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COLLECTION MERCURE**

**CANADIAN ETHNOLOGY SERVICE
PAPER No.27**

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DOSSIER No.27**

**PROCEEDINGS:
NORTHERN ATHAPASKAN CONFERENCE, 1971
VOLUME TWO**

**EDITED BY
A.McFADYEN CLARK**



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Cover Illustration: Contact traditional Kutchin camp based on a drawing from: "Journal du Yukon 1847-48" by Alexander Hunter Murray, Ottawa 1910, p. 86.

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TERRITORIAL EXPANSION OF THE CHIPEWYAN IN THE 18TH CENTURY

Beryl C. Gillespie

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TERRITORIAL EXPANSION OF THE CHIPEWYAN IN THE 18TH CENTURY

Beryl C. Gillespie
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Résumé

On a cru jusqu'à ce jour que les indiens Cris avaient été les agresseurs de certains groupes athapaskan dans leur période de contact initiale, soit à partir de la deuxième moitié du XVIII^e siècle et au début de XIX^e siècle. Le présent document, rédigé à partir de textes provenant d'ouvrages publiés et de dossiers d'archives, rejette cependant la première supposition et démontre que les tribus de Cris formaient la population aborigène du bassin du fleuve Churchill et qu'ils étaient répartis jusqu'au Lac Athabasca, à l'ouest. Ce sont donc les Athapaskan tchippewayan qui, à l'occasion du commerce des fourrures, ont envahi le territoire des Cris.

Abstract

It has been generally accepted that Cree Indians were the aggressors toward certain Athapaskan groups during the initial contact period, the last half of the 18th century and the beginning of the 19th century. Obversely, this paper, based on a combination of materials from published sources and archival records, disproves the previous postulate and shows that Cree groups were the aboriginal inhabitants of the Churchill River drainage as far west as Lake Athabasca and that as a result of the fur trade, the Chipewyan Athapaskans were the intruders into Cree territory.

Introduction

The basic aims of historical investigation within anthropology are to determine the aboriginal "state of the union" on the arrival of Europeans and the following influences of this contact of cultures through time. Diamond Jenness brought together as much as possible from fieldwork and historical materials available by 1932 to give an impressive overview in his *The Indians of Canada*. Since this energetic and comprehensive effort there have been few works that have included additional historical materials or different historical perspectives for the Northern Athapaskan Indians. With an increase of information from ethnology, archaeology and linguistics it has become clear that a

more thorough understanding of the historical period is essential. The use of unpublished historical documents and most especially the Hudson's Bay Company (H.B.C.) records provide a large quantity of information relating to all Athapaskan groups within the Canadian boundaries.¹ These documents allow for greater accuracy in our understanding of the historical period, and along with all other historical materials, can be used to reevaluate premises on how Indian groups moved or changed with the introduction of Euro-Canadian culture. This paper represents a part of this research and deals specifically with changes in Chipewyan culture and territory as a result of the fur trade.

Recent archival research and supporting archaeological evidence suggest a necessary reevaluation of aboriginal territory of contiguous Algonkian and Athapaskan groups. It is the purpose of this paper to combine the materials from published sources along with archival records that indicate that Cree groups were the aboriginal inhabitants of the Churchill River drainage as far west as Lake Athabasca and that the Athapaskan people, the Chipewyan, were the intruders into Cree territory as a result of the fur trade. It has been generally accepted that Cree Indians were the aggressors toward various Athapaskan groups during the initial contact period, the last half of the 18th century and the beginning of the 19th century. There is evidence Cree groups were spreading southward and westward from some of their aboriginal locations during this period, but it is suggested here that Cree movements did not intrude into as much territory exploited by Athapaskans as has been believed. Statements by E. Curtis in 1928 and D. Jenness in

¹I am very grateful to the National Museum of Man of Canada for sponsoring much of the archive research in Ottawa during 1970 and 1971. Supportive funds were also provided by the American Philosophical Society.

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1932 represent the accepted interpretation of Cree-Athapaskan change of boundaries at the beginning of the historical period:

The Cree...pressed beyond Churchill River, which had been their northerly limit, drove the Athapascans before them, and took possession of Athabasca river down to the lake [Athabasca] (Curtis 1928:8).

As soon as they [Cree] obtained firearms from Hudson Bay, however, they expanded westward and northward, so that by the middle of the eighteenth century they controlled northern Manitoba and Saskatchewan as far as Churchill River, all northern Alberta, the valley of Slave River, and the southeastern part of Great Slave Lake (Jenness 1932:284).

The primary and almost single historical source that scholars have referred to for the general thesis of Cree expansion at the expense of Athapaskans is Alexander Mackenzie. He seems to give a detailed and quite reliable account throughout his writings and probably has been over-interpreted on this point. He never implies that the Chipewyan were driven from their aboriginal lands but he does say the Cree at some previous time drove out or destroyed the peoples on the Churchill River (1927:81) and at Isle à la Crosse:

Who the original people were that were driven from it, when conquered by the Knisteneaux [Cree], is not now known, as not a single vestige remains of them. The latter, and the Chepewyans, are the only people that have been known here; and it is evident that the last-mentioned consider themselves as strangers, and seldom remain longer than three or four years, without visiting their relations and friends in the barren grounds, which they term their native country (*Ibid*:86-87).

Mackenzie has the Cree as the true occupants of the Churchill River system and does not say they were newcomers to that area as is implied in the anthropological literature. This paper includes additional and supporting historical evidence that the Cree had not invaded the Churchill River area in response to the fur trade and that the Chipewyan were moving south into this area in the last half of the 18th century. But Mackenzie also says that the Cree "formerly invaded" the source of the Churchill River and the Lake Athabasca area driving the Beaver Indians west into the Peace River area and the Slave Indians north to Great Slave

Lake (*Ibid*:240, 136). Although these two Athapaskan peoples are not dealt with herein directly, and although there is much less historical material relating to them and their exploitative territory when they entered into the fur trade, Hudson's Bay Company records have the Cree identified with this area at least by 1750. If Cree were 18th century invaders of the Athabasca Lake region, due to fur trade factors, it is, as yet, an invasion without historical or archaeological evidence.

In the same way that previous scholars have incorrectly assumed that those "original people," that Mackenzie mentions in relation to the Churchill River, were Athapaskans; they may have also tried to date too specifically with the fur trade the Cree who "formerly invaded" the Athabasca region. The scanty record suggests the Cree were the residents of the Athabasca Lake region until the Chipewyan gradually moved into it. By the 19th century the Chipewyan were the dominant native group of the Churchill River system and the Lake Athabasca region as well as the continuing occupants of eastern Great Slave Lake to the headwaters of the Thelon and Back rivers, and southeast to Fort Churchill on the Hudson Bay.

The different perspectives by which Indians and Europeans refer to groups within the historical period will always remain frustrating. From the posts on the Hudson Bay, York and Churchill Forts especially, Indian peoples were most often referred to by the Europeans as Northern (Chipewyan), Southern (Cree), Western (Cree), Upland (Cree), Stone (Cree or Assiniboine) and Trading (Cree) Indians. Because of the confusion of names of Boreal Forest non-Athapaskan speakers, they will all be considered Cree unless otherwise specified.

The Beginning of History for the Athapaskans

The first historical reference to any Athapaskans comes in the last decade of the 17th century and the first part of the 18th century from the Cree trading into York Fort on the Hudson Bay. The three earliest reports refer to these Athapaskans as "dog-side" or "dog-rib" but this has no connection with the later specified Dogrib Indians of the Mackenzie Basin.² These were references to the Chipewyan, or "Northern Indians" who were the Athapaskans closest to Hudson Bay and who lived north of the Cree and north of the trading posts within an unknown territory. None of these references suggest the Chipewyan lived on the Churchill River or near the later site of Fort Churchill. In the summer of 1689 Henry Kelsey went north of Churchill Bay by sloop "26 leagues" and then inland to contact the "northern Indians Inhabiting to ye Northward of Churchill River & also ye dogside Nation" (1929:25) in order to begin trading relations with them. He remained on the barren grounds during this short excursion of unknown mileage inland and it is no surprise he met with no Indians in this general area of the barrens.³ Kelsey's lack of success is followed by twenty-five years of no further attempts to contact Chipewyan in their lands and the next mention of these Indians to the north is still based on hearsay.

During the time the French held York Fort, 1694, 1697-1714, M. de Bacqueville de la Potherie visited the fort and later described the Indians of the area.

²The origin myth that a tribe has come from the rib of a dog has been transcribed for the Chipewyan as well as the Dogrib Indians. Cree may have used this term as a derogatory reference to various Athapaskan groups.

³Kelsey is vary vague but it seems he did not go inland very far; perhaps 50 miles. Chipewyan did not exploit the barren close to the coast during the summer.

Included in his list of Indians are the "The Attimospiquaies. The word means 'dog's rib' [orig. text: 'Côte de chiens']. There has been no trade opened up with them yet because they dare not traverse the territory of the *Maskegon-hirinis* [Cree] with whom they are at war" (Potherie 1931:265). Nicolas Jérémie, French trader at York Fort (then called Fort Bourbon by the French) until it was recaptured by the H.B.C. in 1714, provided additional information on these Indians far to the north and of their hostile relations with the Cree Indians to the south of them.

Seal River extends up to the country of a nation called Dogribs [orig. text: 'Platscotes de Chiens'] who make war on our Maskegons, that is, the people with whom we trade. As they have no experience with firearms, no more than the Eskimos, as soon as they hear a few shots fired they all run away, leaving their women and children and these our natives carry away as prisoners and make them slaves...

The Dogribs have pleasant and kindly faces, and...if we could persuade them to trade, we would get along well with them. Their country is very barren, without beaver or other fur, and all they have to live on is fish and a kind of deer which we call caribou. The caribou they kill with arrows, and also take them with snares (Jérémie 1926:20-21).

It is curious trade would be desirable with a group that had no fur bearing animals but fur traders were generally optimistic that richer fur fields were over the next set of hills. Jérémie's account places these Athapaskans near or on the barren grounds and well north of the Churchill River system by the use of Seal River as their southerly border. This description also reflects the first direct contact with these people which was undoubtedly with a few "slaves" that Cree brought to York Fort. There is no indication that the Crees who were able to scare them with guns and take a few women slaves were new immigrants to the area of woods and rivers south of the Chipewyan or that hostilities were necessarily new between these two groups exploiting different ecological zones traditionally.⁴

⁴The ecological zones of the Cree and Chipewyan are discussed by James G. E. Smith in this volume.

It is most probable that these groups avoided each other more often than "warred," but Jérémie and Potherie imply war was a mutual affair. If the gun made it easier for Crees to raid an occasional camp of Chipewyan to the north, it is also possible an occasional Chipewyan band came south in hopes of finding or raiding for a few iron goods. Jérémie mentions that these "Dogribs" still had no iron "except what they come and pick up among the debris of the Danish fire" (*Ibid.*:21) which would be from Jens Munck's stay at the mouth of the Churchill River in 1619. Churchill was outside the traditional territory of the Chipewyan and to travel in foreign areas was always with the risk of being discovered by one's unfriendly neighbors which for the Chipewyan would be both Cree and Eskimo.

When York Fort is recaptured in 1714 by the H.B.C. the effort to contact and bring to trade the Chipewyan is quickly instigated by Captain Knight. He receives much of his information from a number of Chipewyan "slave" women, one of whom had been brought to the Fort in the spring of 1713 (H.B.C. Archive B. 239/a/1)⁵ and who was most likely Jérémie's source of information as well. In the summer of 1715 Knight sends out a large peace-making mission to the Chipewyan under the leadership of William Stewart and a "slave" woman. No journal has survived this expedition but Knight's journal indicates its general success. The "Slave woman" is reported to have contacted over 400 of her people and "brought with her about 160 Men the Cleverest (B.239/a/2)" to a place where they made peace with the Cree representatives in Stewart's party. Peace is made between the two groups and the Chipewyan are promised their own post at Churchill the following year. This was undoubtedly a peace agreement between a number of bands of both peoples but not inclusive of either in areas far in the western interior.

⁵This Chipewyan woman dies in November, 1714 at which time Knight mentions the number of months since she was taken prisoner which makes it April, 1713 (B. 7/a/3).

Among the Crees sent on this peace mission were the "Mishenepe" or "Great Water Indians" who had traded at York Fort but who are also the first Indians to show themselves at Fort Churchill the summer of its establishment, 1717. They continue to trade at Churchill every year in spite of initial efforts to keep them away from this post that was specifically built for the Chipewyan trade. The H.B.C. traders fear their visits would keep the Chipewyan from coming but these "Mishenepe" Indians try to convince Knight they would want to come to Churchill and that since there was peace now among them there was no reason to be concerned.

They told me they believ'd they could not Stop any of those Indians as lives on ye North Side of ye Mishenepe Lake nor ye Northern Sinnae Poets comeing to see me if [unless] I did not lett them have Goods, as likewise these Indians as Capt. Swan went & made peace with, wch is the Northern Indians friends (Kenney 1932:163).

Although "Big Water" and "Mishenepe" are terms used for various Cree groups it is clear that Knight used the terms to refer to the Cree of Southern Indian Lake on the Churchill River (Kenney 1932:57; Wright 1968:21). This passage indicates that these Cree lived north of Southern Indian Lake and that the "Northern Sinnae Poets" were another group of Cree living along this river system. These latter Indians as well as the "Mishenepe" are probably portions of the presently identified Rocky Cree of this area. There is archaeological evidence that Cree were inhabiting the northern Boreal Forest, which includes the Churchill River drainage, since the 10th century (Wright 1968).⁶ This means that Crees were the long-established southern neighbors to the Chipewyan, and lived along the Churchill River and to the north of this river in the forested zone.

⁶For a more complete account of the archaeology of this area see the paper by James G. E. Smith in this volume.

War and Peace

It is noteworthy that the 'Mishenepe' and other Cree Indians are reported as taking the peace made with the Chipewyans as a guarantee to the end of hostilities. Traders made efforts to curb hostilities between groups because it disrupted them from trapping furs and prevented prospective customers from joining the market. Captain Knight made many peace missions to create a general security for the trade and presents his goals clearly in 1717: "I am Endeavouring to make peace in the Whole Country Round from N to SWt for a 1000 Miles" (B. 9/a/3). This effort was apparently successful and accomplished in a very few years. There were occasional reports of conflict between groups far in the interior but, within the limits defined by Knight, hostilities were curbed. The immediate success of these peace makings shows a great willingness on the part of most Indians to end hostilities.

From the beginning of trade at Fort Churchill in 1718 both Cree and Chipewyan groups came annually, both doing most of their traveling and trading in June and July. By 1721 one small group of Chipewyans comes to trade and "it shooth yt. they are not affraid as formerly; they being but 4: Men of them & thay had 16: Wining [women] & Children; whereof 9: were young boys" (B. 42/a/1). Thereafter Chipewyan often come to Churchill in small bands at all times of the year no longer fearful of Cree. There were only two cases of hostility reported at Churchill during the first half of the 18th century. In 1725 Chipewyans report that "Southern Upland Indians [Cree] had been to Warr in their Country Last winter and had Destroyed a Vast quantity of their Countrey men" (B. 42/a/5). Although this kind of report could be an Indian exaggeration it seems to be based on some fact because Chief Factor Richard Norton asks a number of groups of Cree that come to trade that summer about this incident and they do confirm the event as well as those who were involved. During the following summer of

normal trading with Cree and Chipewyan groups, Norton casually comments "here Came Cannoes of Upland Indians and they Proved to be those Indians that was at Warr with the Northern Indians Last year, and I used them Accordingly" (B. 42/a/6). In this typical, uninformative brevity it is at least clear that conflict was limited to one Cree group and it did not interfere with the Indian traffic to Churchill; nor was it repeated. The other case of animosity between Cree and Chipewyan occurred at Churchill in 1729 when a Cree kills a Chipewyan man during the April goose hunting. This is a case of individuals but in order to prevent it from growing into something more serious the Chief Factor has a meeting of the two groups in June and "Made them [19 Chipewyan who had come to trade] Smoak friends wth. ye home Natives and they...went away Seemingly well satisfied" (B. 42/a/9). These two incidents demonstrate how traders became important mediators between Indian groups. Without an outsider even this individual killing could easily have included groups in revenge attacks. Europeans provided a neutrality that could be used to end traditional patterns of revenge and the post itself became neutral ground in most cases.

It has long been assumed that the onslaught of the fur trade and its trade goods, especially the gun, created many "wars" among the different Indian groups. It is supposed that those with guns and proximity to traders were the usual aggressors. Although this kind of competition and/or war existed, its duration was usually brief and has been an over-emphasized effect of the fur trade. If Crees, probably those living in the Churchill River system, did war against the Chipewyan in response to the fur trade, it was an episode of no more than 30 years (after the establishment of York Fort in 1682 to 1715) and probably very limited in its extensiveness. Once Fort Churchill was established both Cree and Chipewyan carried on their trade and travel annually without wars.

After peace is made, dislike and avoidance continued but the old hostilities never again reached the past proportions of group raids and killing.

The only ethnologist who has dealt with warfare as an aboriginal phenomena of the Canadian Subarctic Athapaskans is R. Slobodin for the eastern Kutchin (1960). The hostilities between Kutchin and Eskimo began before the influence of the European trade but seems to have been intensified for a brief period between 1840 and 1856 when posts were established and the Kutchin tried to maintain a position of middlemen (*Ibid.*:89). Although captives and loot were a part of these raids the main cause of war was revenge. A result of these hostilities was a neutral ground where neither group felt safe and which was left uninhabited (*Ibid.*:87). Neither the Kutchin or Eskimo were attempting to expand their territories by these war raids, before or during the fur trade. A similar pattern of traditional hostilities existed between the Chipewyan and the Eskimo of Hudson Bay and Coronation Gulf. There was a neutral land established between these two groups and also a similar situation of an increase in conflicts during a short period when the Chipewyan felt their superiority from direct involvement in the fur trade. Except for Churchill where the H.B.C. built a post for the Chipewyans, where Eskimo used to encamp,⁷ there was no change in territory, and this was obviously not a result of warfare.

