandoning their families, and it is possible that as many, if not more, died from

starvation associated with it as from smallpox itself (Thompson, 1916, p. 321). The medicine of the shamans, with their ineffective actions and herbs, was of no avail to the sufferers. Their loose social organization, too, had no way of coping with this sudden catastrophe, and it was a case of each man for himself. The inability of his society to cope must have had a shattering impact on Satudene traditional beliefs and customs which had seemingly failed him in his hour of need. Entire families must have succumbed; a few fortunate ones would have survived, but most Satudene were probably afflicted. A high loss of life probably occurred not only among the young and old but also among the adult population. At some point they would have become immune but successive waves of the disease would still have taken its toll, primarily among the infants.

Few instances of virulent epidemics are recorded for the Great Bear Lake area by the early writers after their arrival to this region in 1799. It would appear that by the early 1800's few European diseases had yet arrived at this more remote location. The Hudson's Bay Records (Stager, 1962, p. 299) for Fort Good Hope mentioned that in 1825-26 and then again in 1837 epidemics of influenza carried off indiscriminately great numbers of men, women, and children belonging to the Hare Indians. Simpson's (1843, p. 202) reference to influenza which in 1837 "carried off two elderly people" among the Hares of the Haldane River area is however the only direct reference to European diseases at Great Bear Lake during the first half of the century. There were, nevertheless, several allusions to diarrhoea, dysentery, rheumatic fever, and respiratory ailments, complaints which were prevalent in aboriginal times.

Two factors must be borne in mind. The sum total of years spent by the explorers and traders at Great Bear Lake during that fifty-two year period did not exceed fifteen. Furthermore, the presence of Dr. Richardson, who assumed the "duties of Medical Officer, which, from numerous applications made by the natives, were not inconsiderable" (Franklin, 1828, p. 55), as well as the vaccinations administered by Peter Dease (Simpson, 1843, p. 88), must, in addition to the warmth and food given to the natives who periodically resided close to the fort, have lessened the possibilities of illness during those years. Conversely, of course, each visit to the area would have increased the possibility of communicable diseases being introduced. There is no way, however, of telling the extent of morbidity during the intervening thirty-five years, when there were no Europeans there to assist or record the sufferings of the Satudene.

Whatever the conditions were during this period, by 1878 Petitot (1893, p. 95) listed the prominent diseases among the Satudene as scarlet fever, consumption, typhoid, influenza, syphilis, 'strangurie' (painful urination), whooping cough, and measles, most of which were European diseases. Petitot (1893, p. 95) added that the Indians referred to the whites as Ewie-daettini, meaning "those who bring death after them". He (1893, p. 374) recorded a serious scarlet fever epidemic at Great Bear Lake in 1865-6, which had first ravaged those Indians living along the Mackenzie River. A measles epidemic devastated the Mackenzie District, including Great Bear Lake, in 1867, claiming "un millier de victimes, sur 4000 habitants" (Petitot, 1893, p. 374 fn.). During this second half of the nineteenth century a pattern of recurring epidemics, involving four

or five different diseases, appeared from the history. A particular serious disease probably struck only about once in a generation, but cycles of the various diseases often struck more frequently. The young suffered most severely, a factor well illustrated by the numerous entries in the mission records of babies having died before they could be baptised by the visiting priests, or else having died immediately following baptism, and certainly a major factor in the death rate was the high rate of infant mortality (Fig. 20). New age classes were cut off regularly by one disease or another before they reached reproductive age.

The full effect of disease on a society is not always easy to measure. Epidemics are of course more visible but endemic diseases may disrupt a society as much. The endemic gastrointestinal disorders often identified as diarrhoea could have had this effect, and while they might have killed many infants, they would not show up in the records as epidemics at any one time. Similarly, syphilis might have killed few but it would have prevented the birth of many, for diseases such as syphilis, measles, and smallpox tend to decrease fecundity, either by impairing fecundity or by causing total sterility (Lorimer, 1954, p. 116).

A sickness just as dangerous and deadly as some of the more conspicuous ones, and one that was only alluded to by the early writers was, what Cook (1958, p. 51) called, subclinical malnutrition.¹ The insufficient and inadequate diet of the Satudene under these changed circum-

¹ In his study of the Indians of Santa Maria Ixcatlan, Mexico, Cook stated that in the economically less favoured parts of that country, populations which gave the outward appearance of normal size, health, and activity, on close investigation were "found to be abnormally susceptible to infectious diseases and are unable to maintain a consistently high level of physical and mental activity".

stances would almost certainly have resulted in subclinical malnutrition, during the times when acute famine and malnutrition proper did not exist. Over a continued period of time this would have resulted in endemic anemia, a condition which increases the body's susceptibility to diseases.

The Satudene practice of destroying all their possessions and sometimes gashing "their bodies or limbs with knives" (Richardson, 1852, p. 255) at the death of a close relative must also have aggravated the effects of disease and increased the possibility of famine (Franklin, 1823, p. 491; Simpson, 1843, pp. 74, 219).

Serious though the losses must have been from the multifarious effects of these early European diseases, they would not have affected a permanent loss of the population except in conjunction with other factors. If other conditions favoured growth, losses even from calamitous epidemics could have been made up in a very few generations (Petersen, 1969, p. 358). Not only were these early losses not made up but the Satudene population failed to stabilize and from c.1800 to 1900 continued to decline (Fig. 18).

Changes in the Native Economy

Survival for the aboriginal Satudene depended on mobility. As a hunter of wandering and migratory animals he had to be free to follow the game, especially caribou. When caribou were not present in the Great Bear Lake region he had to search for fish, hares, and other resources available in his hunting territory. His loose social organization enabled him to maintain this mobility since his ties to band and tribe were flexible. His minimal material culture allowed for easy migration,

and his choice of habitat was seasonally regulated with no particular bonds to any one area other than those seasonal ties associated with the fluctuating resources.

When the Europeans arrived at Great Bear Lake they had many things to offer the Satudene. Trinkets such as beads and rings were designed to arouse the Indian's curiosity, but the advantage of small tools and utensils such as knives, awls, fire-steels, flints, hatchets, and brass or copper kettles were soon appreciated by the Indians "as in his mind's eye he must have compared them with his own less effective and laboriously fashioned tools" (Stager, 1962, p. 282). To encourage the development of the fur trade these tools and trinkets were exchanged for a few local furs whilst indicating that similar wares would be available in exchange for more furs. A variety of furs was soon brought by Indians near and far to be traded at the posts. Mackenzie, Keith, and Wentzel reported that members of the Hare, Slave, Dogrib, and Copper Indians came to Bear Lake Castle with packs of furs in those early years.

Both alcohol and tobacco were introduced to Great Bear Lake by the first traders as further inducements to the Satudene to obtain and trade furs. Almost every entry of McKenzie's referring to the Satudene bringing furs to Bear Lake Castle had an additional comment regarding the amount of liquor and tobacco imparted to them, for example (1805, p. 15): "11 Red Knives arrived with the Little Chief with provisions and peltrie - I gave them 6 quarts of mixt rum and one fathom of Tobaccoe". No doubt alcohol played a significant part in the fierce competition that existed at Great Bear Lake between the North West and XY Companies during the winter of 1804-5, but its use appears to have been short lived and

declined when the companies were amalgamated. Keith and Wentzel (Masson, 1889-90) may have had some liquor for their own use but neither referred to its use in trading at Bear Lake Castle. Certainly the effects of alcohol in this region were short lived, and after 1826 "the Fur Company ceased to bring rum to this quarter" [Mackenzie District] (Franklin, 1828, p. 11). Tobacco probably played a greater part in the new economy in the long run, since it soon became a staple (Stager, 1962, p. 289). Chewed or smoked, tobacco helped tie many an addicted Indian to the white trader.

Undoubtedly the most significant article introduced by the white man was the gun. When the trader-explorers first came to live among the Satudene, although they brought a considerable quantity of provisions with them, they still had to depend heavily on local resources for much of their food supplies. Fort Franklin, and later Fort Confidence, as well as the several small outposts erected, were located primarily for their proximity to large supplies of fish (Franklin, 1828, pp. xvi, 51, 78; Richardson, 1852, p. 201). But they could not survive on fish alone. In addition, local men, as well as those brought in from Lake Athabasca or elsewhere by the trader-explorers, were employed as hunters of moose and caribou (Franklin, 1828, p. 54). The trader-explorers soon realized that most Indians could only be induced to trap furs and hunt for the ferts after they had procured sufficient supplies for their own families. To facilitate the killing of caribou, guns were introduced by the early trader-explorers, although it would appear that quite some time elapsed before the Satudene came to depend exclusively on them. In 1812 Keith (Masson, 1889-90, vol. 2, p. 117) commented of the Hares around Great

Bear Lake: "The modes of hunting are the same as those of other Indians around this place, bows and arrows and snares, few of the Natives having guns and ammunition". He (1889-1890, vol. 2, p. 117) added, "those who can afford guns and ammunition, reap peculiar benefit". Progressively, however, during this half century, more and more of the Satudene came to replace their aboriginal weapons in favour of the guns. By 1848, according to Richardson (1852, p. 284) it was the policy of the Europeans to outfit as many of the Satudene as possible "with clothing, guns, and ammunition, to be rapid in venison. He [Bell] also gave large credits of ammunition and other articles of trade to several leaders of small bands, for the same object". Richardson (1852, p. 226) also mentioned a custom existing among the Dogribs: "All the men carry powder and ball whether they own a gun or not, and for it obtain a share of the game killed by the possessors of fire-arms".

With the introduction of firearms, some incidents occurred between various Satudene bands, with the weaker Indians being able, perhaps for the first time, to retaliate against their stronger enemies. This was the case in 1823, when the Dogribs all but eliminated the Copper Indians who for many years had been tyrannising them along the shores of Great Bear Lake (Simpson, 1843, p. 318). Such activities were naturally discouraged by the traders, since they considered time and ammunition spent in hunting animals to be more profitable than that spent on hunting other hunters.

At first the Satudene remained primarily hunters with trapping only partially developed. In 1812 Keith (Masson, 1889-90, vol. 2, p. 123) had this to say:

Although the environs of Bear Lake are not productive of that valuable article, beaver, yet the country is well supplied with martens and muskrats, with which, with a little industry and conduct on the part of the Natives, the fur trade carried on here might defray the expenses attending it, and confer inestimable advantages on a set of beings, the most miserable the imagination can conceive

It is painful that, notwithstanding every possible encouragement held out to the Natives by the Company hitherto, all our endeavours have proved unsuccessful,

He added (1889-90, p. 115) that "the nature of the country which abounds in fish and reindeer and its inland situation, at a distance from the post Bear Lake Castle, and particularly the poorness of the country in furs, beaver especially, leave but small inducement to rouse the natural inactivity of these Indians". During these early years the change from hunting caribou to trapping furs was, much to the traders' annoyance, both slow and slight. The Indian trapped only to acquire what he considered necessary for survival at that particular moment. He did not "react to the ordinary European notions of property nor to the normal European economic motives". (Rich, 1960, p. 46). Probably most of the Satudene in the earlier years preferred to remain at their hunting grounds, either making the occasional visit to the post to exchange a few furs for the few new found wants, or else using other Indians as intermediaries between them and the posts. McKenzie (1805, p. 16) hinted at this: "1 Red Knife arrived He brought 23 Beavers which in all he has got from the Hare Indians all winter". Keith (Masson, 1889-90, vol. 2, pp. 115, 122) said of the Satudene that "a considerable portion of their traffic is carried on among themselves ... those who visit this establishment transfer a few iron works to their relatives farther off, at I do not know how much per cent advance".

Gradually, as the pattern of wants and needs became established, the traders advanced credit in goods with greater certainty to the needy natives, although even in 1804 McKenzie (1805, pp. 11, 12, 14) had mentioned the giving of credit to the Satudene. The trade exchanges between the Indians and the trader-explorers were conducted by means of proportionate values to a single standard, the standard being a large beaver-skin, referred to either as a Beaver or Skins. Hooper (1853, p. 272) mentioned that according to the Hudson's Bay Company tariff in 1849, a gun was equal to 20 skins, six measures of powder to 6 skins, and thirty-six bullets, equalled 2 skins. Ammunition or other articles purchased at the forts had to be paid for in furs or meat. Some years the credit advanced could not be paid off by the hunters and their debts piled up. The trader-explorers around Great Bear Lake couldn't allow the Indians to starve for lack of ammunition and many instances of the Satudene being fed from fort provisions were reported (Franklin, 1828, pp. 63, 82; Simpson, 1843, p. 74; Richardson, 1852, p. 293; Rich, 1953, pp. 88, 128). The companies frequently had to write off debts or arrange to have them repaid a little at a time during favourable hunting years (Stager, 1962, p. 291).

Even in aboriginal times when perhaps there was a balance between man and his environment, periods of famine must have occurred during the cyclic disappearances of the animals, when forest fires disrupted the migratory routes of the game, or during winters when some of the favourite fishing places were frozen solid. Similarly, although the Satudene killed the animals in large numbers, and often with apparent waste, he would not have threatened the wildlife of the region upon which he preyed. With the

introduction of firearms it became far easier for him to hunt sufficient caribou and moose to meet the needs of both his family as well as those of the trader-explorers. Far less skill was now required and many more caribou could be slaughtered at one time. In fact, tales of excessive, wasteful and indiscriminate slaughter were frequent in the later literature (Petitot, 1893, p. 101; Pike, 1892, pp. 47, 50). Possibly no animal was really safe within range of a gun. Eventually, however, wanton killing of caribou and moose must have developed periodic local shortages (Kelsall, 1968, pp. 200, 216; Petitot, 1893, p. 64) and aggravated, at those times, the possibility of famine.

The depletion of animals was naturally more severe around the forts where ammunition was readily available and large groups of people congregated. Even the cyclic fluctuations could not account for the absence of hares and lynxes around Fort Good Hope in the 1840's (Hudson's Bay Company Records in Stager, 1962, p. 296). Similarly, the fisheries to which the Satudene had resorted received their share of overuse by Indians and Europeans alike, and failed at times (Franklin, 1828, pp. 69, 78).

With the increased use of firearms the Satudene needed to replenish his ammunition supply more frequently. This meant visiting the nearest trading post or fort, taking with him some furs or meat with which to pay his debts, before further supplies could be obtained. The exchange of meat and furs for provisions and ammunition was mentioned in all the early accounts of this region. Undoubtedly the amount of trapping and snaring of fur animals increased with the Satudene's need for these trade goods. At first their desire for these new articles might have been limited. The periodic absences of trading posts at Great Bear Lake and the long

distances between the Satudene and the Mackenzie River posts might have lessened the fur trader's influence (Masson, 1889-90, vol. 2, p. 115). Any amount of trapping, however, which necessitates the periodic returning to traps set, tends to reduce the mobility of the hunter. Furthermore, the problem of transporting quantities of meat and furs along trails far from the hunting grounds and dictated by the posts' locations, also militated against the mobility required for the pursuit of migratory game.

The Satudene were faced with the choice of staying out on the edge of the barrens in summer where they were reasonably certain of procuring sufficient and adequate supplies of caribou for food and clothing as they had done in the past, or of remaining close to the forts, where they would be assured of some continued support, even if meagre. The more active hunters usually chose the former, abandoning the fort to live off the proceeds of their own hunting prowess (Richardson, 1852, p. 296; Franklin, 1828, p. 275). Here they were less susceptible to the dangers of famine and disease (Hearne, 1795, p. 52). But the weaker, less ambitious, indolent people, despite the admonitions of the trader-explorers, inevitably remained around the occupied forts, preferring the lesser exertion of begging and whining, which assured them, at least, of the scraps left over. Franklin (1828, p. 63) commented on those who visited Fort Franklin, "preferring to beg from the Fort and sending women and children to subsist on the offal of fish used at the Fort". Likewise Richardson (1852, p. 287) said that at Fort Confidence "few of the Europeans consumed the whole of their provisions, and the Indians were generally in attendance at their meals to receive the surplus". There

were also those at Fort Confidence who tried to elicit the best of both worlds, remaining at the fort until such time as news of a fellow-countryman's hunting success elsewhere would arrive at the fort, at which time they would leave and make for the hunter's camp. Richardson (1852, p. 293) added that "they generally returned when the food was exhausted, saying that the animals were all gone" refusing to exert themselves further. Rae (Rich, 1953, p. 159) also at Fort Confidence, reported to Sir George Simpson that

... we are much burdened with starving Indians, about 30 of whom receive assistance from us, more or less, as they appear to require it. Twelve of these being women or old men who have no one to provide for them, are according to the usual custom at the H.B. Co.'s posts supplied with rations as regularly as our own people, not certainly in such large quantities, but enough to recruit their strength gradually.