It is possible that warfare between Athapaskan and Algonkian speakers as well as among Athapaskans was similar to this variety of war described between Athapaskans and Eskimos. The historical evidence will never be complete but it

⁷Eskimo are reported at the mouth of the Churchill River by Jens Munck in 1619 and they are reported to have killed 6 Chipewyan in that vicinity in 1715 (Kenney 1932:59, 117). Knight finds remains of their camps during the summer of 1717 when he established Fort Churchill (*Ibid.*:116)

suggests that traditional raiding existed between various groups and that the fur trade intensified these raids for a short time. This type of warfare was based primarily on revenge and taking over new territories was not a motive of a raiding party. The raids between Cree and Chipewyan before 1715 do not suggest any changes in aboriginal territories. In the second part of the 18th century, conflicts between Cree and several Athapaskan groups further in the interior repeat the history of war and peace described between Cree and Chipewyan trading into Churchill (*infra*). Prehistory indicates the Cree were the long established residents of the northern Boreal Forest and Athapaskans, presumably Chipewyan, were exploiting the taiga-tundra zone for a period at least as long.⁸ These groups exploited different ecological zones and probably avoided each other most of the time. A neutral ground may have developed between these groups within the Transitional Forest (see Fig. 1) which was not essential to either's livelihood or at least not exploited in the same seasons. With the advent of the fur trade the Cree increased their raids, probably in similar fashion as the Chipewyan and Kutchin did toward the Eskimo. When their lucrative position as middlemen was threatened the immediate response was to keep the peoples not in direct contact with the Europeans fearful and away from posts. The middleman role did not necessitate a change in aboriginal territories. Once direct trade occurred with the group that had been temporarily kept away, peace between them and the aggressors followed. This pattern of conflict was not limited to Crees and Athapaskans but also characterized relationships among these two language groups as well. Although the interpretation is speculative it is possible the conflict between groups during a short period of the fur trade was based on traditional hostilities and revenge raids and not caused by the fur trade. This

⁸For a more complete account of the archaeology of this area see the paper by James G.E. Smith in this volume.

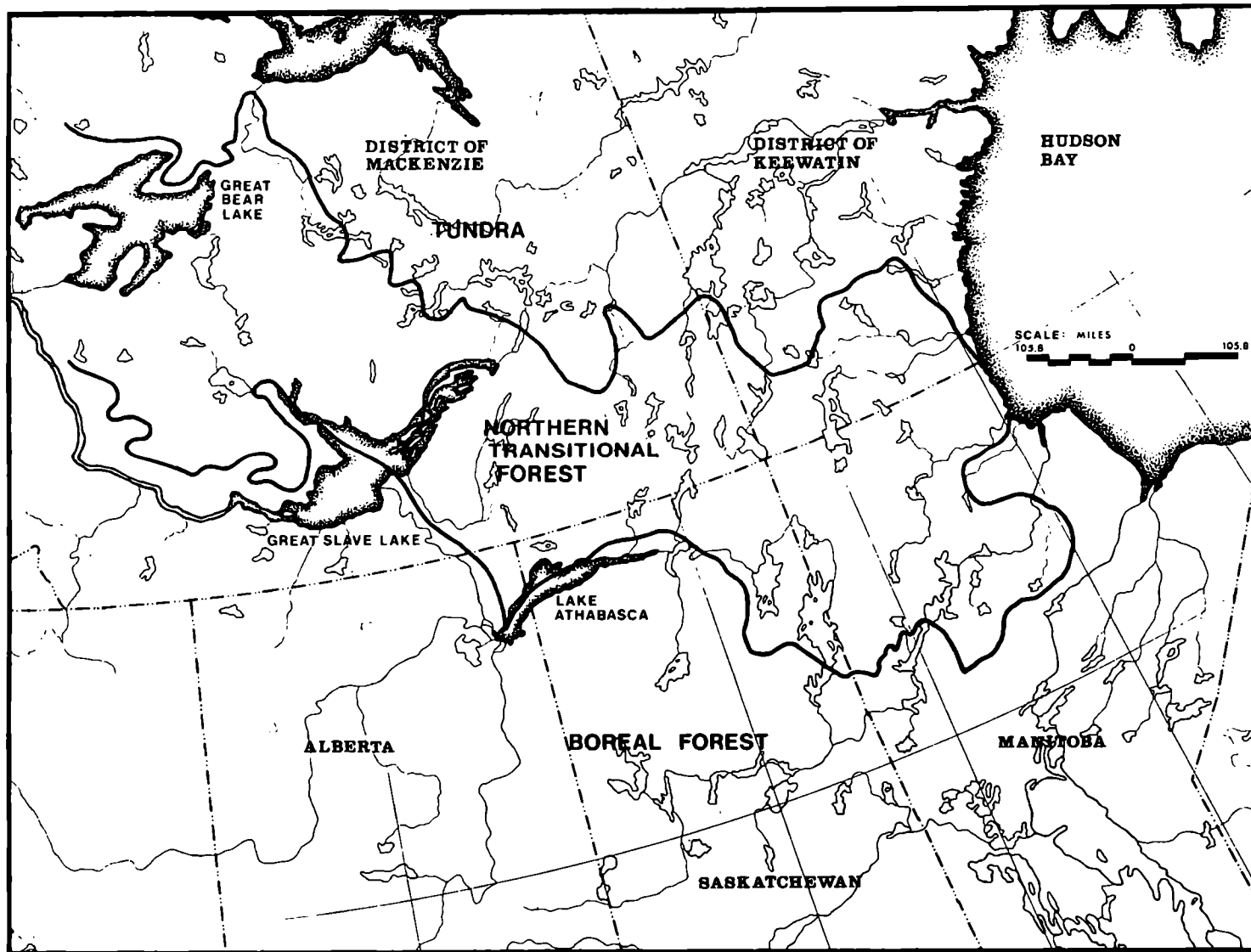


Figure 1. Forest and tundra zones based on J. S. Rowe, *Forest Regions of Canada* Forestry Division Bulletin 123, Ottawa: Queen's Printer, 1959.

interpretation accommodates the limited data from prehistory and history more adequately than a hypothesis of any Cree take-over of Athapaskan territories. Interestingly, some changes of territory do occur peacefully *after* an end of hostilities and the Cree are among the losers.

Chipewyan Acceptance and Resistance of the Fur Trade

For the first few years of trade at Churchill the Chipewyan were a disappointing addition to the H.B.C.'s fur trade. Although they came to Churchill as soon as it was established, their trade was at first worthless and never improved to meet the full expectations of the Company. These frustrations to the fur traders are fortunately very informative about Chipewyan aboriginal economy and exploitative zone as well as the many changes in their culture that took place during the next one hundred years.

No journal exists for 1718 when the Chipewyan first come to Churchill but in the 1719 journal it is mentioned that some of the group had also been there the previous summer and four of them had purchased guns at that time. The group of Chipewyan in 1719 consisted of 23 men with nothing to trade but "4 Martins amongst them. & those verry bad and...not Strecht; their beaver being just the Same, & not drest rightly" (B. 42/a/1). The summer of 1720 is a repetition of the 1719 "trade." Apparently the alleged efforts made by Steward and the "Slave woman" to explain to her people how to catch and dress furs in 1715 had failed (Kenney 1932:71). These comments definitely imply that the trapping and dressing of small fur bearing animals was not a part of their aboriginal economy. But in the spring and summer of 1720 a total of 192 Chipewyans, including women and children, came to Churchill well supplied with satisfactorily dressed furs (B. 42/a/1). The Chipewyan adaptation to catching and dressing furs was very rapid. Just within a two-year span a few Chipewyans with little to trade had expanded to many with quality furs, primarily martens with a few beaver. Al-

though this amount of improvement by 1721 seems remarkable the Company still considered the Chipewyan in need of further guidance and encouragement. In that same year a Chipewyan boy who had been at Churchill for three years and who had learned "ye ways of hunting & Traping according ye Southern [Indian] Method...[went] Into his own Country...to show them how to trap & hunt small furr...he saith yt thay Doo not know how to make traps" (B.42/a/1). When this young man returns in 1722 he informs the Chief Factor that not only do his people not know how to catch these animals but "that the Old Men are very Lazy and like Old Women So itt Must be the Young Men must be brought to itt by Degrees" (B.42/a/2). Some were brought to the trade quickly but others remained like "lazy old men" for centuries.

Some Chipewyan came to Fort Churchill every year after its establishment and other more distant groups seemed to have made the trip every three years or more. Occasionally they arrived in large groups (the largest recorded in the 18th century was 150 men in 1737 [B.42/a/17]) but most groups ranged from 10 to 50, often including women and children. Others would leave their families several days' journey away from the fort. The usual time of year for trade was June but by the 1730's some Chipewyan groups began coming in the fall, usually with musk ox or caribou meat, and others arrived in April, often to stay during the goose hunting season that lasted until the middle of May. Except for those who did stay for goose hunting and the occasional man who stayed as a Fort Hunter for a year, Chipewyan did their trading in one or two days and immediately left the fort. This policy was encouraged by the Company who otherwise would have to have fed them. It is impossible to know how many Chipewyan ever made a trip to Churchill and how many were annual visitors; the total of any one year ranged between 100 and 200. The fact that groups came at different times and many brought their families suggests different small bands came to trade when it was most convenient and when they had

a supply of meat or furs. From 23 men coming in 1719 to 192 (mainly men) in 1721 it is apparent that no one band was carrying on the trade and that free and rapid communication existed between bands. Hearne in his 1771 journal mentions that almost all Chipewyan had been to the fort once but the hardships of the trip to the fort and their limited needs of only a few items of iron meant that for some their visits were seldom (Hearne 1958:52-53).

By the 1740's the Chipewyan had increased their trade in meat and caribou skins without increasing their number of furs. In October 1748, 20 Chipewyans came to trade and the Chief Factor complains they "brought ye least goods for the Number...only 130 skins a poor Story for such a Tribe to come 12 days Journey" (B.42/a/32). The following spring a group of 18 arrived to hunt geese "but out of that Number only 4 men" (*Ibid.*) were hunters and the rest were women and children who had to be fed by the fort. To frustrate the traders further the Chipewyan were thought of as poor "gunners" and Cree were always preferred for fort hunting. Besides bringing few furs and wasting ammunition with their poor marksmanship, the Chipewyan demand for European goods was limited. In 1750 a group of 15 Chipewyan arrived with the usual disappointing goods of some meat and skins but few furs and "they have Come 13 days Journey & have only purchased one pound of powder each a hatchet & Ice Chissel" (B.42/a/36). In the 1750's the trade with the Crees greatly decreased, presumably because some had begun trading with the French. In 1759 Chief Factor Ferdinand Jacobs laments that he can "Sadly say the Northern Indians are the Chief Support of the Trade at this Place" (B.42/b/3). Gradually the Chipewyan trade in furs improved in the 1760's and 1770's and occasionally their trade is then described favorably, especially when it included beaver. But in spite of this improvement in their trade at Churchill the standard complaints about Chipewyan disinterest in the fur trade would

continue through the historical period, at least for those who remained reliant on their taiga-tundra economy.

Samuel Hearne, the first to travel in the territory of the Chipewyan, was very aware of the Chipewyans' greater independence from the fur trade than any of the Cree. Hearne was impressed with the easy life that the barren ground caribou provided with the use of pounds during the winter.

This method of hunting, if it deserves the name, is sometimes so successful, that many families subsist by it without having occasion to move their tents above once or twice during the course of a whole winter; and when the Spring advances, both the deer and Indians draw out to the eastward, on the ground which is entirely barren (1958:50-51).

Although Hearne describes this way of life as indolent he appreciates its advantages over those who spend time obtaining furs, especially since the Chipewyan lands "are almost destitute of every animal of the fur kind" (*Ibid.*:51).

The real wants of these people are few, and easily supplied; a hatchet, an ice-chissel, a file, and a knife, are all that is required to enable them, with a little industry, to procure a comfortable livelihood....Indeed, those who take no concern at all about procuring furs, have generally an opportunity of providing themselves with all their real wants from their more industrious countrymen, in exchange for provisions, and ready-dressed skins for clothing (*Ibid.*:51-52).

Fifty years after Hearne's journey the Chief Factor of the Great Slave Lake Fort repeats these general characteristics of the Chipewyan life style. Robert McVicar's "District Report of 1825-26" includes the category "Disadvantages of the District" which is entirely devoted to the disinterested Chipewyan. "The most serious and lasting obstacle to the profitable employment of the resources of this District is the vicinity of the Rein Deer/or Chipewyan Lands" (B.181/e/1). He similarly complains that with little effort or skill they can remain well provided in food and clothing with few European goods, "a file, knife and axe, are the only articles which an intercourse with white people has been embarked indispensable to the Chipewyans" (*Ibid.*). Because these

traditional lands also lacked most of the sought-after fur bearing animals, McVicar, like other traders before and after him, tried to get the Chipewyan to go to other areas better endowed in furs. He says it takes great efforts to get any of them "to resort to the beaver country and encounter the additional labour, hardships and privations they so often experience in the pursuit of furs" (*Ibid.*). By the time of McVicar's report many Chipewyan had become sufficiently involved in the fur trade to change their general locations, at least during the winter, in order to acquire furs. Even those that remained resistant to trapping or to leaving their aboriginal territory were influenced by the fur trade economy.

Chipewyan Move South

From the time of Jérémie's account in the first years of the 18th century it was recognized that Chipewyan did not live in an area rich in furs. Most importantly, their lands seemed to be almost without beaver. The Churchill journal of 1721 contains a list of furs that could be expected from the Chipewyan -- martins, wolverines, foxes, bears and wolves (B.42/a/1). Hearne makes a similar list in 1771: "Except a few martins; wolves, quiquehatches [wolverines], foxes, and otters, are the chief furs to be met in those parts, and a few of the Northern Indians chuse to kill either the wolf or the quiquehatch, under a notion that they are something more than common animals" (1958:135-136). The Chipewyan did not know how to trap and dress small furs at the beginning of their direct involvement in the fur trade nor did their exploitation of the taiga-tundra make many of these animals readily accessible. There were three ways which the Chipewyan could acquire furs for trade; by trading and/or pillaging neighbors who did have furs or by moving further south into areas with more fur bearing animals. In the second half of the 18th century they did trade and pillage Dogrib Indians and the Chipewyan subgroup of Yellowknife

Indians⁹ who were to the west and northwest of them and who had some beaver within their territories (cf. Hearne 1958:79, 115-118, 134). Of greater and more permanent significance to the Chipewyan and their neighbors was their gradual movement southward into a new environment with a changing economy.

Besides telling the Chipewyan how to catch and dress fur bearing animals the H.B.C. also instructed them as early as 1721 on where they should go in order to trap: "into ye Woods up on ye Countrey & not to keep by ye side & in ye barren plaines" (B 42/a/1). At this time the Chipewyan got their first satisfactory supply of furs to trade at Churchill but it is not possible to know where they were caught. Among those who came well supplied with furs in 1720 was one small group who arrived several weeks later after a moose hunting excursion. The Chief Factor comments that although their furs were 'Mutch better Strecht & more of them than before; only their parcht Moose is too Mutch Scrap'd wch. they promise to Mend" (*Ibid.*). This comment indicates that moose were not a part of the Chipewyan aboriginal economy and that already a few of them were hunting in new areas on their way to Churchill.

Historical moose distributions are only vaguely known but there is evidence moose have moved into northern Manitoba and further toward the barren grounds only within the 20th century (Peterson 1955:36-45). There are also a few early reports that claim moose were not included in the Chipewyan territory until they moved further southward. In 1749 James Isham, Chief Factor of York Fort, describes the moose and buffalo and says: "to the Northward among'st the Northward Indians, and Ehuskemay's they have neither of these beast's" (1949:155). Hearne on his travels with the Chipewyan relates

⁹The Yellowknives are a subgroup of the Chipewyan. Their history is within the forthcoming National Museums of Canada D. Jenness Memorial Volume: "An Ethnohistory of the Yellowknives" by B. C. Gillespie.

that the group he is traveling with, then at Point Lake, "all intended to make an excursion into the country of the Athapuscow Indians [Cree living around Lake Athabasca], in order to kill moose and beaver. The former of those animals are never found in the Northern Indian territories; and the latter are so scarce in those Northern parts, that during the Whole Winter of 1770, I did not see more than two beaver houses" (1958:135). Hearne and his fellow travelers began to find moose and beaver on the north shore of Great Slave Lake and many more of both on the south side of the lake along the Slave River and then to the eastward. Hearne mentions that although the Chipewyan liked moose meat they did not consider it or wood buffalo as "substantial" food nor were most of them skilled in dressing the skins (*Ibid.*:167-168). The only method used by his companions for getting moose was with guns. Although Hearne says the Chipewyan have no moose or beaver, he contradicts this when he and his party leave the Slave River and are near Hill Island Lake (north of Lake Athabasca). "By the first of March we began to leave the fine level country of the Athapuscows, and again to approach the stony mountains or hills which bound the Northern Indian country. Moose and beaver still continued to be plentiful..." (*Ibid.*:180). This area on the northeast side of Lake Athabasca was probably a part of Chipewyan aboriginal territory. It is an occasional wintering range for the barren ground caribou herds (Kelsall 1969:maps; Parker, personal communication) and it lies well within the Transitional Forest Zone (see Fig. 1). Perhaps Chipewyans exploited this area during the winter when the caribou came this far south but basically ignored other animals of the region. Peter Fidler, fur trader who lived with a Chipewyan band during the winter of 1791-92, described the region of Talston River and eastward (in the vicinity where Hearne was in March, 1771) as:

"a remarkable plentiful place for Beaver Houses all in the Small Lakes which are very numerous but are very Difficult to Kill owing to the rocky situation of the Country the Beaver get into the fissures & hollows of rock & cannot be got at by any means that the Jepewyans are acquainted with (1934:524).

Within this hilly region Hearne's party met with two other Chipewyan groups who had hunted beaver and moose and were beginning to build birch canoes. This area between Great Slave Lake and Lake Athabasca appears to be the southwestern edge of Chipewyan lands that closely bordered the Athabasca Cree. It was probably used more extensively by Hearne's time than aboriginally for the beaver and perhaps as a good source of birch, but the lowlands of Lake Athabasca and Slave River were richer in beaver that were easier to catch. It was into this more favorable area beyond their own hilly region that Chipewyan had begun to exploit by Hearne's journey, apparently anxious to meet with rather than avoid its inhabitants, the Athabasca Cree. "[W]e continued our course up the Athapuscow River [Slave River] for many days, and though we passed several parts which we well knew to have been the former Winter-haunts of the Athapuscow Indians, yet we could not see the least trace of them having been there that season" (1958:173).

Hearne creates a major difficulty when he identifies Great Slave Lake as "Athapuscow Lake" and Slave River as "Athapuscow River." His guide Matonabee, a Chipewyan who had spent many years at Churchill, knew the Cree language and travelled several times into "Athapuscow Indian" country in the 1750's (*Ibid.*: 225-227) should have known where they were. Hearne, as well as other H.B.C. men at Churchill, identified a group of interior Cree Indians as "Athapuscow" by the 1750's. Perhaps when Matonabee said they might meet Athapuscow Indians on what is correctly the Slave River; Hearne simply associated the river with these Indians and named it accordingly -- Athapuscow River. The lake -- Lake Athabasca -- this river flowed into could be then reasonably of the same name.

Wherever Hearne and his guide thought they were, they did find evidence of previous Cree camps on the Slave River about halfway between Lake Athabasca and Great Slave Lake. But, Hearne also came upon a "Western Dog-ribbed" woman who had escaped her Cree capturers, and who had been existing that winter near the south shore of Great Slave Lake, presumably out of reach of her enemy (*Ibid.*:168). It is impossible to know if Cree had sometimes wintered on the Slave River before the fur trade or whether they had moved into this area on their war excursions upon Athapaskan Indians west of the Chipewyans. At least by the 1770's the Slave River was an area where both Cree and Chipewyan might be encamped.

To travel and hunt in an area associated with another group implies amicability. There is some evidence that this peaceful relationship between these Crees and the more westerly Chipewyan groups was a recent development. Hearne summarizes this period of change saying the Chipewyan used to get their furs from Dogribs and Yellowknives since "being...at war with the Southern Indians, they were prevented from penetrating far enough backwards to meet with many animals of the furr kind" (*Ibid.*:115). After peaceable relations were established:

...within a few years the trade from that quarter has increased many thousands of Made Beaver annually....and the poor Northern Indians reap innumerable benefits from a fine and plentiful country, with the produce of which they annually load themselves for trade, without giving the least offence to the proper inhabitants (*Ibid.*:115-116).

Although there is no mention of hostilities-between Chipewyans and Crees in the H.B.C. journals until the 1760's, Hearne states that wars had been going on for a long time between these two groups. He describes several trips of Matonabee to the "Athapuskow Indians" as a peace ambassador in the 1750's. Hearne says before these successful missions the Chipewyan and Athabasca Cree "had always been at war with each other" (*Ibid.*:225). There is no solid evidence as to

whether these conflicts were a part of aboriginal conditions or caused by the fur trade. It can only be said that by the mid-18th century these hostilities were being reported for the first time.

Although the Chief Factors seldom recorded the specific groups of Cree or Chipewyan that traded in any one year, the scattered references indicate that Athabasca Cree and Chipewyan most distant from Churchill had some amount of conflict in the early 1760's, but this decade also marks the end of their open hostilities. In 1762 Churchill Chief Factor F. Jacobs is told by his "Trading Indians" (various Cree peoples of the interior) that "the Leader of the Athup: piss: Caw Indians is gone with his whole Gang to Warr; Also that the Leader of the Beaver River Indians [*Cree-infra*] with Som of his Tribe has Killd a great many of Our farthest Northern Indians, therefore are ashamed & afraid to Come here" (B.42/a/56). In 1764 few Cree trade at Churchill which is explained as caused by a "sickly year...and also ye A' tha' pee' Skaw Indns. did not Come Down they not Returning as yet from War but Expect them next year" (B.42/a/60). In 1765 the Athabasca Indians return to Churchill to trade and with no further comment made about them then they "went away to their Country much Satisfied & had Promised to come Down again next Summer" (B.42/a/62). In 1766 vague mention is made of war between "two Tribes" and that the Cree "Upland" Leaders of York and Churchill have gone to war, but this war does not seem to be directed toward Chipewyans. In the same year eighteen canoes of Athabasca Indians and forty-two Chipewyans arrive at Churchill within a day of each other with no comment by the Chief Factor that these groups were in any way apprehensive about coming or meeting there (B.42/a/64). The following summer many Upland Cree and Chipewyans came to Churchill and among them are the "far" Chipewyan Indians (presumably those nearest Lake Athabasca) who "cant be in again in less than 2 or 3 years" (B.42/a/67). By the mid-1760's Chipewyans had also

greatly increased their trade in beaver at Churchill which supports Hearne's comments that after peace with the Athabasca Indians they moved "backwards" beyond their own territory for more beaver. It is probable that it was between Great Slave Lake and Lake Athabasca where conflict occurred and that from this region the Chipewyan first started to move south. In 1776 the trader Alexander Henry met Chipewyan at Isle à la Crosse who came from the Lake Athabasca region. Two parties had travelled together "for mutual defence, against the Cristinaux [Cree], of whom they were in continual dread. They were not at war with that nation, but subject to be pillaged by its bands" (1969:329). Distrust between Cree and Chipewyan groups continued but Chipewyans could be found on the Churchill River and Lake Athabasca by the 1770's.

Except for the journals of Hearne and Henry, nothing is known about the interior country by direct report until after the smallpox epidemic of 1781. A few traders witnessed the smallpox destruction in particular places but its general effects had to be surmised from Indian accounts. There is no way to know from the hearsay reports and the panic caused by the epidemic how many Indians actually died. Hearne's estimate of nine-tenths of the Chipewyan dying of smallpox seems much too high but the disease undoubtedly did lower the entire western Cree population and some of the Chipewyan bands drastically.¹⁰ The gross estimate made by David Thompson in the 1790's of more than one-half

¹⁰Hearne reports: "...The Northern Indians, by annually visiting their Southern friends the Athapuscow Indians (Creeps), have contracted the smallpox which has carried off nine-tenths of them, and particularly those people who composed the trade at Churchill Factory..." (Glover 1958:116).

Hearne's figure of nine-tenths seems extremely high given the low estimates of aboriginal population; for example the estimate of 3500 by Jenness (1956:385) for all the Chipewyans; the most numerous of the Dene tribes. Since no Dene groups are known to have disappeared by this event, and Chipewyan subgroups remained identifiable, this enormous loss probably was limited to various group encampments.

of the Cree population dying from smallpox may not be an exaggerated statement (1916:109). At the same time John McDonnell arrived at an even lower estimate of Crees, "owing to their wars with their neighbours, the smallpox of 1780-81 and other misfortunes, the third of the nation does not now remain" (1889:277). It is clear that the Cree lost enormous numbers in the epidemic and this would have decreased the population living along the Churchill River and around Lake Athabasca as well as elsewhere. The depopulation of this area probably made Chipewyan movement southward easier and faster. William McGillivray's "Some Account of the Trade of the North West Company" written in 1809 alludes to the relationship between the smallpox and Chipewyan penetration of Cree territory.

The countries thro which it [Churchill R.] runs from the head of the Beaver River and including all its other head branches to its mouth, are inhabited by the Knisteneaux [Cree]...Within these thirty years however the Chepwyan tribes have emmigrated in considerable numbers from Athabasca and the barren lands... to the banks of the Missinippi [Churchill R.], finding the Country more suited to their purposes....It is not so easy to ascertain the number of this tribe who reside on the banks of the Missinippi as they are continually changing their ground between this and their own country (m.s.:15-16).

Indirect evidence that Chipewyans were not considered steady residents of the Churchill River until after the smallpox epidemic also comes in Peter Pond's map of 1785 (Fig. 2). Pond wintered about 40 miles south of Lake Athabasca on the Athabasca River in 1778 and several years following. It is not possible to know the extent of Pond's travels from his wintering post but he did carry on a successful trade with Cree and Chipewyan. Between 1778 and 1784 when he permanently left his post he gathered information from the Indians for his map and adjoining memoir. Although some of his geography is proportionally primitive he was able to map out an extensive amount of the interior country and fairly accurately delineate the two major river systems connecting the Athabasca area to Hudson Bay. From Indian description he places the Chipewyans well north of Lake Athabasca and the Churchill River (Figs. 2, 5).

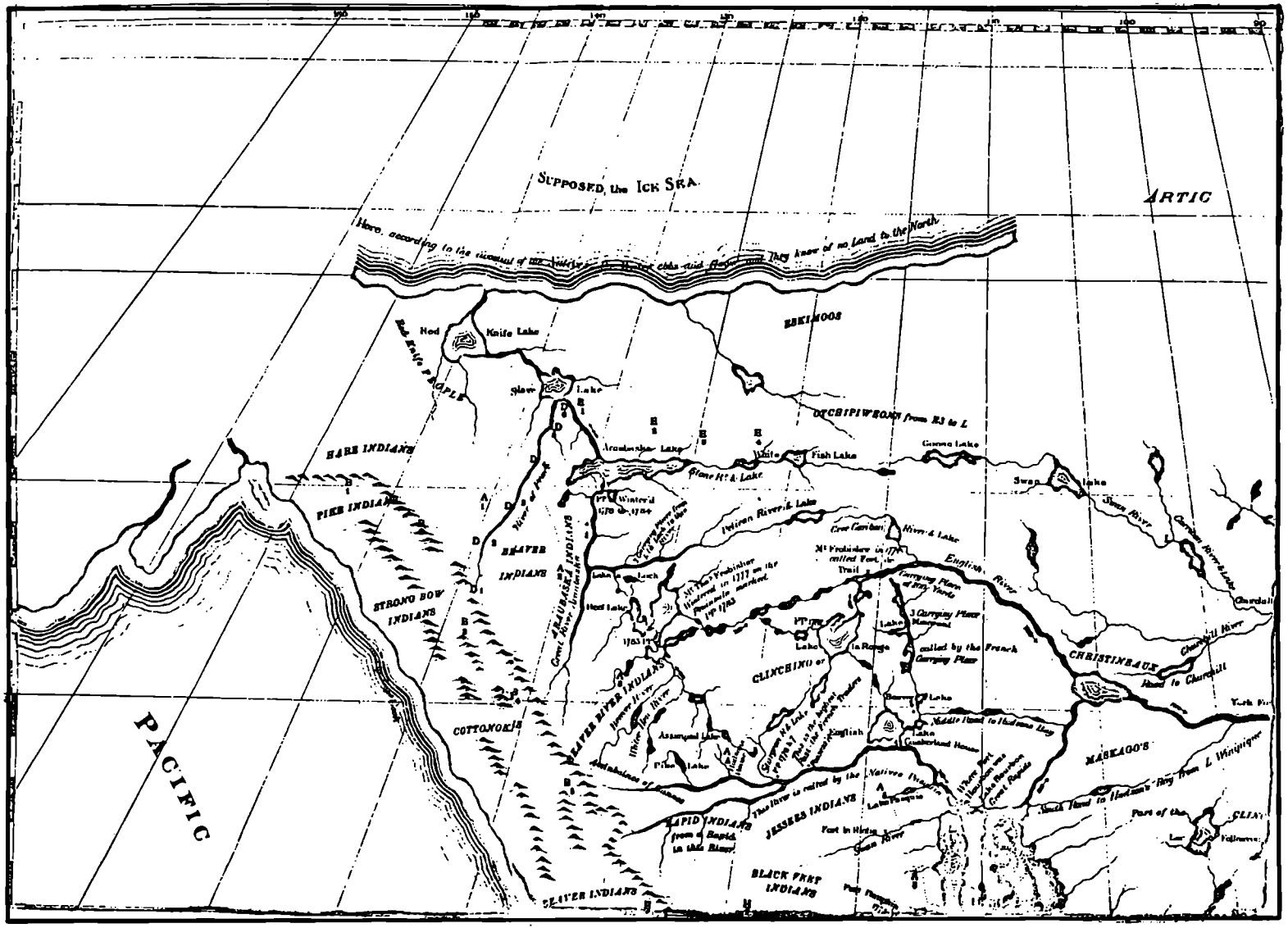


Figure 2. Peter Pond's map of 1785.

Pond did trade with Chipewyans, including 40 Yellowknives that had travelled with Hearne to the Coppermine River (Innis 1930:100-101), but he did not consider any of the Chipewyans as nigh neighbors to his trading post. He identified the river, lake and Indians of his post as "Araubaska"; and to the south were the "Beaver River Indians" on the Beaver River. For the first time these two Cree groups, mentioned at Fort Churchill decades before, were located in their respective areas in the interior.

The maps made in the 1790's demonstrate the change in what was considered Chipewyan and Cree territory. After Pond the next to map the area between Hudson Bay and Lake Athabasca was Philip Turnor, a H.B.C. surveyor, who traveled in the interior from 1790 to 1792 (1934). Although Turnor knew where Peter Pond had wintered on the Athabasca River he seems to be unacquainted with Pond personally and with his map. It seems unlikely Turnor's map is based on any information other than his own. The map, dated 1790, is more incomplete than Pond's and Turnor does not even attempt to map the Churchill River east of Pelican Narrows. Unlike Pond's map he includes within the Chipewyan lands the area east and south of Lake Athabasca to Isle à la Crosse (Figs. 3, 5). Beyond where he has mapped the Chipewyans he meets them as well as Cree groups continually from Isle à la Crosse to Athabasca River and Lake (*Ibid.*:358-455), but he also says the Chipewyan were unfamiliar with much of the country until recently (*Ibid.*:451). Although Fort Chipewyan on Lake Athabasca had been established for the Chipewyan trade specifically, when Turnor visits the post he meets "two Familys of Beaver River Indians which we had seen at Isle-à-la-Crosse and another Family of Southern Indians which belong to these parts and two Familys of Chepawyans besides those which came with us" (*Ibid.*:397). Fort Chipewyan is obviously attracting Indians from various directions but Turnor implies that Cree were the traditional inhabitants of this area of the

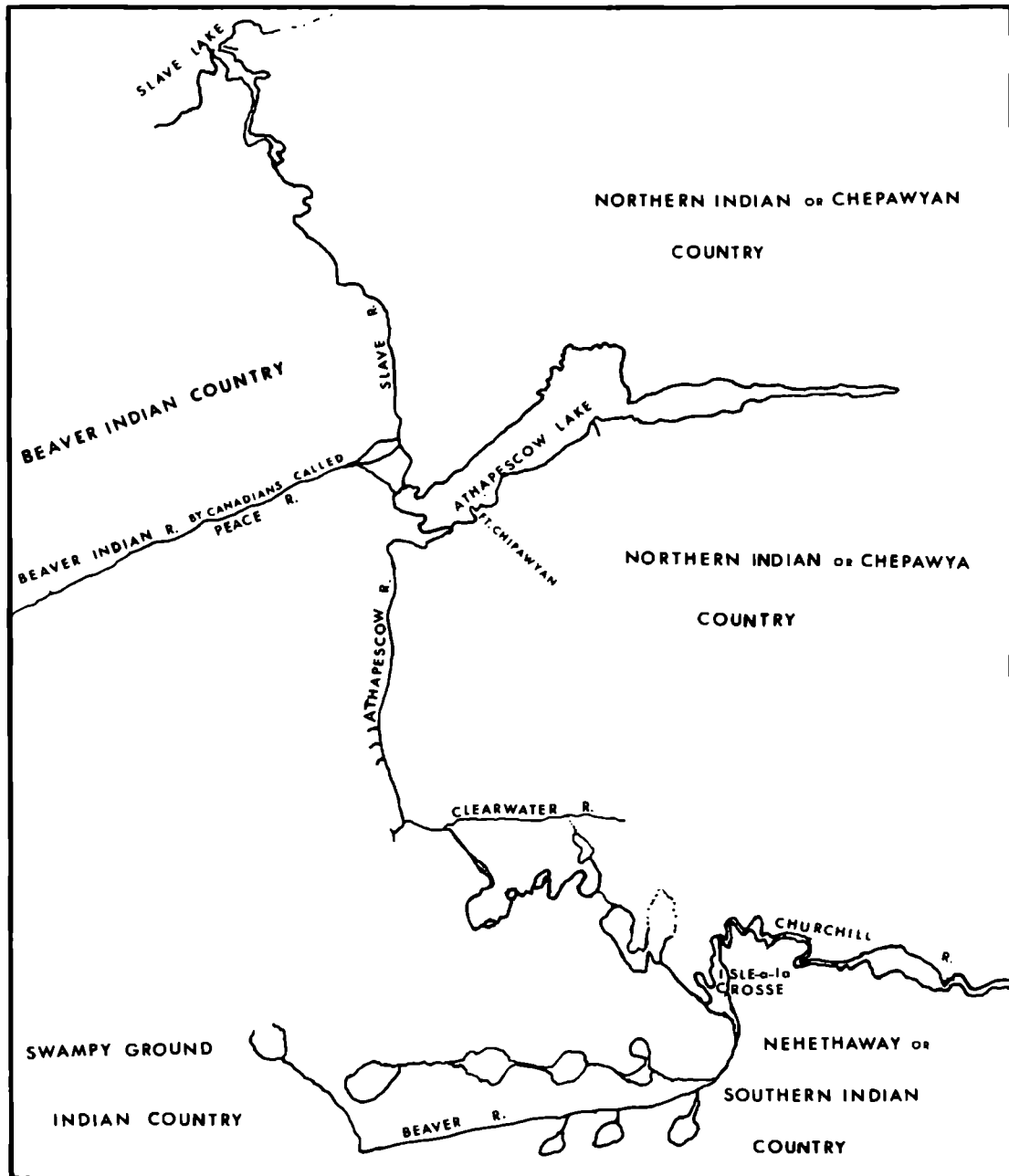


Figure 3. Map based on Philip Turner's map, dated 1790.

southern shore of Lake Athabasca. Turnor also explains that "low swampy ground on South side with a few willows growing upon it, from which the Lake in general takes its name Athapescow in the Southern Indian tongue signifies open country such as lakes with Willows and grass growing about them or swampy land without woods" (*Ibid.*:400). Before Turnor had traveled far into the interior he was well aware of the "Athapescow Indians" who had been a major source of the inland trade received at York and Churchill Forts until these Indians were intercepted by the French traders (*Ibid.*:106, 120, 158). Like Hearne he considered Athabasca Indians inland Cree of the "Athapescow country" long before anyone had been to Athabasca River and Lake. The internal evidence of the early H.B.C. journals and the first reports from the interior suggests these Cree were from the areas where they were first located; there is no suggestion that Athapaskan speakers were driven from Beaver River and Lake Athabasca areas in the 18th century.