When the forts at Great Bear Lake were inhabited by the Europeans subsistence was available and many of the Satudene were able to survive, at these times, with a minimum of exertion in hunting or trapping, first of all in the Fort Franklin area, and then later in the vicinity of Fort Confidence at the eastern end of the lake. But in the years following the departure of the trader-explorers from Great Bear Lake, the Satudene became increasingly dependent on the Mackenzie River posts and, later, Fort Rae. With the easiest access from the lake being along Bear River, Fort Norman gradually assumed prominence. Although during their migrations in aboriginal times the Satudene had been accustomed to travelling hundreds of miles annually, such journeys had always been to and from, and along known food resource areas. Now the visits to the trading posts took the Indians over hundreds of miles, often away from known food resources, and journeys of this nature, frequently occurring in late

summer-early autumn, when the posts had received their annual supplies from the south, kept the Satudene away from their hunting grounds, at the very time when the caribou were of greatest value. "Ces déplacements considérables leur prenaient beaucoup de temps et mettaient obstacle au succès de leurs chasses, alors qu'il leur eut été si nécessaire de demeurer sur les lieux" (Petitot, 1893, p. 65). After the removal of the trading post from Great Bear Lake to Fort Norman in 1869 and the mission in 1872, the Satudene journeyed even more regularly to Fort Norman during the summer and even occasionally at Christmastime.

A New Way of Life

Towards the middle of the nineteenth century, a new way of life began to appear around Great Bear Lake. At first only a few families engaged in the seasonal trapping activities but, gradually, during the later years of the century, more and more Satudene made their bi-annual journeys to Fort Norman to trade their furs for the necessary supplies. The cold winter months were the least changed, with many Satudene encamped close to a lake supplying fish whilst hunting on occasional caribou, now easier to obtain with the new weapons. But the coming of spring saw many changes from the Satudene's old routine. Previously spring had been a time for chasing caribou and moose through the deep snow, increased fishing, and preparing for summer by mending or making canoes. For the hunter-trapper much of the spring was now occupied in procuring furs. As soon as the weather improved, the trapper took the few furs obtained during the winter to exchange for his spring outfit, which was usually supplied on credit. He then returned to the "bush".

Since little group co-operation was required in trapping, these camps usually comprised only one or two families. Early in the year men and boys set deadfalls for marten, foxes, and mink. Later on they used their new iron tools to break open beaver lodges, though beaver were never abundant in this region. The women in the camps stretched the hides and cleaned pelts as taught by the traders.

During the summer months many Satudene families had formerly come together, meeting at the known crossing places of caribou at the eastern end of the lake, for August caribou hides were best for making clothes. But now the hunter-trapper had to transport his spring fur catch across the open waters to Fort Norman to repay the debt incurred and to replenish his supplies of ammunition, food, and clothing. Sometimes, families would spend the summer fishing near Fort Franklin whilst awaiting the arrival of the supply boat; but, gradually, many of them spent the summer months at Fort Norman itself. With little time left for hunting caribou, European clothing soon replaced most of the aboriginal caribou clothing, much to the detriment of their health, since these garments soon in a filthy condition, afforded little protection against the elements compared with the caribou clothing (Stefansson, 1921, p. 26).

In former times, the Satudene had by autumn moved to the fish spawning grounds at Whitefish River, McVicar Arm, Deerpass Bay, or else to the lakes closest to the edge of the forest to anticipate the southward movement of the caribou from the barrens, before searching for a suitable location to camp for the winter. But autumn now became the most important fur trapping season, since all the fur animals were at their prime with the advance of colder months. Fishing, especially for herring,

was still important with the increasing use of dogs introduced by the Europeans for pulling sleds. The caribou were at their fattest and most nourishing at the end of September and early October but this was the very time when most of the hunter-trappers were many, many miles away at the trading posts along the Mackenzie River awaiting to be outfitted with European articles before leaving again for the autumn trapping grounds. Sometimes Fort Norman was late in receiving its supplies from the south, and much of the trapping season was lost, providing additional hardship to the Satudene. The taking of marten, mink, foxes in deadfalls, the shooting of beaver and snaring of lynx continued until the major lakes began to freeze, when the fall furs were taken by toboggan to Fort Norman to be exchanged for tobacco, ammunition, food, and blankets, the latter so necessary now that there was little time to hunt for caribou hides.

Other dietary changes occurred. As it became more difficult to hunt sufficient quantities of caribou to supply the families' needs, fish began to assume greater importance in the diet, although the Indians had long recognized it to be inadequate by itself (Franklin, 1828, p. 69). European food too, leftovers obtained from the trader-explorers, could hardly have compared with the feasts of caribou of previous times.

Although the Satudene, by the middle of the nineteenth century, depended less on caribou for their daily needs, they had not entirely abandoned their hunting existence. Similarly, although they came to depend more on the trade goods, they were unwilling or unable to devote themselves entirely to trapping. They became, therefore, less able to support themselves in the traditional manner, whilst failing to secure

sufficient means whereby they could acquire adequate produce from the traders to supplement their decreasing utilization of the natural resources. The debilitating and multifarious effects of European diseases on the Satudene coupled with a decrease in their previous mobility as a result of their partial and growing dependence on the forts, brought about an end to the former ecological balance.

Social Implications of the Fur Trade

Less tangible and recognizable, but of equal if not greater significance, was the effect of the fur trade on the breakdown of the social organization. Hunting was not just a subsistence technique for the aboriginal Satudene, it was an entire way of life; his every action and belief was tied up with hunting from the day he was born until the day he died (Laughlin, 1968, p. 304). The Satudene hunter was not an intruder on the environment but was himself "an element in the ecosystem". This relationship was intimate and although the hunter was possibly never perfectly adapted to the conditions around Great Bear Lake, there must always have been a degree of "adaptive stability" present which allowed him to exist (Dunn, 1968, p. 228).

The traders and explorers at Great Bear Lake did more than establish a new economy. It was not simply a question of less hunting and more trapping, of famine and disease, of guns instead of bows and arrows, of European clothing instead of caribou hides. Their actions led ultimately to a breakdown of the complex fabric of the Satudene culture, for cultures "are more than the sum of their traits" (Benedict, 1959, p. 47). The words of an old Digger Indian in California, "Our cup is broken!" could

well have been spoken by an old Satudene of the nineteenth century, and, likewise, Benedict's (1959, p. 19) explanation, mutatis mutandis:

Those things that had given significance to the life of his people, the domestic rituals of eating, the obligations of the economic system, the succession of ceremonials in the villages, possession of the bear dance, their standards of right and wrong - these were gone, and with them the shape and meaning of their life. The old man was still vigorous and a leader in relationships with the whites. He did not mean that there was any question of the extinction of his people. But he had in mind the loss of something that had value equal to that of life itself, the whole fabric of his people's standards and beliefs There were other cups of living left, and they held perhaps the same water, but the loss was irreparable. It was no matter of tinkering with an addition here, lopping off something there. The modelling had been fundamental, it was somehow all of a piece. It had been their own.

The fur traders' practice of instituting chiefs in a people who had previously no similar concepts of formal leadership, was one factor contributing to this social disintegration. As mentioned previously, there had been leaders in aboriginal times among the Satudene, but in a horizontally structured society such leaders only assumed importance for a short while, fulfilling a particular need, because they were acknowledged as being the ablest at that specific task. Elderly men were chosen as a rule, but they were leaders only for the duration of the hunt. Once that was over, their powers were gone and they exerted no authority on any of their fellow men. Indeed, in some bands they were not even honoured with any special part of the kill, nor with its dispersal (Richardson, 1852, p. 252).

The Europeans imposed a formal system of leadership on the Indians by giving prestige and honour to the best hunter-trapper in anticipation of eliciting more furs from his "followers". "On these occasions a suit

of clothes is bestowed In the course of time, the individuals thus distinguished obtain some weight in the councils of their people, but their influence is very limited" (McLean, 1849, vol. 2, pp. 145-7).

Richardson (1852, p. 258) added

The power of a chief varies with his personal character. Some have acquired an almost absolute rule, by attaching to themselves in the first instance an active band of robust young men, and using them to keep in order any refractory person by claiming his wife, after the custom of the tribe A free expenditure by the chief of the presents he receives from the traders, and even of the produce of his furs, is a main bulwark of his authority, in addition to the skill which he must possess in the management of the various tempers with which he has to do.

Such behaviour was quite contrary to that of the former leaders with their prime regard for individual autonomy. With the introduction of firearms less skill was required in hunting, and it became easier for the less enterprising to hunt as successfully as the older, more experienced men. Consequently, the more ambitious younger men were often chosen as chiefs by the traders.