Five years after Turnor, surveyor David Thompson who seemingly is also relying on his own observations, places the Chipewyan on both sides of the Athabasca River south to the Clearwater River (along with Cree) and east all along the Churchill River. Besides, the Chipewyan were for the first time mapped west of Slave River and along the south shore of Great Slave Lake (Figs. 4 and 5). Thompson's map of 1795 is the main source of Arrowsmith's maps (1795, 1811, 1819, 1832) which were the primary maps of the 19th century.¹¹ Although revised many times Arrowsmith's maps have no change in the territory associated with the Chipewyan, but even in the 1790's some Chipewyan were making occasional excursions as far south as Lac la Biche and Cold Lake (Turnor 1934:359; Thompson 1916:135) which would become a part of their territory in the 19th century.

¹¹If there is a small map of D. Thompson's I am not aware of it and an Arrowsmith map has been included which does include everything on Thompson's map of 1795. A large scale copy of Thompson's map is at the Public Archives of Canada, Map Division V1/700.

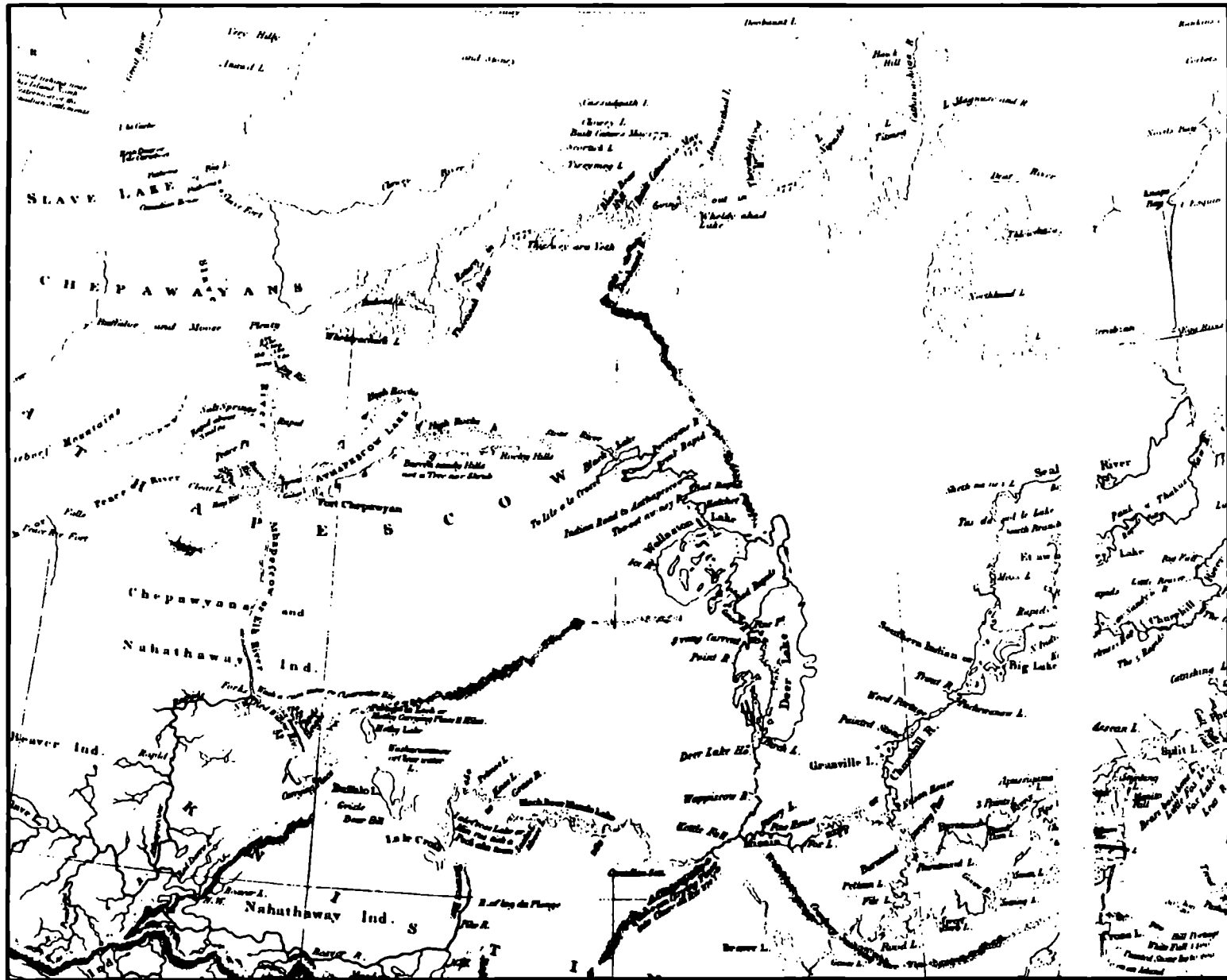


Figure 4. Part of Arrowsmith's map of 1819, based on David Thompson's map of 1795.

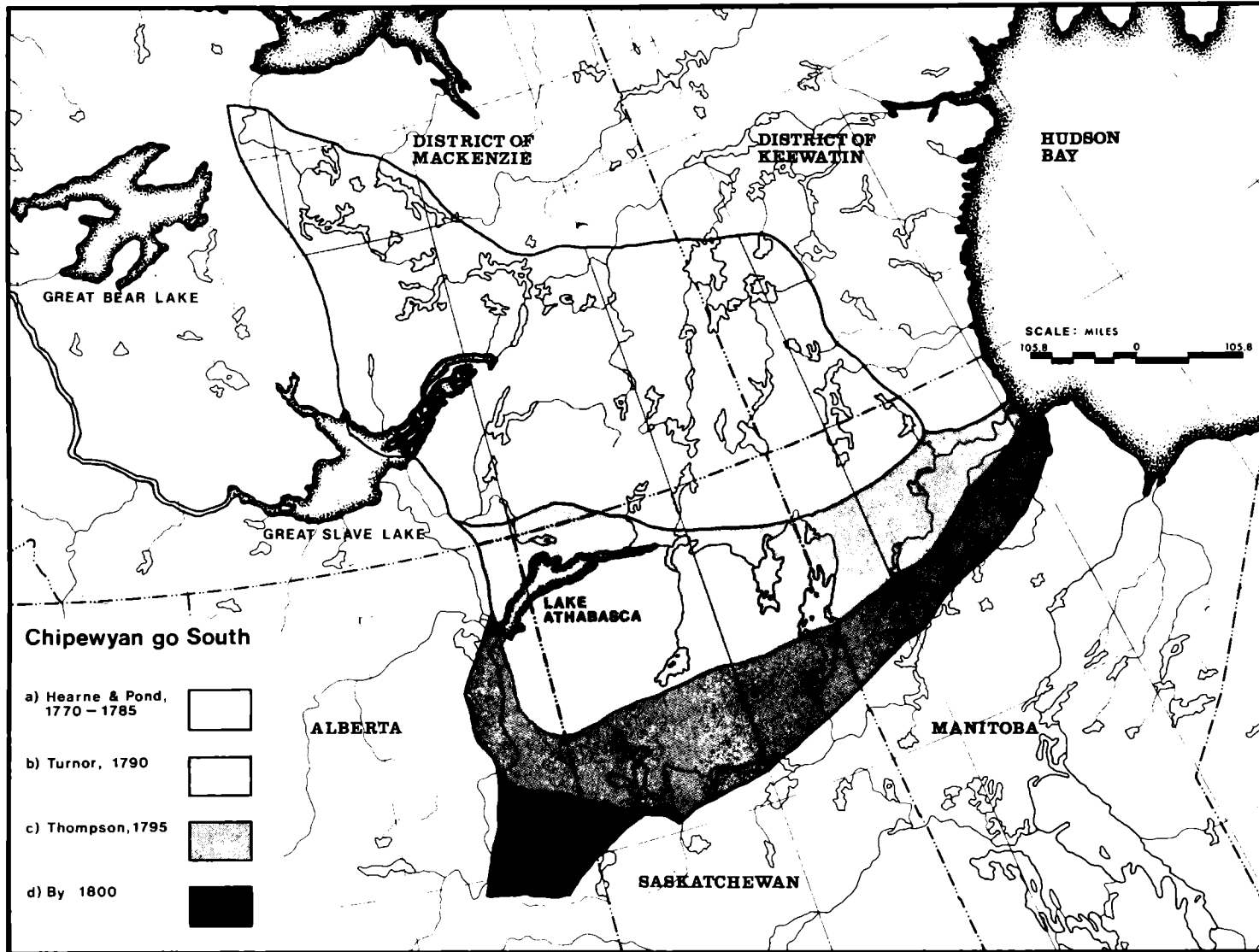


Figure 5. Chipewyan go south.

Besides the smallpox reducing the Cree population, Pond and later traders provided the other basic reason for Chipewyans moving south in the 1780's and thereafter -- the establishment of trading posts. The North West Company had a post on Great Slave Lake in 1786 and a larger one on Lake Athabasca in 1788 as well as many along the Churchill River by 1790. The H.B.C. followed suit and the companies competed for the Chipewyan trade at all their hurriedly-built posts, many of which lasted no more than a couple of years before they were abandoned in favor of another potentially good location for Chipewyan trade.

Alexander Mackenzie arrived at Lake Athabasca in 1787 to pursue Pond's goals: develop the interior trade and explore the connecting links to the Pacific Ocean. Mackenzie kept Pond's original post for the Cree trade and established a post on Lake Athabasca specifically for the Chipewyan. In a letter of instructions of February 1789 he reports: "I sent Roderick Mackenzie with goods & men to the Lake of the Hills [Athabasca] where he got a House built and we call it Fort Chipewean as it is intended for that nation...I intend to make it the principal Fort" (m.s.). During the first winter at Lake Athabasca, 1788-89, Roderic McKenzie traded with "a great number of Chipewyans who went to Hudson's Bay last summer," but he adds: "The greatest dependence of this place at present is on the Peace River. The Chipewyans are in the habit of trading in Hudson's Bay" (1889:29, 30). Although there was concern at this time about Chipewyan that continued to go to Churchill, at least in part due to a better rate of trade, Fort Chipewyan and Isle à la Crosse became major interior posts that catered to Chipewyans in the 1790's and after. But even after the establishment of these posts Chipewyan were not considered the permanent residents. Mackenzie states that although Fort Chipewyan was more convenient than the longer trek to Churchill it did not stop the Indians after a winter of trapping furs to return to the barren grounds during the summer

"with their relations and friends in the enjoyment of that plenty which is derived from numerous herds of deer" (1927:96). Isle à la Crosse was a point of trade for both Cree and Chipewyan with the latter making the most significant trade but they "consider themselves as strangers, and seldom remain longer than three or four years, without visiting their relations and friends in the barren grounds, which they term their native country (*Ibid.*:86)."

The Chipewyan had reached their southern limits of penetration by the mid-1790's, about thirty years after the process had begun. This rapid influx into new areas was not a change in Chipewyan territory as much as an expansion of it. They left their more northern areas very gradually in the 19th and 20th centuries as more Chipewyan mixed caribou hunting with the fur trade and became more permanent inhabitants of the Boreal Forest. The fur traders of the late 18th and 19th centuries continued to encourage the Chipewyan to exploit new lands in order that they would catch beaver. William McGillivray in 1793 meets a group of Chipewyan that had wintered in the vicinity of Reindeer Lake and regretted they had no beaver to trade. "[T]hey wished to know of me where I would have them hunt....I told them...in the Fall to wait for the Canoes in Lac des Serpent [Snake Lake] that we should endeavour to find out some place for them where they could kill Beavers" (m.s.). McGillivray had already collected furs from Cree and Chipewyan who he had sent to the Beaver River area which was near Cold Lake, Alberta. The Cree surprisingly tolerated this policy of the traders to direct Chipewyan into their areas for trapping.

Only the journal of James Porter of the N.W.C. survives of the early years of trade at Great Slave Lake. In 1800 Porter mentions one band of Chipewyan who arrived with a very successful beaver hunt from the Hay River near the Caribou Mountains, an area the author then refers to as the "Beaver Country" (m.s.:6). Another band spends part of the winter trapping with "Beaver Indians" [Slaves] of Mackenzie River (*Ibid.*:69). The Chipewyan were not only moving into Cree

territory but were also moving west and southwest into lands exploited by other Athapaskans. In 1821 George Simpson discusses this expansion of the Chipewyan as well as their continued use of their traditional lands.

The Chipewyan do not consider this part of the Country [Lake Athabasca] to be their legitimate Soil; they come in large Bands from their own barren Lands situated to the North of this Lake, extending to the Eastern extremity of Gt. Slave Lake and embracing a large Track of Country towards Churchill ...but became expert Beaver hunters, and now penetrate in search of that valuable animal into the Cree and Beaver Indian hunting Grounds, making a circuit easterly by Carribeau Lake [Reindeer Lake]; to the South by Isle a la Crosse; and Westerly to the Banks of Peace River....The greater proportion of them however remain on their own barren Lands, where they procure sustenance with little exertion (1938:355-56).

Further evidence comes from the H.B.C. journals in the 1820's of Chipewyan use of other Athapaskans' lands. In 1824 at Great Slave Lake it is reported that one Chipewyan band returned after a year in which they had traded most of their furs at Fort Vermillion (B. 181/a/2). That same year Chipewyan of Lake Athabasca are reported to have killed four Beaver Indians on the Peace River (B. 181/a/5). In the 1823-24 Mackenzie District Report it is mentioned that the Chipewyan are encroaching on the lands of the Fort Liard Indians who object but "do not molest them" (B. 200/e/3). In the Great Slave Lake District Report of 1825 it is admitted by McVicar that the Chipewyan of Great Slave Lake and Lake Athabasca had extended their hunting and trapping westward and "to the vicinity of the old Establishment of Hay River, and to the Country between Fort George [at the entrance to the Mackenzie River] and Riviere a Liard -- they are now however debarred from going to the latter quarter, because the Gentlemen of McKenzies River complain that its an encroachment on their District" (B. 181/e/1). What McVicar does not mention in the report but which is contained within his journals is that he had encouraged Chipewyans to go into these areas for beaver. It would appear that the limits put on Chipewyan expansion were based more on competition between Chief Factors for good fur returns than any resistance on

the part of the Indians of these areas.

It is apparent Chipewyan and fur traders alike considered beaver scarce or too troublesome to catch throughout their traditional lands. Although they remained attached to their Transitional Forest-Tundra area for caribou hunting, when it came to acquiring furs they fanned out into all favorable wooded areas seemingly unconcerned about the original inhabitants. If viewed by some as better warriors, the Chipewyan appear to be the most successful invaders of other Indians' lands in response to the fur trade.

REFERENCES

- ANONYMOUS
1800 Rocky Mountain Fort. Public Archives of Canada manuscript MG 19, C(I), No. 14. 25 pp.
- BULLETIN of the Bureau of American Ethnology
1910 No. 30. Washington, D.C.: Smithsonian Institute
- CURTIS, E.S.
1928 *The North American Indian*. Volume 18. Norwood. [Also Johnson Reprint: New York, 1970].
- DAVIDSON, G.C.
1918 The North West Company. *University of California Publication in History* Vol. 7. Berkeley: University of California Press.
- FIDLER, Peter
1934 Journal of a Journey with the Chipewyans or Northern Indians, to the Slave Lake, and to the East and West of the Slave River, in 1791 and 1792. *Journals of Hearne and Turnor*. J.B. Tyrrell, Ed. Toronto: The Champlain Society, Vol. 21.
- GLOVER, R.
1958 (Ed.) *A Journey from Prince of Wales' Fort in Hudson's Bay to the Northern Ocean, 1769, 1770, 1772* by S. Hearne. Toronto: Macmillan of Canada.
- GODDARD, Pliny E.
1916 The Beaver Indians. *Anthropological Papers of the American Museum of Natural History* 10(4):199-203.
- GRAHAM, Andrew
1969 *Andrew Graham's Observations on Hudson's Bay, 1761-1791*. Glyndwr Williams, Ed. London: The Hudson's Bay Record Society.
- HEARNE, Samuel
1958 *A Journey from Prince of Wales Fort in Hudson's Bay to the Northern Ocean...in the Years 1769, 1770, 1771 and 1772*. Edited with an introduction by Richard Glover. Toronto: Macmillan of Canada.
- HENRY, Alexander
1969 *Travels and Adventures in Canada and the Indian Territories, 1760-1776*. J. Bain, Ed. Edmonton: Hurtig.
- INNIS, Harold A.
1930 *Peter Pond, Fur Trader and Adventurer*. Toronto: Irwin & Gordon.
- ISHAM, James
1949 *Isham's Observations and Notes*. E.E. Rich, Ed. Toronto: The Champlain Society, Vol. 12.