The institution of trading chiefs disregarded and undermined the former respect paid to the older, skilled huntsmen. But they, in turn, were sometimes forced to accept the domination of the younger men, for the Satudene, as they came to require more European goods had to depend, even if only periodically, on the new trading chiefs. Such obeisance led eventually to a decrease in individual autonomy, a prime ingredient in the aboriginal Satudene culture (Helm, 1961, p. 174). It led also to the growing importance of a trading band establishing a semi-permanent relationship with a particular post through the trading chief, and eventually to the idea of prescribed trapping areas, further restrict-

ing their mobility (pers. comm. with several older men at Fort Franklin, 1969).

With close relatives dying in large numbers, the co-operative, closely knit, self-supporting, autonomous family was weakened and the individual could no longer depend upon it to provide for his security and economic needs. Nor did the trapping and trading activities encourage such co-operative behaviour. Food and clothing, if available, had never been denied to the less fortunate before, but trade goods such as beads which garnished the hunter's costume, tools, cloth, guns, and ammunition were items that were not shared among families (Stager, 1962, pp. 318-9). Petitot (1893, p. 434) indicated in the 1870's that since the Satudene had acquired a desire for obtaining profit from selling furs and working at the forts and missions, avarice had replaced the former hospitality found in the camps.

The Satudene's beliefs and customs were ridiculed and ignored by the Europeans. Taboos and superstitions of various kinds had in the past formed the buttress of their religious beliefs, but now taboos were disregarded with impunity, while superstitions aroused only incredulity and denigration. Even the shaman with his direst spells had no effect against the new forces engulfing them. Economically and socially the Satudene were cut adrift from their old moorings at the very time when their ranks were being decimated by disease and famine (Jenness, 1963, p. 259).

One of the symptoms of social disintegration among the Satudene was the increase of "social mortality" (Dunn, 1968, p. 225). Although there is no accurate documentation it would appear from the early literature

that the practices of abandonment, infanticide, abortion, murder, feuding, cannibalism, and suicide, were comparatively widespread in the Great Bear Lake region prior to the actual arrival of the Europeans in the nineteenth century. But many accounts of these practices pertain to this later period although incidents of murder, cannibalism, and suicide would not have been major causes of mortality. Those abandoned were usually very young or old, that is, those who were unable to fend for themselves. But "the imputation that the Satudene abandoned their aged and infirm is only to be judged upon the realization of conditions that make such procedures necessary for the continued life of the group" (Osgood, 1931, p. 79). Several writers commented on many "unquestionable instances of tenderness and affection shown by children to their parents, and the compliance with their whims, much to their own personal inconvenience" (Richardson, 1852, p. 253). Children abandoned were frequently orphans (Franklin, 1828, p. 64; Simpson, 1843, p. 187; Petitot, 1893, p. 86), and usually females.

Infanticide was certainly practiced by the Satudene, particularly in the case of female children, even in aboriginal times. It seems certain that the practice increased after the period of indirect contact (Masson, 1889-90, vol. 2, pp. 109, 119; Franklin, 1828, p. 64; Simpson, 1843, pp. 187, 202, 323; Hooper, 1853, p. 319; Petitot, 1893, pp. 86, 110). Insufficient food was generally given as the cause. Wentzel (Masson, 1889-90, vol. 1, p. 86) reported of the Beaver-Slave, "that it is a great deal of trouble to bring up girls, and that women are only an encumbrance, useless in time of war, and exceedingly voracious in time of want". The Satudene probably like the Loucheux women "killed their

children to save them from the miseries and hardships of life and that not to do so would be almost an unnatural crime". Twins, deformed babies, and children born out of marriage were also very liable to destruction (Osgood, 1931, p. 76).

Franklin (1828, p. 291) counted thirty-one murders "perpetrated on the borders of this lake since 1799, when the first trading post was established". In the last instance cited the victim had carried off the hunter's wife. The husband pursued the guilty pair and shot the seducer, as well as battering his wife senseless. Other instances mentioned arose apparently from similar events, such as when "du temps de Franklin" (1825-27), according to local accounts 50 years later, eleven Indians were murdered by three of the Company's Métis who desired one of their women (Petitot, 1893, p. 106). Several murders were also committed during Petitot's first visit to the lake, "bien qu'en mon absence et par des infidèles adonnés au chamanisme ou jonglerie".

It appears from the many examples cited that the Satudene were, on occasion, "driven to the necessity of eating one another" (Glover, 1958, p. 22). McLean (Wallace, 1932, p. 343) stated that "cannibalism is more frequently known among the Slaves and Rabbitskins [Hares] than any other of the kindred tribes; and it is said that women are generally the perpetrators of the crime". In view of the closer proximity of these two tribes to the forts and traffic of the Mackenzie River and their greater distance from the caribou, famine and disease was almost certainly more prevalent among them. Hooper (1853, p. 304) mentioned an instance in which a group of Hares arrived at Fort Good Hope in the 1840's, only to find that the fort's annual supplies had not arrived. Fifty-two of the

starving Indians perished within two hundred yards of the fort, and the survivors were but living carcasses; they had not succeeded in killing any caribou that winter and the hares had failed. "The gentleman in charge of the station at that time heard one night the blows of the axe in the lodges near the Fort, by which the weaker were killed, to be devoured". Hooper (1853, p. 303) also referred to a man who had in his youth eaten eleven people "among whom (charity begins at home) were, I believe, his parents, one wife, and two children".

Unlike the many references in the early literature to cannibalism, there are very few pertaining to suicide. Franklin (1828, p. 301), however, claimed that it was not as rare as he had previously imagined, and had been informed of two cases occurring in the year 1826 around Great Bear Lake.

It is likely that many of these practices increased during the early period of contact with the Satudene as periods of disease and famine exerted greater pressures on them. The traders, explorers, and missionaries admonished the Satudene and discouraged them from continuing these practices, and Simpson (1843, p. 187) mentioned that "they have been so severely taken to task by the Cos. officers for similar acts of barbarity [abandonment and infanticide] that they are now comparatively rare, and in general carefully concealed". Petitot (1893, pp. 86-88, 106-7, 110) later cited several examples of similar practices and if infanticide and abandonment were rarer at certain times it was almost certainly due as much to the availability of food at the forts at the time of their occupation as to the berating and discouragement of the Europeans. To what extent these practices were continued in the intervening years can

only be surmised, but the incidence of all the practices undoubtedly reflected the annual fluctuating availability of food resources, and the corresponding extent of famine and despair.

In a world that was falling apart, normal day-to-day activities such as having and raising children might have no longer seemed worthwhile:

Sympathy and the desire to avoid pain and hardship are universal. But these tendencies are balanced by powerful trends towards accepting usual events as 'natural' and inevitable, and toward behaving as others with whom one is associated have behaved and expect one to behave

Actually, the social organisation of any stable, intact society usually exerts a positive influence on fertility But in some situations these influences may be so conflicting or ambivalent as to be neutral in net effect. In particular, processes of social conflict and cultural shock may disrupt the fabric of social relations and destroy the values that give human life coherence and force, leaving in their wake a chaos of conflicting interests, or an apathetic accommodation to circumstances. Under such conditions trends in fertility tend to be determined by dissociated motives, inconsistent with orderly social life, or by elemental human impulses - along with physical factors affecting health and disease, fecundity and sterility The behaviour of individuals no longer provides patterns to which other individuals can relate their interests and activities with some sense of security (Lorimer, 1954, pp. 116-7).

The response expected from an increase in the death rate particularly among infants, following widespread diseases and famine, is a corresponding increase in the birth rate, since there would now be no survival reason not to have another child. If the child being weaned had died, then another child could replace it without endangering the rest of the family. But human reactions are seldom that simple. As indicated by both the survival rate (Fig. 20) and the percentage of children to the adult population (Fig. 23), dead children were not being adequately replaced. This was due in part to the high rate of female mortality,

associated with childbirth (Fig. 21). Many of the new diseases introduced, such as syphilis, measles, and smallpox, would also have tended to cause sterility. Furthermore, Lorimer (1954, p. 117) suggested that sterility might also be directly associated with the "conflicts and frustration characteristics of acute social disorganization", and the "lack of social support for personal needs and new opportunities for profit or pleasure may result in widespread avoidance of parental responsibilities", resulting in abortion, abandonment, and infanticide. According to the examples cited in the literature and mission records, such was probably the case among the Satudene women of the nineteenth century.

Missionaries

By the time the missionaries arrived on the scene the aboriginal way of life had been drastically altered. Although many of the Satudene still hunted caribou and fished seasonally, the effects of establishing the fur trade in the region of Great Bear Lake, whether by the fur traders or by the incidental activities of the explorers, must have been obvious to the first missionaries. Trade had been accomplished at the cost of an increase in European diseases and the decimation of human respect. By increasing the Satudene's dependence on the articles obtained from the trading posts, in particular guns and ammunition, the former mobility of the hunter had been reduced. Routeways of new significance leading to the trading posts, or explorers' forts, had replaced the migratory trails of the caribou. New and youthful leaders exerting pressures on others to follow them had replaced the loose leadership of

old and experienced hunters. His clothing afforded little protection from the elements, while new articles in his diet were equally unsuitable and weakening. His customs and taboos, which had been so important in providing meaning and apparent control to his environment, had been ignored and ridiculed. The shaman too had lost much of his former influence since his magic seemed powerless against these new diseases. Periods of famine were frequent, as were the practices of abandonment of young and old, of infanticide, murder, and even cannibalism. With the retreat of the traders and explorers from the vicinity of Great Bear Lake in 1851 many of the Satudene tried once more to return to the old ways of hunting and gathering, but their ties with the traders had been too strong and the new articles which they had become accustomed to had to be obtained. But now it was necessary to journey even further to the forts on the Mackenzie River, or, after 1852, to Fort Rae. For a brief period the Hudson's Bay Company did again establish a post at Fort Franklin, but after its return to Fort Norman in 1868, the Satudene were forced to make the longer trips away from their hunting grounds around Great Bear Lake to these distant posts. Such were the Satudene when Father Petitot arrived at Great Bear Lake in 1866.

Indians journeying to the other forts had already made their acquaintance with the new Christian religion with the arrivals of Archdeacon Hunter and Fr. Grollier in 1859 (Duchaussois, 1923, pp. 213, 249, 270) at Forts Rae, Norman, and Good Hope. With the exception of the Mountain Indians at Fort Norman, who had previously been introduced to the Protestant Church through their contacts with Yukon Indians, the majority of the Indians in this region, including the Satudene, were soon baptised

into the Catholic Church, by the nomadic priests visiting their camps.

It is of course difficult to evaluate the degree of conviction for and understanding of the new religion by the Satudene but, by 1869, Petitot (1893, p. 274) stated that "le nombre des chrétiens du lac des Ours a 268". Possibly the aboriginal concept of "sin", that is punishment for the violation of a prohibition, could quickly be allied with the sin-guilt complex of Christianity (Spencer, 1959, p. 381). Furthermore many of the practices of the Church could easily be grafted on to the aboriginal religion with beliefs in the potency of good and bad spirits existing simultaneously with the Roman Catholic beliefs (Hurlbert, 1962, p. 71).

The missionaries at Fort Norman and Good Hope tried to grow their own gardens, as did the Hudson's Bay Company factors. Supplies were annually brought in on the Company's boats (Duchaussois, 1923, p. 58). But it was also necessary for them to employ some local Indians to procure winter food supplies. Generally, the Indians hunted for caribou and moose. The usual method was for the Satudene to hunt for meat, cache it, and come and inform the priest of its whereabouts, whereupon he or the brother would have to collect the cached supply (Duchaussois, 1937, p. 161). Meanwhile the priest and brother, assisted by other Indians, fished, for it was the important autumn fisheries on which the missions depended (Duchaussois, 1937, p. 174). Since there was a shortage of fish at Fort Norman it was also necessary to obtain sufficient supplies from the Indians at Great Bear Lake (Duchaussois, 1937, p. 89). The Indians begged from the priests just as they had done with the traders and explorers in the past when food was in short supply. Conversely, there

were many instances when the nomadic missionaries had to depend on the Satudene to feed them at their camps.

A few Indians living around the forts were also hired as interpreters until such time as the priests became familiar with the language (Hurlbert, 1962, p. 11). Although the priests probably obtained the few furs required for personal use from the Satudene, Duchaussois' (1937, p. 164) comment suggested that missions provided no competition to the trading companies in this matter: "In the early days in the Northwest, the Hudson's Bay Company thought it quite wrong for any one to possess or to sell any skin. The Company's monopoly ended in 1870, on terms very favourable to the Company. But even now the missionaries seldom come by any valuable fur".

After the disastrous 1865-66 smallpox epidemic which spread through the Mackenzie Region including Great Bear Lake region, a school was opened in Fort Norman by the Protestant Church, and a teacher was appointed to teach the orphans who had been left destitute by the epidemic. This school was closed in 1868 (Cody, 1908, p. 57). For similar reasons a school and hospital were established in 1867 by the Catholic Church in Fort Providence, for destitute Indians throughout the Mackenzie District (Duchaussois, 1919, p. 125). It is possible therefore that a few of the Satudene in these early years spent some time at either of the schools.² Certainly it was among the missionaries' objectives to educate as well as Christianize the natives (Duchaussois, 1923, p. 28). Stefansson (1921, p. 26) criticised the mission schools

² Petitot (1893, pp. 325-332) referred to a few Satudene who knew some French which they might have learnt at Fort Providence.

since the Indian learnt "contempt for the way of his ancestors, but after all, the ways of his ancestors are the only ways that can prevail in that country".

This attitude of "Europeanization" whilst holding true for the children at the missions, does not seem to have prevailed as thoroughly among the missionaries visiting the Indians at their camps. In general the missionaries apparently encouraged the Satudene to remain as hunter-trappers around the lake. Petitot (1893, p. 163) certainly disapproved of the inconvenience caused by the long trips to either the Mackenzie River forts or Fort Rae when no other posts existed at Great Bear Lake since their location forced the Satudene to be away from their hunting grounds for too long. Petitot (1893, pp. 409, 445) mentioned that a few of the Indians had built crude log houses around the lake shores but at this time these were not associated with either of the two old fort sites. Gradually, during the century, the mere presence of both traders and priests at the forts, and the inconvenience of long journeys to and from the hunting grounds resulted in a few of the Satudene joining others in building houses at Fort Norman and possibly at Forts Rae and Good Hope, but there was no settlement of houses at Great Bear Lake until 1902. Stefansson (1921, p. 28) criticised this policy of encouraging the Indians to build houses closer to the forts, stating that permanent houses were much more conducive to the spread of tuberculosis than were the moveable tipis.

Missionary activities during the remaining years of the century tended to continue and consolidate the earlier effects of the traders and explorers by further ridiculing and undermining their aboriginal

religious beliefs and customs. The new articles introduced by the Europeans must have impressed the Satudene considerably, especially the gun. A Nahanni chief's statement probably summed up the attitude of many Satudene too: "Any people in possession of such a wonderful 'talking stick' must certainly be superior beings" (from Stager, 1962, pp. 286-7). Tales of the "Black Robes" preceded the missionaries and, according to Petitot (1893, p. 349) many of the Satudene eagerly awaited the arrival of the missionaries who had come to save them with Christianity. It was as if the Satudene required a spokesman of superior powers to replace the ineffectual efforts of the shaman in appeasing the supernatural powers. The Indians quickly accepted many of the new religion's ways, such as refusing to work on the Sabbath (Duchaussois, 1923, p. 223) considering it wrong to even fire a shot on the "Lord's Day, unless in the greatest necessity". The missionaries provided the Satudene with small calendars, a cross marking every seventh day, at which time the people in the camps banded together for prayers.

Although the shaman's power had diminished considerably even before the missionaries arrived at Great Bear Lake, yet "the power of the sorcerer is not completely broken even to this day (Duchaussois, 1923, p. 30) and "whatever may be thought of all the 'medicine', the pagan Indians even now let few of the events of life pass without having recourse to their traditional superstitious practices" (1923, p. 33). The missionaries who had "not witnessed such practices" (1923, p. 32) referred to some of them as more "silly than wicked" and these disappeared slowly, whereas those considered "manifestly wrong or barbarous" were, according to Duchaussois (1923, p. 218) soon driven away by the

teachings of the missionaries. Among the latter were their only two vices, according to Petitot (1893, p. 430), divorce and polygamy (p. 434) both linked to their attitude to women.

Many early explorer-traders had commented on the treatment of women among the Satudene, describing "the barbarity, drudgery, and toil to which the women are exposed ... [and who] live for the most part in abject slavery" (Masson, 1889-90, vol. 2, p. 107). Although this might have been an exaggeration and misunderstanding of a woman's role in a hunting society, certainly their life was harsh, and little consideration was given to women in times of parturition, starvation, or sickness. The introduction of some trade goods such as clothing and brass pots (kettles) might have lessened their duties somewhat, and the use of dogs for pulling sledges later in the century would certainly have provided some measure of relief. The missionaries too were appalled at the treatment of women (Petitot, 1893, p. 193) and much of their teaching was directed towards improving the position of women in the Satudene society. They castigated the men for their treatment of their wives, and Duchaussois (1923, p. 34) claimed that the doctrine of "Mary Immaculate, preached by the Catholic Church, raised poor pagan woman from her low estate". In similar manner, the missionaries strongly criticised the Indians for their practice of abandonment, infanticide, and abortions, and took every opportunity to discourage them from continuing these practices regardless of famine or despair.