- JENNESS, Diamond
 1932 *The Indians of Canada. National Museum of Canada Bulletin 65.*
- 1937 *The Sekani Indians of British Columbia. National Museum of Canada Bulletin 84.*
- 1956 (Ed.) *Le Chipewyan Indians. Anthropologica 3:15-34.*
- JEREMIE, Nicolas
 1926 *Twenty Years of York Factory, 1694-1714.* Translated from the French Edition of 1720 with notes and introduction by R. Douglas and J.N. Wallace. Ottawa: Thorburn and Abbott.
- KELSALL, J.P.
 1969 *The Caribou.* Ottawa. Indian Affairs and Northern Development.
- KELSEY, Henry
 1929 *The Kelsey Papers.* A.G. Doughty and Chester Martin, Eds. Ottawa: Public Archives of Canada.
- KENNEY, James F.
 1932 *The Founding of Churchill.* Toronto: J.M. Dent and Sons Ltd.
- KEITH, George
 1889 *Letters to Roderic MacKenzie, 1807-1817.* In *Les Bourgeois de la Compagnie du Nord-Ouest.* L.F.R. Masson, Ed. Serie II.
- MASSON, L.F.R.
 1889-90 *Les Bourgeois de la Compagnie du Nord-Ouest 2 vols.* Quebec.
- MCDONNELL, John
 1889 *Some Account of the Red River (About 1797).* In Masson, q.v.
- MACKENZIE, Alexander
 1927 *Voyages from Montreal, on the River St. Lawrence through the Continent of North America, to the Frozen and Pacific Oceans; in the Years 1789 and 1793.* Toronto: Radisson Society of Canada.
- n.d. *Copies of the correspondence between Alexander Mackenzie and Roderic McKenzie, 1786-1816.* Public Archives of Canada manuscript MG 19, C(1), No. 32. [The basis for "Reminiscences" of R. McKenzie in Masson, Vol. I.]
- MCKENZIE, Roderic
 1889 *Reminiscences.* In Masson, Serie I. q.v.
- MCGILLIVRAY, William
 1793 *Trading expedition to the English River, 22 January-14 June.* Public Archives of Canada manuscript MG 19 C(1), No. 5. 50 pp.
- 1809 *Sketch of the Fur Trade, 1809.* Public Archives of Canada manuscript MG 19, B 4. 23 pp.

- PETERSON, Randolph L.
1955 *North American Moose*. Toronto: University of Toronto Press.
- PORTER, James
1800-01 Slave Lake Journal, 18 February-14 February, 1801 Public Archives of Canada manuscript, MG 19, C(1), No. 6. 80 pp.
- POTHERIE, M. de Bacqueville de la
1931 *Letters of la Potherie, Documents Relating to the Early History of Hudson Bay*. J.B. Tyrrell, Ed. Toronto: Champlain Society, Vol. 18.
- RICH, E.E.
1967 *The Fur Trade and the Northwest to 1857*. Toronto: McClelland and Stewart Ltd.
- SIMPSON, George
1938 *Journal of Occurences in the Athabasca Department, 1820 & 1821*. Toronto: Champlain Society, Vol. 1.
- SLOBODIN, Richard
1960 Eastern Kutchin Warfare. *Anthropologica* ns 2:7-94.
- THOMPSON, David
1916 *David Thompson's Narrative of His Explorations in Western America, 1784-1812*. Toronto: Champlain Society, Vol. 12.
- TURNOR, Philip
1934 *Journals of Samuel Hearne and Philip Turnor*. J.B. Tyrrell, Ed. Toronto: The Champlain Society, Vol. 21.
- WENTZEL, W.F.
1889 Letter to the Hon. Roderic McKenzie, 1807-1824. In Masson, Vol. 1, q.v.
- WRIGHT, James V.
1968 Cree Culture History in the Southern Indian Lake Region. *National Museum of Canada Bulletin* 232. [pre-print]

THE ECOLOGICAL BASIS OF CHIPEWYAN SOCIO-TERRITORIAL ORGANIZATION

J.G.E. Smith

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THE ECOLOGICAL BASIS OF CHIPEWYAN SOCIO-TERRITORIAL ORGANIZATION¹

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Résumé

Le présent essai vise à définir les relations constantes et durables qui existent entre l'organisation socio-territoriale des Tchippewayan et le milieu taiga-tundra ainsi qu'avec les migrations et la vie nomade du caribou des "Barren Grounds." Il démontre l'origine aborigène de cette adaptation et sa persistance, jusqu'à ces derniers temps, chez les Tchippewayan Mangeurs de Caribou. Les principaux groupes socio-territoriaux, différenciés par leurs noms et de légères variantes dialectales, sont liés à l'exploitation des trois principaux troupeaux de caribous vivant sur leur territoire; les bandes régionales sont tributaires des pistes de migration saisonnière et des pâturages principaux, alors que les bandes locales le sont de zones plus restreintes situées à l'intérieur des pâturages d'hiver et d'été.

Abstract

This essay attempts to establish the stable and enduring relationship between Chipewyan socio-territorial organization and the taiga-tundra environment

¹A preliminary version of this paper was given at the Conference on Northern Athapaskan research, held at the National Museums of Canada, March 18-20, 1971. The field research on which it is partially based was done from August 1967-August 1968, and from September 1969-January 1970, under auspices of the National Museum of Man. I am indebted to Father A. Darveau, O. M. I., for his helpfulness and many courtesies in the course of the field research. The scientists of the Canadian Wildlife Service engaged in the caribou research project, especially G.R. Parker, have been most helpful. Gordon Brown and Stan Sinclair of the Indian Affairs Branch at Lynn Lake, Manitoba, provided information, assistance, services, and courtesies for which I am grateful.

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The Hudson's Bay Company generously permitted me access to the microfilm records in the Public Archives of Canada, Ottawa. References to and quotations from, the archives are by permission of the Governor and Committee of the Hudson's Bay Company.

and the migration and nomadic habits of the barren-ground caribou. Evidence is presented to show that this adjustment was of aboriginal origin and continued until recently among the Caribou Eater Chipewyan. The major socio-territorial groupings, denoted by names and minor dialect distinctions, were related to the exploitation of the three major caribou herds in their territory; the regional bands to the seasonal migratory paths and major foraging ranges, and local bands to more limited areas within the winter and summer foraging ranges.

Introduction

This study attempts to establish the stable and enduring relationship between Chipewyan socio-territorial organization and the taiga-tundra environment and, particularly, to the migratory and nomadic habits of the major herds of barren-ground caribou. Archaeological, ethnological, historical, and linguistic data indicate the Chipewyan had made a distinctive adjustment to the taiga-tundra ecosystem long before European penetration west of Hudson Bay; historical and ethnological research indicates that the exploitative pattern and aspects of socio-territorial organization persisted until very recent times among the most conservative of the Chipewyan. This conservative branch, the Caribou Eaters, includes the present Churchill, Barren Lands, Hatchet Lake, Black Lake, and Fond du Lac bands; other adaptations were made as some Chipewyan were drawn into the full boreal forest by the fur trade, and the northern division, the Yellowknives, became extinct as a linguistic and cultural entity.

The dependence of the Chipewyan upon the barren-ground caribou has been known since Samuel Hearne's (1958) journey from Prince of Wales's Fort (Churchill) to the Coppermine between 1769 and 1772. The term "caribou-eater," expressive of this relationship, was used as early as 1821 (Simpson 1928:370-1) for those Chipewyan remaining in their traditional taiga-tundra environment and peripheral to the fur trade. Wissler (1915:51-4; 1938:1-6, 233) recognized the importance of caribou in establishing his caribou culture, or food area, and noted many similarities to the utilization of buffalo by the Plains Indians. Steward (1955: 146-7) used the Northern Athapaskan big game hunters as an example of composite

band organization in the development of his method of cultural ecology. Service (1971:76-8), on the other hand, questioned the composite nature of the Chipewyan band in aboriginal times, attributing it to the consequences of European impact, and suggested instead an aboriginal patrilocal organization (Service 1971:97-8), important to his theory of cultural evolution. The Chipewyan themselves recognized the relationship to the caribou; older people say that in the recent past they lived like wolves, while others say they lived like the caribou.

Recent research in a variety of related fields permits a much more detailed statement of the relationship between Chipewyan social organization and the caribou herds, in an historical perspective. Studies of the barren-ground caribou by biologists of the Canadian Wildlife Service have provided valuable information on the movements of the specific herds, especially the Kaminuriak herd, and study of historical records and archives and the field research on which this study is based provide the historical and anthropological orientations. It is now possible to establish specific links between Chipewyan territorial and band groupings and the migratory and nomadic habits of the caribou, and to make tentative and limited comparisons with those Chipewyan who in historic times moved into other areas. Specifically, it is possible to indicate that the major socio-territorial divisions were based upon the exploitation of particular herds; that the regional bands, or their antecedents, were based on specific migration routes and foraging ranges; that the size and composition of the bands was related to the efficient seasonal hunting of caribou by use of the pound and other communal methods; and to suggest that the movement into the full boreal forest in the late eighteenth and early nineteenth centuries was facilitated by the southernmost extensions of the herds.

Methodologically, this study follows the ecological approach developed by Eggan (1955), Steward (1955), and others (Damas 1969), and includes an historical background. Viewed in terms of historical developmental phases, the focus is directed to the conservative Caribou Eater bands of the edge-of-the-forest from the time of initial contact (1715) to the late 1960's; because of presently limited information on the interior forest bands, comparisons are necessarily restricted.

Three major historical adaptive phases may be recognized for the Chipewyan, the dates of which vary with the intensity of European contact in different zones. The major trends during these phases were the development of a trade relationship with the Europeans, a gradually growing dependency upon items of European manufacture, a shift from a fundamentally big game hunting economy to one in which an emphasis is placed on the procurement of furs for the trade, a reduction in the degree of nomadism and affiliation with distant bands, and, eventually, a decrease in the size of the exploitative range. In the more recent periods there was also an increase in activities requiring small group cooperation, such as trapping and fishing, and a decline in those requiring large-scale communal cooperation, especially the hunt by means of the pound. The phases are:

- (1) The Aboriginal-Early Contact, from the time of earliest European contact in their own lands in 1715-16 until substantial European impact and the development of a stabilized adaptation to the fur trade, which may be taken as after 1821. The latter date is that of the amalgamation of the Hudson's Bay and North West Companies, by which time many Chipewyan groups or bands had relocated in the interior forest because of the greater abundance of fur bearing animals, especially beaver. The approximate middle of this period, *ca.* 1780, represents the period when peace had been made between the Chipewyan and Cree,

the early and vascillating movement into the full boreal forest by some bands began, and the first major, devastating smallpox epidemic struck the central Subarctic west of Hudson Bay. It also marks the approximate time of the penetration of the interior and the competition between the Hudson's Bay and North West Companies which through low, competitive prices made trade goods cheap and abundant, rapidly becoming necessities. Until this time dependency upon trapping and the fur trade was of limited importance. The major branch of the Chipewyan did not significantly trap themselves, but obtained furs from the Yellowknife division and from the Dogribs as intermediaries with the Hudson's Bay Company at Churchill. Until Hearne visited Yellowknife country in 1771 the Yellowknives had not yet seen a white (Hearne 1958:78). A few metal artifacts had begun to replace aboriginal types, but subsistence activities had not been altered, and travel to the Bay was limited. The period of competition, from 1763 to 1821, made the fur trade more significant for some Chipewyan groups. The Yellowknife participation in the trade took the form of operating as middlemen, by force, with the Dogribs; other Chipewyan were becoming permanent inhabitants of the full boreal forest, gradually abandoning the taiga-tundra adaptation. The Chipewyan remaining in their traditional lands at the edge of the forest, then becoming known as the Caribou Eaters, continued the traditional adaptation with only marginal participation in the trade.

(2) The Developed Fur Trade, after 1821, is that of a stabilized, long-term adaptation of the Chipewyan to the trade, characterized by dependence upon trade goods and exploitation of the fur bearing animals. After amalgamation of the companies in 1821, the Hudson's Bay Company held the monopoly on the trade, but only after the Yellowknives had been eliminated and the major body of Chipewyan (excepting the Caribou Eaters) enmeshed in the new economy, in

new ecozones, and with different exploitative patterns adapted to the changed faunal resources of the full boreal forest and adjacent parkland regions. The phase culminated in the twentieth century in the "Contact-Traditional horizon" (Helm and Damas 1963), which did not begin to develop among the Caribou Eaters until the 1920's and later.

(3) The "Micro-urban Village," or Government-Commercial, begins with the extension of government social services and concentration in permanent villages in the decades following World War II. It began earliest in the Upper Churchill River drainage, and the areas around Lake Athabasca and Great Slave Lake; it developed among the Caribou Eater bands in the late 1950's and 1960's. It is characterized by concentration in villages, the presence of federal and provincial government institutions, personnel, policies, regulations, and economic dependence upon welfare programs; ethnic complexity that includes relationships between the dominant Euro-Canadians, the Chipewyan, Cree, and Metis, etc. Aboriginal patterns of subsistence were rapidly lost, and even post-contact trapping patterns are of rapidly diminishing importance. The diminished nomadism of the late developed fur trade period culminates in the increasingly endogamous village (Smith n.d.).

The major area inhabited by the Chipewyan in prehistoric and historic times has extended from Hudson Bay west to the drainages of the Athabasca and Hayes rivers, and north from the Churchill drainage to the Arctic Circle. In general, they have correctly been characterized as inhabitants of the "edge-of-the-forest," since the occupation of the interior forest is of the relatively recent past.

At the beginning of historic times, at the beginning of the eighteenth century and later, two major branches of the Chipewyan, or "Northern Indians," were recognized: the Chipewyan in the taiga-tundra west of Hudson Bay, and the Yellowknives, or Copper Indians, in the taiga-tundra east of Great Slave and

Great Bear lakes. In the nineteenth century, Chipewyan expansion brought about recognition of additional territorial groupings: the traditional Chipewyan or Northern Indians remaining in their historical region became the *Etθen-eldili-dene*, or Caribou Eaters. Those who moved into the full boreal forest between Great Slave Lake and Lake Athabasca became variously known as "Athapaskans," or *Desnedekenade* ("great river people"), or *Kkrest' aylé kke ottine* ("those who dwell in the trembling aspen"). The bands that moved south of Lake Athabasca to the lakes of the upper Churchill River became known as the *Thilanottine* ("those who dwell at the head of the lakes"). The terms are still known and used, although of diminishing significance as the migratory and nomadic qualities of life have been lost in the settlement of the regional bands in micro-urban villages.

In the following sections, treatment of the environment is followed by an historically oriented examination of the presently available evidence concerning the major territorial grouping, and the antecedents of the twentieth century regional bands.

Although the emphasis is on the vastly important relationship of Chipewyan and caribou, it must be noted that other animals and vegetation were seasonally and regionally valuable: fish were caught by angling and by use of gill nets; small game, including hare, were taken by snares; waterfowl were snared; and berries, moss, and the stomach contents of the caribou provided small but nutritionally important elements.² Yet caribou probably provided 90% or more of the diet; rarely has a society been so dependent on one species.

²The importance of fish increased as the band ranges decreased, and as the large dog teams of the 1920's and later required large amounts of food as well. While fish were caught by angling, spearing, and with *babiche* nets aboriginally, my impression is that fish were seasonally important, as when travel was limited by "freeze-up" and "break-up," or other times when caribou were scarce or unavailable. The Chipewyan net was knotted by hand, as there apparently was no needle or shuttle for this purpose (Birket-Smith 1930:27-8), as there was

Environment

The region under consideration constitutes a major portion of the Pre-Cambrian Shield west of Hudson Bay. It is characterized by thin soils with bedrock near the surface and often completely exposed. The geological and climatological characteristics severely limit growth of vegetation, and the tundra has been known since Hearne as the barren ground. Precipitation is limited to about 15 inches per year. Winters are long and severe, with temperatures dropping to perhaps -70°F , while summers are short and cool, temperatures rarely attaining $+85^{\circ}\text{F}$.

Three major ecological zones are embraced in the region, and bear a direct relationship to the four major Chipewyan divisions recognized in the nineteenth century (Petitot 1876a:26, 1876b:xx). These include the tundra or Barren Lands, the Northern Transitional Forest or taiga, and the closed Boreal Forest. The major Chipewyan divisions were distributed accordingly: the Yellowknives (or *T'atsanottine*) and the Caribou Eaters (or *Etθen-eldilidene*) ranged over the taiga and tundra; the "Athabaskans" (or *Kkrest'ayle kkeottine* = dwellers in the trembling aspen) occupied the full boreal forest; and the *Thilanottine* (dwellers at the head of the lakes) lived in the lake zone of the Churchill River, also full boreal forest, but with transitional parklands toward the Plains.

The characteristics of the three zones of the Pre-Cambrian Shield may be noted (following Rowe 1959) as they pertain to caribou and Chipewyan.

among the Athapaskans to the west. During the winter in the taiga, fishing by nets was limited by the thickness of the ice, four to five feet except at rapids, and the stone and antler technology. The ice chisel was among the most important of the early trade items; perhaps its introduction made winter fishing easier and hence of greater importance, especially under adverse conditions or when families were left behind while many of the men went to Churchill to trade. Small game also appears to have been of limited importance, except in times of hardship or to add variety to the diet. Certainly at present, fish and small game are considered very secondary to caribou.

(1) The Boreal Forest. Chipewyan primarily occupied, in historic times, that portion of the full boreal forest south of Lake Athabasca, i.e., Rowe's (1959:22-6) Athabasca South, Northern Coniferous, Upper Churchill, and Mixed-wood Sections. The dominant forest cover is black spruce (*Picea mariana*), but includes white spruce (*P. glauca*), birch (*Betula papyrifera*), tamarack (*Larix laricina*), jackpine (*Pinus banksiana*), aspen (*Populus tremuloides*) and balsam poplar (*P. balsamifera*).

Game animals of importance include woodland caribou (*Rangifer tarandus caribou*), moose (*Alces alces*), and elk (*Cervus canadensis*); other big game animals of some local importance include woodland buffalo (*Bison bison*), and mule deer (*Odocoileus hemionus*). The highly migratory herds of barren lands caribou (*Rangifer tarandus groenlandicus*) are generally absent from this zone, but sometimes significant numbers winter in the area immediately south of Lake Athabasca.