The priests did, however, manage to restore some semblance of stability to the family unit by sanctifying marriage and forbidding re-marriage unless one partner had died. Barrenness, or at least the

absence of children which was always attributed to barrenness on the part of the women, was still considered a valid reason for divorce among the Satudene. Petitot (1893, p. 435) expressed his sympathy toward their fidelity problems, realizing that at times the Church's laws were difficult for them to understand and obey:

Mais persévérer dans la fidélité ou dans l'unité conjugales avec une femme sterile! Ah! voila qui dépasse le jugement et la compréhension des Denes. Ce n'est que par la mort dans l'âme et par un sacrifice héroïque qu'ils consentent à vivre solitaire et sans honneur, considérés comme des arbres secs et impropolifiques.

Petitot (1893, pp. 24, 111) also taught the Satudene that according to the church, marriages between cousins and other blood relatives were incestuous as was polygamy, and that unions contracted by force or through fear were unjust and invalid, whilst clandestine unions were considered illicit. Although he cited several instances during his earlier visits to Great Bear Lake of members of his flock ignoring these rules, gradually his and the other priests' teachings were adhered to.

The gradual acceptance of the new religion restored a certain measure of meaning and security to the Satudene's lives again. At the same time the priests and traders rejected and denigrated what remained of their past customs and beliefs. The resulting incompatibility of the traditional norms and values with those implicit in the new trading economy and new Christian religion effected considerable confusion and stress on the Satudene. Symptomatic of this conflict were the dramatic millenarian movements which periodically sprang up. Several of those occurring around Great Bear Lake were described by Petitot (1893,

p. 323).³

Human beings cannot long endure a situation of acute conflict. Conflict tends to be followed by acquiescence and accommodation. Orderly social relations of some sort begin to emerge, and new routines are established. Men and women in sexual relations take account of the satisfactions and security of more or less stable conjugal unions. The process of accommodation may, nevertheless, leave a residue of frustration, apathy, and irresponsibility to social obligations. Such a situation does not generate the aspirations of self-confidence required for sustained action toward the achievement of accepted goals. The role of cultural values in the determination of behaviour becomes relatively weak.

The pattern of social accommodation thus tends to release elemental drives in reproductive behaviour, but channels these drives along conventional lines, consistent with orderly social relations. In such situations biological factors, in association with cultural indifference to the frequency of births, may induce high fertility (Lorimer, 1954, p. 117).

The missionaries, in reinforcing the sanctity and unity of the family helped to establish the kind of "orderly social relations" and "more or less stable conjugal unions" mentioned above. Whether it was the priests who introduced them to the Satudene, or whether the Indians had already begun this "process of accommodation" reinforced later by the Church's teachings is a moot point. The Church did provide, at the critical time, the necessary channel whereby the Satudene could "release elemental drives in reproduction behaviour ... along conventional lines, consistent with orderly social relations". By the end of the century, polygamy and divorce had virtually disappeared; so too, to a large extent, had the practices of abandonment and infanticide (Osgood, 1931). The death rate, particularly among infants and females, continued to be very

³ The writer also witnessed one such incident among the people of Fort Franklin as late as 1967-8, which incorporated a prophet and other messianic characteristics.

high; changed health, social and psychological conditions with a resultant apathy towards the new economic conditions and opportunities, had made famine endemic in this region. But the birth rate, too, was now very high. The mission records of the early twentieth century are filled with examples of a high birth rate paralleling a high death rate.⁴ Since the improvement of medical health and auxiliary services in the last twenty years, the death rate, particularly among infants and females, has declined very rapidly, allowing for a phenomenally high natural increase among the people of Fort Franklin.⁵ The process of accommodation continues.

⁴ One woman gave birth to thirteen children (this figure does not include possible still-birth); the first four died, two lived out of the next five, and the last three survived.

Another woman had eight children, six of whom died in the first year; the remaining two died before attaining puberty.

A third woman had nine children. Only one survived to reach puberty.

⁵ In Fort Franklin in 1965, the crude birth rate was 45.9, and the crude death rate 9.6, resulting in a natural increase of 36.3. 62% of the population were under twenty years, and 50% were under 15 years of age.

SUMMARY AND CONCLUSION

Throughout the history of the Satudene the factors of demography and human ecology have been inextricably enmeshed. The aboriginal Satudene culture and society was dominated by the barren ground caribou, and, to a lesser extent, by fish from Great Bear and other lakes. For many months of the year the Indian pursued the migrant caribou, which provided him with most of his required resources: his food, clothing, shelter, and artifacts. At other times fish provided a basic sustenance, whilst other animals and berries provided the necessary variety of diet and the additional requirements of his livelihood. Mobility - the freedom to follow the caribou - was essential; it was crucial to the Satudene's ability to adapt to the changing resources available.

Reflected in his social organization was the Satudene's autonomous existence; being tied to one locale or one group of people was foreign to him. Leaders existed, from time to time, but their leadership was neither binding nor authoratative, merely necessary for the greater success of the hunt. Associations with other people altered from season to season according to the availability of food. Only the family unit made demands on the individual. The family, which was self-supporting and self-sufficient, provided him with security and sustenance in return for his co-operation in the hunt and other routine activities. His primitive religious beliefs, superstitions and taboos, helped him to account for and assuage the surrounding strange forces.

The demographic pattern both reflected and contributed to the

relative balance that existed between man and his environment. The balance was not perfect and at times hardships and famine ensued. But over a period of time and place a relative demographic equilibrium was possible. Periodic territorial adjustments were made, allowing for larger groups when the natural resources were adequate, and facilitating the easy break-up into smaller groups when resources declined. Means acceptable socially and culturally were available to regulate the size and structure of the family, so that each couple raised only a few children adequately spaced so that the family's mobility would not be endangered.

For how long this relative equilibrium between population and resources had been maintained in this area it is impossible to say. It is likely that true equilibrium was never achieved since societies are seldom static and a certain degree of conflict is both essential and normal for the continued growth of any society. But compared to the degree and kind of conflict, stress and disequilibrium resulting from European contact, the earlier period can only be described as stable.

Towards the middle of the eighteenth century there was probably pressure from Indians fleeing northward to Great Bear Lake from the rifle-equipped Chipewyans and Crees. The initial impact of remote European traders was being felt at Great Bear Lake. During the latter part of the eighteenth century and throughout the nineteenth, many changes in the economic and social structures of the Satudene were witnessed. Diseases, accompanied by famine, swept through the Great Bear Lake area, striking down families in their entirety. Successive waves of the same diseases took their toll mainly from the very young and old. Decimated,

weakened, and demoralized by the initial contact, the Satudene had now to face the arrival and challenges at Great Bear Lake of the European traders, explorers, and later, missionaries. These newcomers introduced a new way of life, affecting both the material and social culture. The rewards of the new economy required the acquisition of furs and an adherence to the mores of Christianity. Disease and famine continued to strike periodically, but life at the forts assured a greater measure of security at these times, for chasing caribou required strength and endurance and the Satudene were by now considerably weakened.

The explorers and traders at Forts Franklin and Confidence required meat and furs. To assist the Indians in procuring sufficient for them, as well as meeting the needs of the Indians' families, firearms were introduced. But firearms, whilst increasing the possible number of animals killed, placed the Satudene in a dependent position not so much on the habits and migrations of the caribou, but rather on the requirements and location of the traders and explorers. A new resource-relationship was established, which assured the Indian of an easier and more secure sustenance while it lasted, but which entailed restrictions on his former autonomy and mobility. In order to avail himself of the material benefits of the Europeans, the Indian had to tailor his past migrational habits to satisfy these new needs, and as more of the Satudene exchanged their old hunting techniques and weapons for the apparently more effective firearms, the procurement of ammunition now became essential to their survival.