Fur bearing animals (Rand 1946), some of which were also of some value as food, include beaver (*Castor canadensis*), marten (*Martes americana*), fisher (*M. pennanti*), mink (*Mustela vison*), ermine (*Mustela erminea*), fox (*Alopex lagopus* and *Vulpes fulva*), otter (*Lutra canadensis*), wolverine (*Gulo luscus*), lynx (*Lynx canadensis*), muskrat (*Ondatra zibethica*), bear (*Ursus americanus*), showshoe rabbit (*Lepus americanus*), raccoon (*Procyon lotor*), squirrel (*Tamiasciurus hudsonicus*), and wolf (*Canis lupus*). Most of the important fur bearers, such as beaver, inhabit primarily the banks of lakes, rivers and streams, where their food, the hardwoods, tends to be more common.

Fish, of importance to people and their dogs, include whitefish (*Coregonus chupeaformis*), jackfish or northern pike (*Esox lucius*), yellowfish or walleye (*Stizostedion vitreum vitreum*), lake trout (*Salvelinus namaycush*), and others of lesser importance. In some of the numerous lakes fish are abundant, in

others rare, and availability varies not only locally but seasonally.

Wild berries of various sorts are seasonally important in providing important nutritional elements to the diet. Geese and ducks of various species are found seasonally in some areas, but ptarmigan (*Lagopus sp.*) and spruce hen or grouse (*Canachites canadensis*) are more generally of significance in the winter.

(2) The Northern Transitional Section. The taiga, while similar to the section described above, is characterized by more unfavorable climatic conditions and thin soils that reduce the distribution, abundance, and size of the species; this is the "land of little sticks." Muskeg and bare rock are limiting features, and in recent times, at least, frequent forest fires have devastated large areas (Rowe 1959:31-2). Black spruce provides the dominant cover, and there is some white spruce, birch, tamarack, jackpine, aspen, and poplar in favorable locations. The forest cover is thin and interspersed with patches of tundra.

Many of the game animals of the full boreal forest are not present: woodland bison, woodland caribou, elk, and deer are generally absent. Moose populations have varied, as informants say they are more common now than in the past, but are primarily in the full forest and scarce in the northern taiga, and it is possible human activities may have been responsible for shifting numbers and distribution, particularly after the advent of the Europeans. The most important game animal of this region is the barren-ground caribou, which winters in this section. Its importance to man cannot be overestimated, and is indicated by the similarity of the Chipewyan words for this race of caribou (*etθen*) and the word for flesh (*tθen*).

The same fur bearing animals are generally present, although the numbers tend to be more limited as the tundra is approached and the subsistence value of the forest diminishes. Hearne (1958:135-6) indicated in the early days of

the fur trade that only a few marten, wolves, wolverines, fox, and otter could be anticipated in the northern fringe of the forest and in the tundra; beaver, the most important of the fur bearers in the early fur trade period, is rare. Fish populations are similar to the full boreal forest, but the great lakes are fewer, and generally in the southern part of the zone.

(3) The Tundra and Forest-Tundra. Beyond the Northern Transitional Section, lies the tundra which in favorable but limited areas has stunted forest well north of the "treeline." Usually along the shores of lakes and rivers, in protected areas, there may be some black spruce, less tamarack, and some alder (*Alnus crispa*) and willow (*Salix* sp.) shrubs; other species are, at best, rare (Rowe 1959:35). The tundra proper has a main vegetational cover of mosses, lichens, grasses, a few woody shrubs, and flowering plants, of which the lichens of the genera *Cladonia* and *Cetraria* are most important for the caribou (Kelsall 1968:56-64). Although the resources were limited, the tundra is the summer range of the caribou and some remain through the winter. There are also musk-oxen (*Ovibos moschatus*) in the area and the limited forest provided some shelter and firewood for wandering Chipewyan.

Other than caribou, muskox, and arctic hare (*Lepus arcticus*), game animals were generally absent. The important fur bearing animals were the arctic wolf and fox, although the wolf was not vigorously sought. The barren lands grizzly (*Ursus richardsoni*) was avoided.

The Caribou

The caribou, of utmost importance to Chipewyan subsistence and territorial distribution, must be given some detailed consideration. Banfield (1961) differentiated caribou into two subspecies or races, the tundra or barren-ground caribou or reindeer (*Rangifer tarandus groenlandicus* L.) and the woodland caribou (*R. t. caribou*), and the Chipewyan make the same distinction (*etθen* and

tandzie). The less migratory, larger woodland caribou were generally available only to those Chipewyan who moved to the area south of Lake Athabasca; for most Chipewyan, it was the great migratory herds of barren-ground caribou that provided the basis for existence. Following Banfield's (1954) pioneering study, detailed studies have become available (Symington 1965; Kelsall 1968; Thomas 1969; Parker 1970), of major importance to the cultural ecology of the north-eastern Athapaskans.

The range of the barren-ground caribou is that of the tundra and the Northern Transitional Forest, or taiga. They rarely penetrate very far into the full boreal forest (except immediately south of Lake Athabasca (Kelsall 1968:61), unless under conditions brought about by severity of the winter, great increase in population, and richness or poverty of the mosses and lichens on which they feed. In general, the summer range is on the barren lands and that of the winter is in the northern portion of the taiga (cf. Fig. 1).

Caribou population in the eastern Mackenzie and Keewatin districts has varied considerably in recent years. The herds were estimated at 3,000,000 animals in 1937, 670,000 in 1949, only 200,000 in 1958, but 387,000 in 1967 (Thomas 1969:18, 42). Much has been written on the possible causes of the great decline (Kelsall 1968:200-275; Symington 1965), but there is no simple explanation. While recent slaughters by Indian and Eskimo populations were partially responsible, there is also the possibility of a thirty-five year cycle of increase and decline in caribou population. The minimal caribou population aboriginally and during subsequent periods was of major importance in limiting human population growth. The population of the barren-ground caribou between Hudson Bay and the Mackenzie valley is made up of four major herds, with only partial overlapping; in the far south, in winter and at times of maximum population and dispersion they may overlap with the woodland caribou of the full boreal forest.

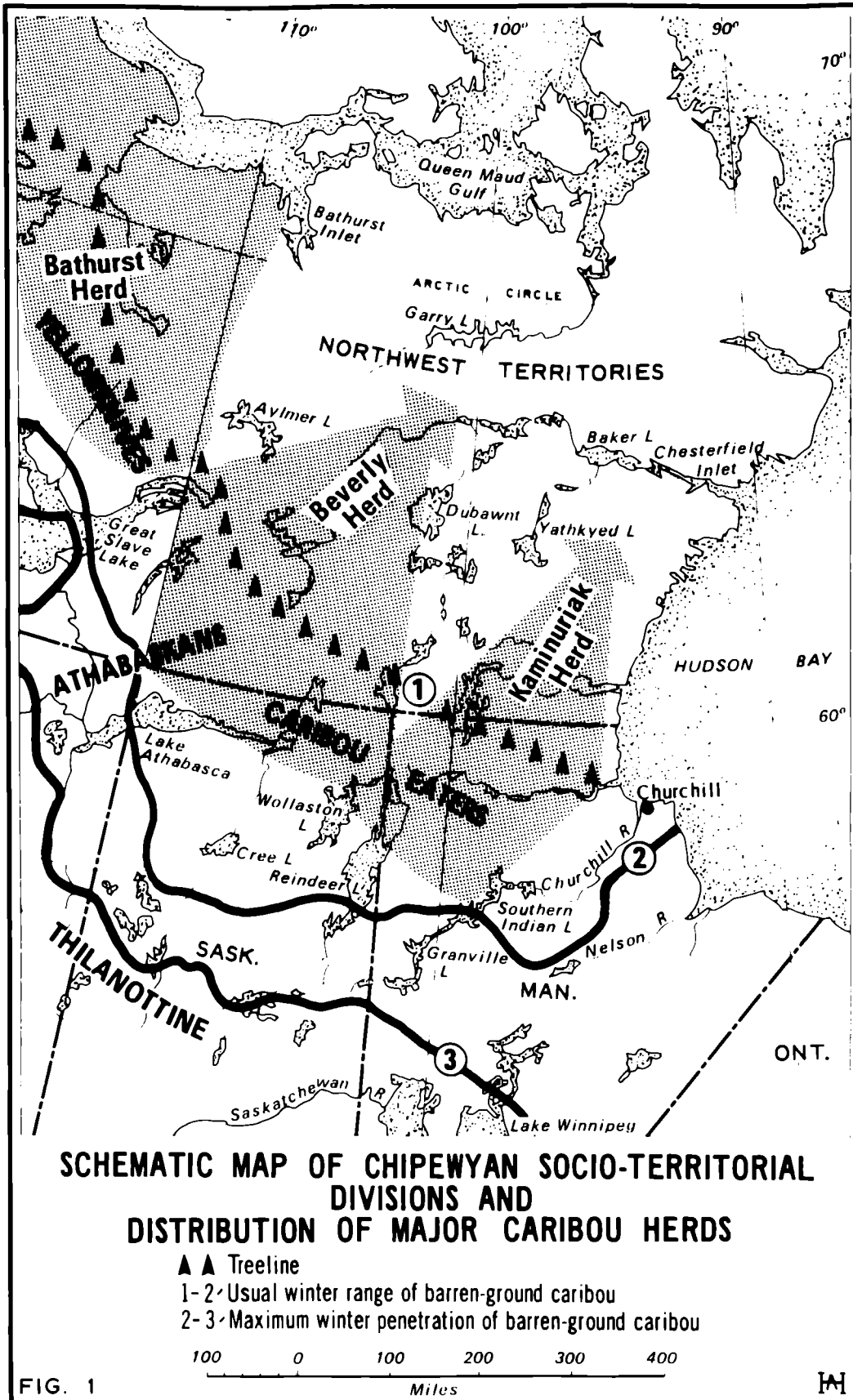


Figure 1. Schematic map of Chipewyan socio-territorial divisions and distribution of major caribou herds.

The caribou are both migratory and nomadic. The great seasonal migrations, which take up about four months of the year, are followed by seasons of relative dispersal, and nomadic behaviour within the general range. The migration from the winter range to the calving grounds in the barren-ground takes place in late winter and spring (late April to early June). There, during the foaling period, the calving females are relatively concentrated while the other animals are more widely dispersed; they are later joined by the females with their calves. During this part of the summer, they are nomadic and gregarious, with the males most widely distributed. By late August and through September the caribou form herds just beyond the treeline, but sometimes penetrate into the forest. After rutting occurs in late October, they move rapidly to the winter ranges in the taiga, reaching them by November or early December. Movement during the winter is determined largely by wind, snow, and forage conditions, as well as by the herd's population. During this phase the herd may be distributed over a great area, but the major portion tends to be concentrated in a much smaller zone or series of foraging ranges (Figs. 1, 2). In general the females remain toward the forest edge, while the bulls range more widely. In late winter the dispersed animals drift toward the treeline, forming large but loose aggregates. As the winter comes to an end the rapid migration to the calving grounds and summer range begins (Kelsall 1968:106-42). The migration routes are often followed for long periods of time, and tend to be well known to the Chipewyan whose traditional major camping areas and settlements have been located close to them or to the major ranges used by large subherds for a significant part of the winter.

Four major herds have been recognized (Thomas 1969:7; Kelsall 1968:Maps), of which only the Bluenose herd is too far north to have been heavily exploited by the Chipewyan. The other herds, the Bathurst, Beverly, and Kaminuriak, have been those that provided subsistence to the Chipewyan of the traditional areas.

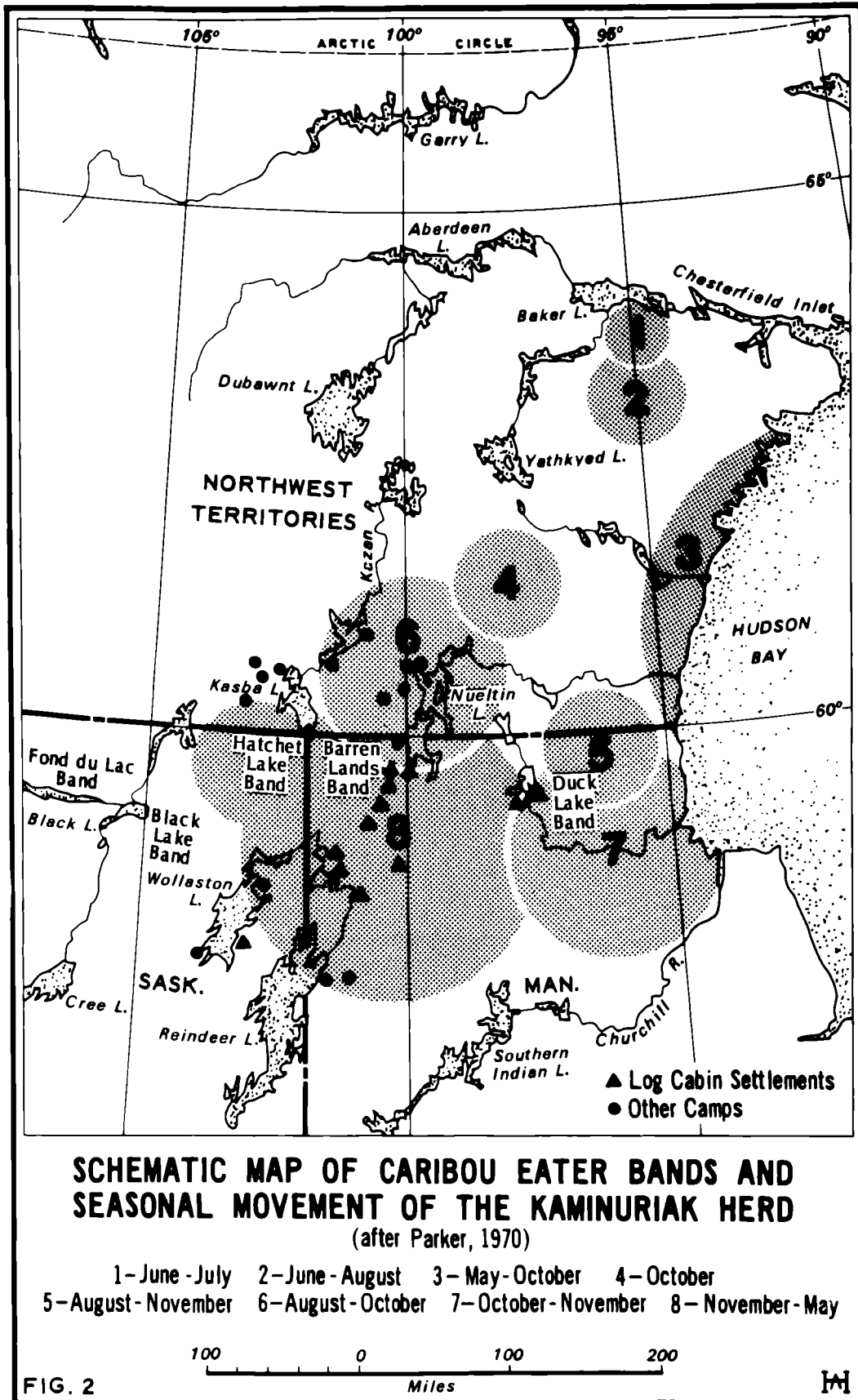


Figure 2. Schematic map of Caribou Eater bands and seasonal movement of the Kaminuriak herd.

The herds are named after the lakes that are in the area of the calving grounds, since it has been found that such areas are used consistently, although winter ranges may vary considerably. The distribution of the herds must be noted, since they correspond to the territorial distribution of major Chipewyan historic divisions of the early nineteenth century. The Bathurst herd, with calving area at Bathurst Inlet, has its winter range within the treeline east and south of Great Bear Lake, extending southward but well eastward of the Mackenzie River toward Great Slave Lake. The region corresponds to the territory traditionally exploited by the Yellowknives in the early contact period (Gillespie 1970). The Beverly herd, which calves at Beverly Lake east of Aberdeen Lake in the Keewatin, winters within the treeline generally south of Great Slave Lake to Lake Athabasca, Black Lake, and Lake Wollaston, and sometimes south of Lake Athabasca. It may extend as far south as the Churchill River under some conditions. The Kaminuriak herd's calving ground is at Kaminuriak Lake, south of Baker Lake, and its winter range is in northern Manitoba and Saskatchewan. There it tends to be concentrated most of the winter north of Reindeer and Wollaston lakes, although in some years portions of it may forage as far south as the Churchill River and, very rarely, beyond. The Beverly and Kaminuriak winter ranges overlap, and their distribution corresponds to that of the "Northern Indians" or Chipewyan known to the early Hudson's Bay Company forts (later as the Caribou Eaters); the most westerly and southerly portions of the winter ranges correspond to the divisions that moved south and came to be known as the "Athapaskans", "aspen dwellers" (*Kkrest'aylé kke ottine*) or "big river people" (*Desnedekenade*), and the *Thilanottine* of the upper Churchill drainage, at Cold Lake, Ile à la Crosse, etc. At the maximum southern extent, the Kaminuriak and Beverly herds may overlap with the northern range of the woodland caribou.

Hunting of Caribou

For the early period, Hearne's narrative provides testimony to the importance of caribou to the Chipewyan, its uses, and the methods of hunting. In addition to providing food for man and dogs, bone and antler provided the raw material for spear points, fish hooks, and a variety of other implements; the hides were made into clothing, lodges, bags, *babiche* for snow shoe netting, gill nets, caribou snares, "and many other things which it is impossible to remember, and unnecessary to enumerate" (Hearne 1958:128). The number of caribou required was large, Hearne (1958:127-8) estimating that upwards of twenty caribou skins were required for the domestic needs of one person, exclusive of food and items such as lodges and bags.

Eight to twelve hides were required for an adult's suit of winter clothing, and others were needed for summer clothing, leggings, and mocassins. Several others were needed for *babiche* strings, lines, and netting. While Hearne did not indicate the number of hides required for a lodge, my older informants asserted that forty to fifty hides were required for a reasonably large lodge; the number required in the early period may have been larger, since Hearne and others estimated eight to ten persons, or two nuclear families, in each lodge. Almost all had to be replaced annually, as caribou does not provide strong leather, and in the absence of storage or transportation facilities even useful remnants were discarded. Moreover, the abundance of caribou made replacement so easy that positive attitudes toward conservation were lacking. It seems impossible to estimate the number of caribou used for food. When abundant, they were killed in large numbers and perhaps only the choice morsels, such as the tongue, were consumed and the major part of the carcass left to rot. At other times, the flesh was dried in strips, or pounded, to provide a supply for the season or for periods of travel. In Hearne's time and until the recent decline in the herds caused government intervention, the Chipewyan took caribou

for granted as an unchanging resource to which little thought had to be given. Indeed, they attribute the decline to the activities of the Canadian Wildlife Service, although less resentment attaches to the minor killing than to the capturing and tagging of caribou in the research projects.³

Clothing and lodge coverings had to be made from caribou killed in August and September, while the skins were thick and unmarred by the gaping holes left by the warble fly. During this period the caribou were in their summer range in the barren ground, and killed in large numbers for their hides. Often, according to Hearne, only the choice portions were eaten, and the remainder abandoned.

Hunting methods were dictated by the seasonal movements and concentrations of the caribou, and by seasonal food and hide requirements. Caribou were hunted with the bow and arrow, speared from canoes, or slaughtered in large numbers in pounds. During the summer, and at times during the winter, when the herds were distributed over a large area, they were frequently hunted by one or more men using bows and arrows. During the summer, when the movements were in larger herds, they were often speared from canoes as they crossed rivers or narrow lakes, sometimes in conjunction with the pound. In Hearne's time, the flint-lock musket was beginning to displace the bow and arrow in some bands, but not spearing from canoes nor impounding.

The great migrations of "*le foule*" in early winter and in the spring were the occasions for the large communal hunts that often provided the major food

³The Chipewyan did not seem to worry about possible shortages of caribou. Near-starvation situations in all discussions seem to be the result of activities, such as trapping, that took individuals or families away from the main caribou concentrations. The Cree *wittiko* has in the recent past diffused to the Chipewyan under the title *wildigai*. It is less terrifying, however, and like the Algonkian concept may be the consequence of fears generated by a decline in the game supply, but the decline here is based upon movement from the original range by people, rather than (until recently) a serious decline in numbers.

supply for the year, although secondary hunting occurred throughout the winter and summer when supplies ran out or fresh meat or prized parts were desired. The communal hunt involved a substantial number of men, women, and children, but Hearne's (1958:49-53) description does not, unfortunately, indicate the numbers involved. Some indication of the order of magnitude is implied by the scope of the project.

The communal hunts utilized the pound or surround. At one of the known migration paths of the caribou the pound was erected, preferably on the far side of a lake, wide river, or barren plain. The pound was essentially a great fence, strongly made of bushy trees and crowded within by counter-hedges so as to resemble a maze. In every opening snares were placed and secured to substantial trees or logs to prevent escape of the animal. The gate to the pound was narrow, also to prevent escape. In size, Hearne reported seeing pounds of more than a mile in circumference, and knew of others larger still. Leading to the gate of the pound was a long funnel, narrow at the entry and widening in the direction from which the herd was expected. This, too, was made of trees and brush, stuck in the snow to resemble people, and extending for two or three miles. When the caribou were observed heading in the direction of the pound, from a camp placed on high ground, the men, women, and children moved into the entry along the traditional path, and then into the pound itself, where the men speared the snared animals and shot with bow and arrows those remaining loose. The women and children moved around the outside of the pound to prevent the escape of any loose animals.

This method, Hearne (1958:50-1) noted, was sometimes so successful that 'many families subsist by it without having occasion to move their tents above once or twice during the course of a whole winter...' The efficiency of the pound was such that its use was continued long after the introduction of the

musket. Among the Hatchet Lake and Barren Lands Bands, according to informants, the pound was used into the twentieth century until the introduction and increasingly widespread use of the repeating rifle, more convenient sources of ammunition, and efficient transport by means of the dog drawn toboggan made it obsolete.

Important theoretical implications are involved in hunting by use of the pound, since its size, the labor needed for its construction, and the number of people required for the encirclement and drive at the time of the critical major migrations appear beyond the capacity of a small group. What is suggested for this method, at the time of the migrations, is a hunting group comparable in size to the bands of later periods, i.e., perhaps several hundred people. It may also be inferred that while leadership may have generally been weak, at times of the major hunts the leader's authority must have been greater, as it was in time of war (Hearne 1958:97). Indeed, several informants from the Hatchet Lake and Barren Lands bands have indicated that when they participated, all of the available band members were involved, and that "hundreds" of caribou were killed. Sufficient numbers were slaughtered, I was told, that there was sometimes enough meat to last until the next great migration, and hunting was necessary only for fresh meat, when travelling, when on the trapline, or in late summer to provide the hides for clothing.

While this method was of primary importance at the time of the great seasonal migration, it was also used at any time of the year when the sub-herds moved in search of new foraging areas. Once constructed, it could be used for several seasons, and it is evident from Hearne's narrative that much smaller groups or bands used pounds.

Historical Background

Any consideration of cultural ecological adaptation requires that the historical background be considered in terms of such factors as territorial distribution and changes, and technological developments affecting perception and exploitation of the environment. The evidence indicates that the Chipewyan were exploiters of the forest-tundra fringes, not of the full boreal forest in the Peace River region as depicted by Petitot (1876a:26; 1883:649-51), whose interpretation was also rejected by Jenness (1932:425). The increasing historical and archaeological evidence provides impressive support for considering the forest-tundra the area to which the Chipewyan had made a long-term adaptation. The Churchill drainage must be considered, until historical times, the territory of the western woods Cree.

Archaeological Evidence

Until very recently, archaeological data pertaining to the boreal forest was extremely limited, but investigations by Nash, Noble, and Wright now provide an outline that corresponds with historical and linguistic evidence. Wright's (1968) archaeological survey and excavations at Southern Indian Lake, utilizing the direct historical approach, indicate that site to have been occupied by Cree from the tenth century to the beginning of historic times. The lake is still the center of a band of Cree of the Rocky Cree division (Smith, In press). The ceramic collections made by Downes (1938) from Reindeer Lake correspond to the material from Southern Indian Lake, and Wright (personal communication) considers the time depth to be the equivalent of the former site. Wright has also evaluated ceramic material from Lac la Ronge, in Saskatchewan, that is of the same type as that from Reindeer and Southern Indian Lakes; the evidence thus indicates that the Churchill drainage was essentially the territory of the Cree, although the western and northern boundaries of Cree occupation have yet to be explored.

Wright's (personal communication) most recent survey of Lake Athabasca indicates that area to have been transitional, with influences from the plains, the boreal forest, and the north.

Archaeological research in the Northern Transitional Section of the boreal forest and on the tundra confirms this as an area of long-term Chipewyan occupation, with Cree absent during the same period. For the northern area, i.e., the region to the east and north of Great Slave Lake and extending into the tundra, known historically to have been occupied by the Yellowknife division of the Chipewyan, Noble's (1971a:102-135; 1971b) research has similarly utilized the direct historical approach. His data suggest this area may have been occupied since *ca.* 200 B.C. by Yellowknives and their predecessors; since the time of the Taltheilei complex, *ca.* A.D. 100-300, the distribution of sites with cultural continuity is similar to that of the historic Yellowknives. Further to the south, Nash (1970) has excavated sites in extreme northern Manitoba and the Keewatin. Although artifactual materials are sparse, and diagnostic specimens rare, it seems reasonable to associate sites as early as A.D. 1000 with the Chipewyan, and Nash believes that continuity may date to *ca.* A.D. 500. Interestingly, the sites excavated and surveyed, at Little Duck, Shethanei, Egenolf, and Nueltin Lakes, fall within the area reported from earliest historic times as the zone of the Northern, or Chipewyan, Indians, by whom the area is still exploited. Lacking from this area, north of the Seal River, are any indications of Cree occupation.

Historical Evidence

The basic historical literature pertaining to the Yellowknife Chipewyan has been reviewed by Gillespie (1970; In press), and the rich archival data on the Chipewyan generally are considered by her in another paper in this series. It is necessary here only to indicate some of the data pertinent to historical distribution.

The earliest historical references to the Chipewyan appear to date from 1689, when Kelsey (1929:25) was sent to contact them to begin trade. He failed to encounter them, and it would inferentially seem that the first direct contacts of Athapaskans with Europeans occurred during the period of French occupation of York Fort, 1694-1714 (Jérémie 1926:20-1). According to Jérémie, their territory extended as far south as the Seal River, which corresponds to Nash's archaeological evidence and modern ranges, in the Northern Transitional Forest Section. In the winter of 1715-16, William Stewart was sent by Captain James Knight, Governor at York Fort, to bring the Northern Indians to trade, and to establish peace between them and the Cree. Stewart's successful mission was accomplished, according to his calculations, about 1000 miles from York Fort, at 67°N. latitude, although Knight's estimate was 600 miles and 65°. The precise location cannot be determined, but was clearly in the taiga-tundra transition zone (Kenney 1932:53-6).

Following the successful contact and establishment of peace, the Hudson's Bay Company established the post at Churchill (sometimes known as Prince of Wales Fort) in 1717 to carry on the fur trade with the Chipewyan (Kenney 1932:49-75), and limiting contact with the Cree. The early years were disappointing in terms of profit, since the Chipewyan had to be taught to skin and stretch the hides and because of the general scarcity of beaver and other important fur bearing animals in their territories. Moreover, there was little incentive for the Chipewyan to devote much time to the pursuit of fur. Hearne (1958:50-2) was concerned with the abundance of caribou that supplied almost all the needs of the Chipewyan: "The real wants of these people are few, and easily supplied; a hatchet, an ice-chissel, a file, and a knife, are all that is required...to procure a comfortable livelihood." The amount of fur needed to purchase these few articles was, of course, limited and provided a dilemma for Hearne and the many H.B.C. men who succeeded him.

Until the latter part of the eighteenth century, Churchill remained the only post provided for the Chipewyan trade. Beginning, however, in the 1780's, the North West Company began establishing posts in the interior for the Chipewyan trade which brought about the expansion of the H.B.C. into the same areas. Until then the Chipewyan were infrequent visitors to Churchill because of hardships of journeying the vast distances that had to be traversed on foot, although Hearne (1958:52-3) noted that almost all Chipewyan had been to Churchill at least once, but the Yellowknives had not seen a European (*Ibid.*:78). Their very limited needs, however, did not require frequent visits, and it seems probable that those who visited the post most frequently (e.g., annually) were from the closest bands. With the establishment of the inland posts, efforts continued to be made, more successfully, to persuade the Chipewyan to move further south into the full boreal forest where beaver and other fur bearers were more common. Gillespie has documented the southward movement, by which the area between Great Slave and Athabasca lakes became Chipewyan, and its residents known as the "Athapaskans" or "aspen dwellers" (*Kkrest'ayle kke ottine*). Almost simultaneously, other Chipewyan were moving south of Lake Athabasca to the Churchill River, reaching Cold Lake, Ile à la Crosse, and other areas by the end of the eighteenth century. These eventually became known as the *Thilanotinne* ("those who dwell at the head of the Lakes") and who, because of a traditional migration legend were considered by Petitot (1876a:26; 1883:649-53) to be the Chipewyan "*proprement dit.*" Our present understanding of Chipewyan history would, contrarily, indicate the Yellowknives and Caribou Eaters to be the Chipewyan "proper," in terms of persistence in their traditional territory and general cultural conservatism.

Not all Chipewyan succumbed to the blandishments of the rival fur companies. The Yellowknives (*T'atsanottine*) continued their predation upon the Dogribs to

obtain furs until the combination of war losses and disease led to their eventual loss of identity and merging with Dogribs and other Chipewyan (Gillespie 1969-1970).

The Caribou Eaters (*Etθen-eldili-dene*) have continued to occupy and exploit the same territories with which the Chipewyan have been identified since earliest historical times, and in the prehistoric past. Their almost complete dependence upon caribou for subsistence has continued until the last few years, although, in the immediate past, they have tended to live within the treeline and abandoned the barren ground. They are, since 1967, largely concentrated within villages in the most southerly part of their traditional range (Smith, n.d.). Jenness (1932:426) rejected their designation as a separate group, since they had not been mentioned by Hearne, Mackenzie, or Thompson. The earliest use of the term "Carribeau Eaters" in the published literature appears to be that made in 1820-1 by George Simpson (1938:370-1). Later the term becomes a common one for the Chipewyan occupying the traditional edge of the forest lands (Petitot 1876a:26; 1876b:xx; LeGoff 1889; Penard 1929:20; Hodge 1911:275-6, 440-1). Although the name apparently came into use in the nineteenth century to differentiate this major geographical division from others, Penard (1929:20) indicates that the Chipewyan generally were referred to by other Dene "tribes" as "Caribou-Eaters (*Edshenn eldeli*)," indicating something of the unity of the "nation."

Thus by the mid-nineteenth century, the expansion of the Chipewyan was recognized in the terms used to designate the major territorial divisions, including the new groups, the *Thilanottine* and *Kkrest ayle kke ottine*.

Linguistic Background

Howren's examination of Northeastern Athapaskan linguistics (this conference) posits the early separation of the Chipewyan from the remainder of the northeastern Athapaskans. This early distinction of Chipewyan (including Yellowknife) is in keeping with the archaeological and historical data that indicate a long

adjustment to exploitation of the barren lands and northern taiga, the "edge of the woods." Dialect differentiation between the various bands of Chipewyan has not yet been published, although R.H. Howren (personal communication), C.A. Davis (personal communication), and W.E. Elford (personal communication) have made some analyses of Swadesh word lists and other linguistic data from the bands at Brochet, Fort Resolution, Fort Chipewyan, and Cold Lake, and no significant dialect distinctions have been noted. Although Yellowknife has sometimes been separated, the differences have never been given major distinction. Hearne (1958:80) wrote of the Copper Indian-Northern Indian distinction: "their language differs not so much as the dialects of some of the nearest counties in England do from each other." Mason's (1946:13) collection of texts, dating to 1913, is apparently the only Yellowknife linguistic data available, and he commented on the very limited minor distinctions between it and the other Chipewyan. Older and highly respected members of the Barren Lands Band, Celestin Bonald and Pierre Antsanen, have asserted categorically that no difference existed between Chipewyans and Yellowknives, linguistically or culturally. Indeed, they assert that all Chipewyan are "caribou eaters," and, on the basis of some contacts with members of distant bands, including Yellowknives in the past, in the Churchill drainage and from Lake Athabasca, insist that there are only minor vocabulary differences.

Linguistic unity would indicate, in keeping with the ethnohistoric data, that the separation of the major divisions has been recent. Genealogical data of the Barren Lands and Lac la Hache bands indicates that there has always been some movement between bands by individuals or groups, which would tend to reduce dialect differentiation. Such relocation and realignment of bands was a common phenomenon in the past as well.⁴

⁴H.S. Sharp finds that at Black Lake there is a dialect distinction noted between the members of the Black Lake Band and those of the Barren Lands Band who joined them in the late 1930's. The differences may not be of major importance to the linguist, but the Chipewyan recognize it. It is significant in this context that

Chipewyan Territorial Divisions and Caribou Herds

During the major part of the eighteenth century the Yellowknives and Chipewyans or Northern Indians were the two major divisions recognized in the literature of the period. It was recognized that both were linguistically similar (Hearne 1958:80; Fidler 1934:551), and aside from the possession of the copper-mine and monopoly on copper artifacts any cultural distinctions were considered of insignificant nature. The major distinction appears to be based on a sense of social identity in turn based upon exploitation of primarily different territories. Although the zones of exploitation were somewhat different, Hearne's (1958:76, 77, 91, 94, *passim*) narrative indicates that Chipewyan and Yellowknives were on amicable terms, and that they generally had ample acquaintances or friends in both groups. He is, unfortunately, silent on the existence of probable kin relationships. The limited Chipewyan population would tend to develop interband relationships in order to provide an adequate marriage universe, although the nomadic habits of both Chipewyan and caribou would also bring individuals and bands into contact.

The ranges of the Chipewyan and Yellowknives can be explained in terms of the winter and summer ranges of the major herds of barren-ground caribou. The movements of herds tended to draw the bands of the two divisions in different directions, although the very wide dispersal of the herds in both winter and summer ranges, combined with the yearly variations in good forage areas and numbers of caribou exploiting them, seems to have led to fairly frequent contact between them. It was, of course, true that the bands most distant from the extremes of Chipewyan and Yellowknife populations had least direct contact.

this distinction possibly differentiates those who followed the Beverly herd from those who were predators upon the Kaminuriak herd. It may, however, only be minor distinctions that often occur between neighbouring bands.

Nonetheless, Matonabee, Hearne's guide to the Coppermine, was familiar with most of the area between Churchill and the Arctic, had numerous "friends" in the bands encountered on the journey, and had some knowledge of the region toward Lake Athabasca. Occasionally, however, groups were encountered who were not personally known to his group.

The Yellowknife area of occupation was in the taiga in the area north of Great Slave Lake and to the east of Great Bear Lake, and the barren lands extending to beyond Contwoyto, Muskox, and Clinton-Colden lakes (Gillespie 1970), and corresponds to the range of the Bathurst herds of caribou (Fig. 2). The herds winter in the taiga between the two great lakes, and penetrate almost to the Mackenzie River, although the major winter concentration is most often fairly close to the treeline. During the spring migration the herds move along well defined migratory trails toward Bathurst Inlet, where they disperse over a wide area. Since some of the trails have been recorded (Kelsall 1968:Map 22), and as archaeological and ethnohistoric data becomes available, it may soon be possible to make a tentative correlation of migratory routes and herd concentrations with Chipewyan camps.