During the years when the traders and explorers were located at Great Bear Lake, the Indian could acquire his means of survival relatively

easily, either by scrounging at the forts, or by hunting with the easily available ammunition. In the intervening years (1805-11, 1815-25, 1827-37, 1839-48) and after the trader-explorers had left Great Bear Lake in 1851, many of the Indians tried to combine both the old and the new ways, commuting between their old hunting grounds and the distant forts at Good Hope, Rae, and more especially, Norman. Others tried to return to their old ways, using the trading chiefs as intermediaries whereby they could acquire a few things from the distant traders. But a return to the old ways was no longer possible, for coinciding with the economic changes which had disrupted the aboriginal hunting practices, were those of a sociological and psychological nature; levels of aspiration had changed, and serious conflicts between roles and values existed. The loose social organization which had served the aboriginal economy so adequately was discordant with the new economy and the effects of disease and apparent despair. Taboos, superstitions, and beliefs which had already proved to be ineffective against the rampaging forces of disease and famine, were ridiculed and blatantly ignored by the traders and explorers. The highly co-operative, close knit family unit had almost been destroyed by the countless deaths. Older, traditional leaders, respected by others for their skill and wisdom, were now usurped by the new and younger trading chiefs, who, unlike the former loosely attached leaders, required 'followings' to maintain their prestige at the forts.

Arriving in the 1860's, after the trader-explorers had departed from Great Bear Lake, the missionaries continued to destroy much of the cultural fabric by deriding the Satudene's remaining beliefs and customs, and supplanting them with Roman Catholic dogma and practices. They

appeared, however, to have restored a measure of security and strength to the family unit by solidifying marriage ties and by improving the position of women and children. Notwithstanding the Satudene's desire to visit the more distant Fort Norman for Christmas Mass, the priests visiting this region encouraged the Indians to remain close to their hunting grounds rather than move to the forts where they would have become even more dependent on the traders.

The increase, on initial contact, of social-morality practices such as abandonment, infanticide, abortion, cannibalism, suicide, murder, as well as the periodic millenarian movements, were symptomatic of the social stresses undergone by the Satudene. Initially, there had been a ready acceptance of European artifacts into the society. Gradually, egalitarianism gave way to a new heirarchy. Strains began to appear between new values and old values, and expectations which had outlived the institutions to which they were appropriate. Conflicts arose which were not soluble in terms of the existing norms of Satudene society, and traditional ways provided neither precedents nor cures for the new kinds of conflict. The result was not only a conflict between the two groups, but also a conflict within the Satudene.¹

The economic and social changes associated with European influences were reflected demographically in many ways. The previous migratory, widely distributed population became more centralized around Great Bear Lake, and in particular around the two forts, which formed the new foci for the Indians' activities. Later in the century, as Fort Norman became

¹ Referred to by Beattie (1964) as the dynomic aspect of social change.

the main trading post, the population centred more specifically on Fort Franklin, so that at the beginning of the twentieth century, a small settlement of log houses sprang up. Accompanying the distributional shifts were corresponding changes in population structure. A rapid decline in numbers followed the initial phase of widespread epidemics and famine. Although a compensatory high birth rate resulted, the combined effects of high infant and female mortality rates, accompanied by increasing sterility, due to both physical and psychological factors, meant a decline not only of the population, but also in its potential for future procreation.

In the caribou orientated society of aboriginal times, it would appear that there had been a subtle but effective balance between resources, social structure and demography. The environment had provided the Satudene with abundant resources and the social and cultural organization had enabled the utilization of these resources sufficiently to ensure the survival and continuation of the Satudene.

In the economy orientated towards trading which followed, the resources available were inadequately utilized as the Satudene social organization and customs were unable to change rapidly enough to meet the demands of the new economy. Nor could the demographic components, as both symptoms and causes, adjust sufficiently to the changes brought about by the trade based economy. The result was an ecological imbalance paralleling a decline in population among the Satudene of Great Bear Lake during the nineteenth century.

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APPENDIX A

USE OF ANTHROPOLOGICAL AND BIOLOGICAL DATA FOR
ESTIMATING ABORIGINAL SATUDENE POPULATION¹

Possible land area occupied by aboriginal Satudene

around Great Bear Lake (Fig. 2): approx. 20,000 sq. mls.

Ne: The yearly equilibrium number of caribou utilizing this area in winter (1,750,000 caribou; winter range of 350,000 sq. mls.; estimate based primarily on Banfield, 1954, p. 15) 100,000

Nb: The average number of caribou born in a year, at a birth rate of 220/1000 (Banfield, 1954) 22,000

(Ndh)p: The number of caribou lost in a year due to "natural" predators, eg. wolves (Banfield, 1954): 5% 5,000

(Ndh)a: The number of caribou lost due to accident eg. drowning (Banfield, 1954): 2.5% 2,500

$\frac{Ndh}{X}$ h: The number of caribou required in a year for hides per tent (based on an average of 8.5 people per tent) (Hearne, 1795; Richardson, 1852; King, 1836)

maximum expectation per tent 154

minimum necessary per tent 48

$\frac{Ndh}{X}$ f: The number of caribou utilized as food per tent² (Hearne, 1795; Richardson, 1852) 30

K: represents the proportional dependence by the human group upon the caribou.

¹ These calculations are based on the technique developed by H.P. Thompson (1966, pp. 417-424). See his article A Technique Using Anthropological and Biological Data for detailed explanation of technique. See also Comments, pp. 425-440 and Reply, pp. 444-445.

² Dog food was included in Thompson's estimate; it has been excluded here since dogs were apparently not used by the aboriginal Satudene.

Equilibrium Model

$$N_e + N_b - N_{dh} - \left(\frac{N_{dh}}{X} X\right)K = N_e, \text{ with } K = 1 \text{ and}$$

$$N_{dh} = (N_{dh})_p + (N_{dh})_a \text{ and}$$

$$\frac{N_{dh}}{X} = \frac{N_{dh}}{X} h + \frac{N_{dh}}{X} f$$

where X is the number of tents among the Satudene, and K represents the proportional dependence by the human group upon caribou.

Calculations for aboriginal Satudene

$$\text{Using } N_e + N_b - (N_{dh}) - \left(\frac{N_{dh}}{X} X\right) K = N_e$$

$$(a) 100,000 + 22,000 - (5,000 + 2,500) - (154 + 30) X \times 1 = 100,000$$

$$14,500 + 184 = X$$

$$78.8 = X$$

Minimum population (78.8 tents with 8.5 persons per tent) = $\frac{670}{}$
(approx. 700)

$$(b) 100,000 + 22,000 - (5,000 + 2,500) - (48 + 30) X \times 1 = 100,000$$

$$14,500 + 78 = X$$

$$185.9 = X$$

Maximum population (185.9 tents with 8.5 persons per tent) = $\frac{1,581}{}$
(approx. 1,600)

$$(c) 100,000 + 22,000 - (5,000 + 2,500) - (101 + 30) X \times 1 = 100,000$$

$$14,500 + 131 = X$$

$$110.6 = X$$

Population Expectation (110.6 tents with 8.5 persons per tent) = $\frac{940}{}$
(approx. 1,000)

APPENDIX B

CHRONOLOGICAL TABLE OF MAIN HISTORICAL EVENTS AT
AND AROUND GREAT BEAR LAKE FROM 1713 - 1900

Date	Event	Comment
1713	York Factory established.	Contact established between H.B.Co. and Northern (Chipewyan) Indians.
1717	Ft. Prince of Wales established.	
1769-72	Samuel Hearne and Matonabee to visit Coppermine River.	Detailed descriptions of Chipewyans by Hearne. Reached Coppermine River east of Great Bear Lake.
1778-9	Peter Pond erected house at Elk River, near Lake Athabasca.	Arrival of traders in this northwestern region.
1783-4	Formation of North West Company by merchants of Canada.	This Company, under its various titles, dominated trade in the northwestern region for the next 40 years.
	Crees at war with Beaver Indians.	Crees obtained guns from traders.
1786	Cuthbert Grant (N.W.Co.) established trading post at Great Slave Lake. Laurent Leroux (G.Mc.&Co.) also established trading post near by.	Much in-fighting between N.W.Co. and Gregory, McLeod & Co.
1787	Amalgamation of smaller companies under title of New North West Co.	Alexander Mackenzie appointed as manager of Athabasca District.
1788	Pond's post moved to Lake Athabasca; re-named Ft. Chipewyan.	Became centre of trading activity for northwestern region.
1789	Alexander Mackenzie's voyage to the 'Frozen North' down the Mackenzie River.	Descriptions of Indians located along Mackenzie River.

Date	Event	Comment
1789 (cont'd)	Crees sending raiding parties along Mackenzie River.	Slave and Dogrib Indians pushed further north.
	Leroux established trading post at Lac la Martre.	Trading with Dogribs just south of Great Bear Lake.
1790	Ft. Providence erected close to entrance of Mackenzie River.	First post erected on northern arm of Great Slave Lake, moved to southwest arm.
1793	Post re-established at Lac la Martre.	
1796	Ft. Simpson established.	
1799	Duncan Livingston established post at Great Bear Lake.	The traders had arrived at Great Bear Lake.
1804-5	Alexander McKenzie (N.W.Co.) at Bear Lake Castle.	Competition there from XY Co. Account of Indians trading there.
1804(?)	Ft. Good Hope post established near Hare Indian River by N.W.Co.	Some doubt as to exact date of location.
1804(?)	Ft. Norman established by N.W.Co. opposite Redstone River.	Some doubt as to exact date and location.
1811-14	George Keith at Bear Lake Castle.	Accounts of Satudene.
1814-15	Ferdinand Wentzel at Bear Lake Castle.	Accounts of Satudene.
1815	N.W.Co. evacuated Mackenzie District.	Bear Lake Castle closed.
1817	N.W.Co. re-established Mackenzie District.	Bear Lake Castle not re-opened.
1819-22	Capt. J. Franklin's first expedition to the Arctic Ocean, from Great Slave Lake via Coppermine River.	Accompanied by Copper Indians. Starvation on return journey.

Date	Event	Comment
1821	Assimilation of N.W.Co. by H.B.Co.	H.B.Co. given exclusive rights to trade with Indians. Northern Dept. put under charge of Sir George Simpson.
1823	Ft. Good Hope moved further north to Trading River.	To be closer to Loucheux Indians.
	Ft. Norman re-located 30 miles south of Bear River by H.B.Co.	
1825	Warren Dease at Great Bear Lake in preparation for Franklin's second expedition.	Site chosen because of fishing potential. Site named Fort Franklin.
1825-7	Franklin's second expedition, accompanied by Dr. J. Richardson.	Two winters spent at Ft. Franklin, summers spent exploring Great Bear Lake and Arctic Coast. Accounts of Satudene by both Franklin and Richardson.
1826	Ft. Good Hope post moved to Manitou Island on Mackenzie River.	Trade with Loucheux and Eskimo did not materialize.
1836	Ft. Good Hope moved to present site.	Manitou Island site flooded.
1836-9	Peter Dease and Thomas Simpson established Ft. Confidence (1837) on Great Bear Lake on return from Arctic coast.	Ft. Confidence built by Ritch for Dease and Simpson. Accounts of Satudene.
1844	Ft. Norman re-located near Keele River.	
1848-9	Re-construction of Ft. Confidence for Richardson's and Rae's return from searching for Franklin's missing third expedition.	Ft. Confidence re-built by John Bell. Accounts of Satudene.
1849-50	Lt. W. Hooper wintered at old site of Ft. Franklin.	Accounts of Satudene.

Date	Event	Comment
1850-51	Rae returned to Ft. Confidence for the winter.	Returning from searching for Franklin's third expedition.
1851	Ft. Norman moved to present site near mouth of Bear River.	
1852	Ft. Rae established at northern end of Great Slave Lake.	
1858-9	Archbishop Hunter visited Ft. Rae, Ft. Norman and Ft. Good Hope.	Arrival of Christianity at Great Slave Lake. Protestant Missions established; welcomed at Ft. Rae and Ft. Norman.
1859	Fr. Grollier and Rev. Kirkby arrived at Ft. Rae.	Roman Catholic Mission also established at Ft. Rae.
	Ft. Grollier visited Ft. Norman and Ft. Good Hope.	Roman Catholic Missions established; welcomed at Ft. Good Hope.
1863	John Hope (Metis) re-opened trading post at Ft. Franklin.	At request of Satudene, for their convenience.
1864	Ft. Norman-Franklin (Ste. Therese) Mission established at Fort Franklin.	Ft. Norman site on Mackenzie River flooded. Great Bear Lake visited by Fr. Emile Petitot.
1866	Fr. Emile Petitot first said Mass at new church.	Ft. Petitot built small church at Ft. Franklin (near old fort site). Petitot visited Great Bear Lake during years 1867, 68, 69, 71, 72, 77, and 78. Detailed accounts of Satudene.
1865	Disastrous smallpox epidemic along Mackenzie River.	Spread to Great Bear Lake.
1866	Protestant Mission and School founded at Ft. Norman.	For orphans left after epidemic.
1867	Serious measles epidemic along Mackenzie River. Ft. Providence hospital and school erected.	Influence felt at Great Bear Lake.

Date	Event	Comment
1869	H.B.Co. post moved back to Ft. Norman from Ft. Franklin.	Increased movement of Satudene between Ft. Norman and Great Bear Lake.
1872	Mission of Ste. Therese moved to Ft. Norman from Ft. Franklin.	
1876	Arrival of Fr. Ducot at Ft. Norman.	
1886	First Christmas Mass at Ft. Norman.	Satudene encouraged to visit Ft. Norman during summer and at Christmas.

APPENDIX C

METHODS OF DETERMINING POPULATION

In addition to the demographic sources referred to in Chapter III, a further source of statistical data available for much of this period was the record of vital statistics kept by the Roman Catholic Missions since their establishment in this region. The records of Fort Rae, Fort Good Hope, and particularly, Fort Norman missions proved to be most useful and relevant to this study. Some explanation of the methods used and problems encountered in obtaining pertinent information from these records may help the reader to assess the reliability of the results obtained.

In addition to the people located around Great Bear Lake, each record also included people from the surrounding areas; for example, Fort Norman's records also included Mackenzie River and Mountain Indians. Since the precise location of inhabitants was seldom noted, it was not immediately possible from perusing these records to identify people who were Satudene. A satisfactory solution was achieved by establishing genealogies for each married person living in Fort Franklin in 1968. In this way their antecedents were discovered, in some cases for as far back as six generations. About ninety percent of the current population was accounted for entirely through the Fort Norman records, indicating that they had resided in this area during the time when the Fort Norman priests, and earlier, a few Fort Good Hope priests, had entered these people into the Fort Norman records. From the known journeys of these priests as well as the occasional references to the Indians' location in the mission records, it was clear that since 1820 these people and

most of their descendents had resided continuously in the Great Bear Lake region. A few had more recent affiliations with Fort Good Hope, others with Fort Rae. The remaining 10 percent were traced directly to Forts Rae, Good Hope, Liard, or Providence, with most of these people having moved to the Great Bear Lake region after 1900.

The value of the mission records was limited because the author had access to them for only a few days, far too short a period to extract all the pertinent information. Since this information related only to the fore-fathers of the present population, those who died childless, or those whose children had left the region, were not listed. Furthermore, there were gaps in these records. For the years 1895 to 1920 the records of Fort Norman were no longer available. Since all the records were handwritten, some sections were indistinct due to age and past handling. In addition, the variety of handwriting in French and Indian sometimes made it difficult to decipher parts of the records.

One of the greatest difficulties encountered resulted from the inconsistent name usage through successive generations. It was customary for each generation in former times to adopt a different name, based usually on some personal characteristic of the owner; for example, Ttseedettou-oulle meaning "man without tobacco" or Sa k^r a-net^r-at^r a meaning "father of him who hunts bears" (Petitot, 1893, pp. 87, 194). Examples of generation name changes are given below:

Kiedsaja-Tsetweso father of Adolphe de Yekkaya father of Yeraweta
father of Victor Dolphus
Yenehyara father of Yamontchile father of Johnny Neyelle

The missionaries soon established the practice of giving the Satudene European names, in addition to their Indian names, so that Yettenetel was also called Philip Soldat, and Natutchile was also known as Isadore Baton, and conversely, the Metis trader Brisebois was also known as Laotser Yakonta. To add to the confusion, succeeding priests often spelled the Indian names differently.

Despite these limitations, much pertinent information was deducible which was not available from any other source. The missionaries' practice of usually mentioning the parents' names at the birth, marriage, or death of an individual, made it possible to trace many of the current population's progenitors as far back as approximately 1820. However, especially in these earlier records, dates of all three events for one individual were seldom given. In such cases dates could sometimes be affixed by other events, for example: while a woman born in 1860 died at some unknown date, the record showed that her husband re-married in 1890 so her age at death could be affixed at 'under 30 years'.¹ Where specific dates were not available twenty-year generations were postulated. It was possible to check and assure the accuracy of many of these deductions from Petitot's Exploration de la Region du Grand lac d'Ours (1893), where he referred to many of the Satudene by name, date, and location.

¹ Although previously the death of a spouse was not required before re-marriage, only under such conditions was re-marriage recognized and recorded by the missionaries.