The major division of the Chipewyan, the Caribou Eaters, occupied and exploited the taiga from Great Slave Lake in a southeastward arc to near Churchill, and outward into the tundra as far as Yathkyed and Dubawnt lakes and the Thelon River. Roughly the same territory is utilized by the Beverly and Kaminuriak herds, the only two of the major herds that overlap in their winter distribution (Thomas 1969:16). The southern extension of the herds, if pursued, was important for potentially troublesome relations with the Cree to the south, and for the expansion of the Chipewyan into the Lake Athabasca and Churchill River regions in quest of furs. In Manitoba, the usual winter caribou concentrations are in the area north of Reindeer Lake, although the distribution may be as far south as

the southern part of the lake, and when winter foraging conditions are most severe or the population is at its highest they may penetrate to, or beyond, the Churchill River. The Churchill River is known archaeologically and historically to have been occupied by Cree, and the initial effort of the Hudson's Bay Company was to establish peace between them and the Chipewyan. The area was the potential source of conflict, with Chipewyan moving south in pursuit of caribou and the Cree exploiting the moose and the woodland caribou whose distribution overlaps with that of the barren lands caribou when the latter is at its maximum distribution (cf. Kelsall 1968:Map 1). In northern Saskatchewan, the Kaminuriak herd overlaps with the southeasternmost of the Beverly herds. Although the major concentrations are to the north of Reindeer and Wollaston lakes, and thence northwest toward Great Slave Lake, the distribution is well into the taiga toward Black Lake, Lake Athabasca, and the Slave River. Some portion of the herd may be expected to be south of Lake Athabasca, with occasionally a substantial number there. Distribution may be as far south as the Churchill River, although that area is primarily the habitat of the woodland caribou and other big game, including moose and woodland bison.

It is the southern extension of the Beverly herd that may have been instrumental in the southern movement of the Chipewyan who were to become the "Athapaskans," in the area between Great Slave and Athabasca lakes, and the *Thilanottine* in the area to the south. For a people who were "caribou eaters," for whom the term for meat is synonymous with caribou and other meat is "less substantial" (Hearne 1958:167-8), and to which a different term (*ber*) is given by contemporary Caribou Eaters, the southern extensions of the herd doubtless provided the transition to the new diet. For those Chipewyan becoming the Athapaskans (or *Deenedekenade* = "great river people," or *kkrest'ayle kke ottine* = "aspen dwellers") north of Lake Athabasca, the caribou summer range would still be within the limits of exploitation, although at some expense in time.

For those Chipewyan becoming the *Thilanottine*, the caribou winter range would be within the limits of exploitation, although the summer ranges are a great distance from the lakes on the Churchill drainage.

The transition to the south was not without its difficulties, since it involved an increasing dependence upon new game animals, including woodland caribou, woodland bison, elk, mule tail deer, and the fur bearing animals that had been of minor importance, as well as the skills required for hunting and trapping. Fish became a more important part of the diet, too, as distance from the relatively reliable caribou herds increased. The ties to the country of the taiga and tundra were not easy to overcome, and several Hudson's Bay Company factors in the 1820's commented on their traditional reliance on the caribou, the ease with which they were hunted, and the relative lack of dependence on the Company for supplies: they still needed only the axe, knife, chisel, and file. Nevertheless, while some Chipewyan remained in or returned to their traditional lands, some eventually made the transition to the full boreal forest. The cultural adaptations made in their new environment will be briefly mentioned below.

It is difficult to fully assess the terms given to the major territorial divisions indicated above. The Copper Indians were, almost from the beginning of the historical records, given the distinctive term to differentiate them from the Northern or Chipewyan Indians in general and it is evidently of native origin. The distinction seems to have been primarily one of social identification of the northwestern taiga-tundra and monopoly of the copper supply. The term Caribou Eater was in use by 1821, when it was used to differentiate them from those who moved into the interior forest. June Helm (personal communication) reports that in Dogrib traditional oral history, a *Thilanottine* is recorded as having made peace between them and the Yellowknife chief, Akaitcho, in the 1830's. In most recent times, the terms have tended to fall into disuse. Penard

indicated the term "caribou eater" was used by other Athapaskans to refer to all Chipewyan, and the writer's informants have sometimes considered the term to refer to all Chipewyan, at other times only to the more restricted group. In general, the terms applied to the *Thilanottine* and Athapaskans ("aspen dwellers") follow the Athapaskan tendency to name groups after environmental features (cf. Curtis 1928, XVIII:3-6).

There are no indications in the historical data to indicate that the major divisions formed political entities or political or military alliances. As no linguistic or cultural differences were apparent, the named territorial group must be taken as representing bands in relative proximity to one another, intermarrying more frequently, and having occasion as individual members or as small groups, to cooperate.

In general, contemporary Chipewyan use terms for the groups that Helm (1968: 118-21) refers to as regional bands; these terms, as for the larger territorial units, are based upon a geographic or environmental characteristic.

Chipewyan Bands and Caribou Herds

Each of the major territorial divisions, at each period of time, consisted of one or more bands. The sources are admittedly fragmentary, but do provide some direct or inferential data on size, composition, and location of the early bands and the continuity of zones of occupation and exploitation.

While there is periodic mention of bands and numbers in the early literature, there is no agreement as to total Chipewyan population at the end of the aboriginal period. Mooney (1928) estimated the number of Chipewyan as about 3500, more recently Thompson (1966:417-24) estimated a figure between 4670 and 10,652, based upon the assumed carrying capacity of the caribou herds and the uses to which the caribou were put. The lower figures seem reasonable for the combined Chipewyan-Yellowknife at time of contact; the higher figures are based on an overly conser-

vative estimate of the number of caribou required for food, clothing, and equipment, as well as an over-estimate of subsidiary food resources such as fish, woodland caribou, etc. The interior forest, south of Great Slave Lake and Lake Athabasca, included as Chipewyan in Thompson's article, was not an area of Chipewyan occupancy until post-contact time; hence the woodland bison, woodland caribou, and moose were then most marginal resources.

As the herds of caribou may have varied in their numbers over long periods, and were seasonally concentrated or dispersed to varying degrees, it is to be expected that the Chipewyan bands that depended upon them would vary correspondingly in numbers and seasonal concentration and dispersal. The largest concentrations were possible at the times of the great seasonal migrations and in areas in which there were major winter concentrations. As the herds were more dispersed, the major band would break down into its constituent local bands. If, as is sometimes indicated by the data, the movements of the herds were unusual, then the distribution of bands and their territories of exploitation would vary.

Bands in the Aboriginal-Early Contact Phase: Stewart and Hearne

The existence of the Chipewyan or Northern Indians was known during the early years of York Fort to the Hudson's Bay Company and to the French during their period of occupation. Such knowledge was based upon the Cree and their occasional Chipewyan slaves, but they had not been contacted in their own lands. In 1689 Henry Kelsey was sent to find them and bring them to trade, but his journey was unsuccessful; his summer expedition took him only to the southern reaches of the barren ground (Kelsey 1929:25), but the summer range of the caribou meant the Chipewyan distribution was further to the north.

Upon restoration of British rule in the Bay, the Governor, Captain James Knight, sent William Stewart to find the Chipewyan in their own country, to make peace between Chipewyan and Cree, and to encourage the Chipewyan to trade.

Guided by a Chipewyan woman, the famous Slave Woman (Kenney 1932:54-6), and accompanied by a large number of Cree, Stewart found the Chipewyan in the edge of the forest during the winter of 1715-16 (HBC Archive B 239/a/2), although there is some question as to the precise location (Kenney 1932:55). Peace was established, although with occasional hostilities occurring for some time, and the beginning of an orientation to the exploitation of fur bearers was made. More important for present purposes, however, was Stewart's description of the band with which he spent the winter: it consisted of 160 men, with a total of over 400 persons. It is to be noted that the size is consistent with later reports of Chipewyan bands, and is a winter estimate. (The apparently disproportionate number of males is unexplained.⁵)

Slightly more than a half century after initial contact, Hearne travelled through Chipewyan country from Churchill to the Coppermine. His narrative contains some indications of band locations, traditional camping areas, and relative fluidity of band composition, together with an invaluable discussion of Chipewyan culture. His journey was undertaken at a time when changes from the aboriginal condition were minimal. The Northern Indians did little trapping, but obtained furs from the Yellowknives, or Copper Indians, and Dogribs, who had no direct contact with Europeans. Muskets were beginning to replace bows and arrows among some Chipewyan bands, but the Yellowknives had no muskets and some Chipewyan bands had not a single flint-lock among them. Their needs were limited to axes, ice chisels, knives, and files, the latter used as blank metal until the present time. There is no evidence that they had been affected

⁵The unusual sex and age ratio must, of course, be viewed in the frame of reference of a total Chipewyan population of roughly 4000, perhaps too small for statistical generalization. However, statistics for recent years among the Chipewyan and Cree of northern Reindeer Lake indicate that in the potentially marriageable category males outnumbered females by roughly 3/1, while for the younger children skewing was almost absent.

by the "initial shocks, depopulation, relocation, and other disturbances in the early contact period..." (Service 1971:77). Aside from the adoption of a limited number of metal implements, perhaps the major change was the developing trend to trade at Churchill. In Hearne's time, most Chipewyan men had visited Churchill at least once, although no Yellowknives had made the trip. It should, however, be noted that the visits were brief, of one or two days duration, and that only the leader was admitted within the fort to conduct the trading negotiations, while his followers remained outside the walls. Acculturative influences were limited, as was the possibility of transmission of epidemic disease. Since Chipewyan and Cree had been separated by hostilities, as well as trading at Churchill and York respectively, indirect influences were considerably restricted. There is no indication that serious epidemic diseases had spread to the Northern Athapaskans until 1780 (cf. Haegerty 1928, I:17-65), when smallpox was reportedly carried by the Ojibwa and Sioux to the north (*Ibid.*:45-6).

In the course of his journey, Hearne encountered and mentioned meeting a number of "Leaders, or Captains," and, by implication, bands. Among these were:

- (1) Chawchinahaw, a Captain who also had considerable authority and influence because of his command of supernatural powers (Hearne 1958:xiv, lxviii, 1-7), and who was Hearne's guide on the first attempt at reaching the Coppermine.
- (2) Near Yathkyed Lake, he (Hearne 1958:23) "met a Northern Indian Leader, or Captain, called Keelshies, and a small part of his crew, who were bound to Prince of Wales's Fort, with furs and other commodities for trade."
- (3) At an unspecified location, he was joined "by a famous Leader, called Matonabbee..., who, with his followers, or gang, was also going to Prince of Wales's Fort, with furs, and other articles for trade" (*Ibid.*:33-6). This leader was later Hearne's guide in the successful trip of 1772.

(4) Far to the northwest, he (*Ibid.*:91) "met a Northern Indian Leader, called Oule-eye, and his family, who were, in company with several Copper Indians [killing caribou]."

(5) South of Great Slave Lake, he (*Ibid.*:175) was joined by "a strange Northern Indian Leader, called Thlew-sa-nell-ie, and several of his followers."

(6) A group of Copper Indians was encountered at a branch of the Conge-ca-tha-wa-chage River, led by a leader, or "principal" man, with whom Hearne smoked the calumet (*Ibid.*:76-7).

(7) The Copper Indians in company with the Northern Indian leader Oule-eye were apparently a group distinct from the band met at the Conge-ca-tha-wa-chage River (*Ibid.*:91-2).

In addition to the bands that are indicated by leaders or captains, there are further references to groups that may represent bands, or smaller groups. Some of these may be noted, bearing in mind that Hearne was travelling and encountering the Chipewyan at various points in their annual cycle, with chance probably paying a significant part.

In April, 1770, a "great body" of Northern Indians were seen near the Seal River, and were still with Hearne when he arrived at She-than-ee (Hearne 1958:17); this represented the families returning to the barren ground while their "husbands and relatives" were hunting geese near the fort. At Yath-kyed Lake, the men of several tents were spearing caribou from canoes, at the end of June (Hearne 1958:23). During July, his party was joined by many others coming from different quarters, until "we had in all above seventy tents, which did not contain less than six hundred persons. Indeed our encampment at night had the appearance of a small town..." (*Ibid.*:25). Lake Nuelin appears to have been a major center of population concentration, as at various points on this good fishing lake the wives and families waited for the men who went into

the fort in October and November to trade (*Ibid.*:45-6).

On his final trip, in March 1771, Hearne (1958:54) encountered a group of five tents, or about fifty people, who had spent the winter snaring caribou at a location that had clearly been used for several years, and a few days later met with "several" more tents. At Clowey, an unspecified number had spent the entire winter snaring caribou in a pound (Hearne 1958:62), and were joined by "upwards of two hundred Indians, most of whom built canoes at this place" (*Ibid.*:63). It was at Clowey that many decided to accompany Hearne's party, "with no other intent than to murder the Esquimaux" (*Ibid.*:73-4). On August 5th, Hearne's camp had "more than forty tents," or about 400 people, but by the ninth was down to twelve tents (*Ibid.*:121, 126). During the winter of 1771-72, Hearne's camp generally consisted of seldom less than twenty tents (*Ibid.*:180), or 200 persons, with a constantly fluctuating membership, as they were temporarily joined by various groups.

The relationship of Matonabee and his followers accompanying Hearne was generally friendly with most of the Northern and Copper Indian groups encountered. When meeting the first major group of Yellowknives, for example, Hearne (1958:77) noted that "Matonabee, and several others in our company, were personally acquainted with most of the Copper Indians we found there."

Not all groups encountered included individuals personally known, or related, to members of Matonabee's party, and those small groups of strangers were treated very differently. One "family" was plundered, and a woman taken away (*Ibid.*:175-6); another group of "some families", without a musket among them, was plundered and the women raped (*Ibid.*:184).

Some features of bands emerging from this early period may be noted.

(1) The size of the bands was variable, and probably seasonally variable, but groupings of 400 to 600 individuals occurred. Bands, or temporary groups,

often numbered more than 200. Smaller entities were also encountered, ranging in size from an apparently extended family to those of about five tents, or fifty people. Some of the smaller groups may have been autonomous bands; others may have been parts of larger bands, temporarily separated because of the seasonal cycle, for hunting, or for travel to Churchill to trade.

(2) Reasonably amicable relations existed among most of the Chipewyan extending from the eastern stretches of the barren ground northwestward to the Arctic Circle. The basis of such friendly relations is not described by Hearne, but it is reasonable to assume that they were based in substantial part on the existence of consanguineal or affinal kinship. (3) The Chipewyan population was sufficiently large and dispersed that it was possible for a few groups to be encountered that were unknown to the members of Hearne's party. Such groups, with no known direct relationships, were plundered. (4) Although widely dispersed in the taiga-tundra, Hearne did not find significant dialect differentiation, from which it may be inferred that Chipewyan bands were at least minimally associated with one another over a long period of time. (5) Hearne made no mention of strict rules of residence that would indicate unilineal band composition, nor would the large and fluctuating size of bands be congruent with strict patrilocality. Arranged marriage and polygyny, not restricted to the sororal variety, and adding or losing of wives in wrestling matches, also makes questionable interpretations indicating patrilocality to have been strictly observed. (6) There was no indication of starvation or famine as more than a temporary situation associated with distance from the caribou, and most frequently associated with trips to Churchill when the trade route did not coincide with caribou distribution. The Chipewyan, in normal conditions, were always associated with the known seasonal distribution of the caribou herds. (7) The use of large pounds during the major caribou migrations indicates a

considerable level of labor cooperation, and at least temporary aggregation of a large band. We may also infer that leadership at the time of the major hunts was stronger than at other periods, when it is clear that chiefly authority was very limited.

The Early Fur Trade Period: The late eighteenth and early nineteenth centuries

After Hearne's journey to the Coppermine, the traders from Montreal began to establish contact with the Chipewyan at the periphery of their own territory, and their posts were soon countered by the new interior posts of the Hudson's Bay Company. The attempts of the latter company to urge the Chipewyan into the richer fur game regions in the interior forest, which had earlier been largely futile, were now more successful as posts were more conveniently located and prices of trade goods lowered. Moreover, the peace made with the Cree, and the devastation of the Cree population by smallpox, made this movement feasible.

Not all bands were affected simultaneously nor to the same degree by the developing relationship with the Europeans. Those bands that during this period became significantly involved, the *Thilanottine* and the Athapaskan branches, did so gradually and almost spasmodically, while the Caribou Eaters remained in their own lands and only became integrated into the new economy toward the end of the nineteenth century. For the former groups, the new items of European technology gradually became increasingly important; for the latter, they tended to be of minimal importance. The smallpox epidemic of 1780-81 greatly affected some bands, and Hearne (1958:115) estimated that ninety per cent of the Chipewyan had been killed by it; his estimate presumably refers to those bands of which he had direct knowledge, for in view of the continuing movement of Chipewyan bands into former Cree country such an estimate is impossibly high.⁶

⁶The limited effect of the smallpox epidemic of 1780-81, and subsequent ones, was probably a result of two major factors: the periodic isolation of regional or local bands for substantial periods of the year, which might coincide with the

By 1783, according to Hearne (1958:116, fn.), the few Yellowknives who survived the epidemic were trading with the North West Company in the Athabasca district, and Peter Pond (Innes 1930:100-1) confirmed that some forty Yellowknife men were trading with him. Pond noted, however, that they were far from their own country, and presumably they eventually returned to their own territory near Great Slave Lake.

By the 1790's the two great fur companies had established forts throughout the forest periphery of the Chipewyan lands. Although evidence of band territory or ranges is still lacking for this period, the posts tend to be in the areas that are later identified with the Caribou Eater bands and the winter foraging areas of the caribou herds. In addition to the older fort at Churchill, these included posts at Reindeer Lake, Fond du Lac, Fort Chipewyan, and Fort Resolution. Although the records for the early years are fragmentary concerning band size, composition, and locality, some of the fragments are worth citing.

The Reindeer Lake Post Journal (HBC B. 179/a/2) for the spring of 1806 reported the arrival of several groups of Chipewyan. During the week of March 26-31 "... a gang of Nor^d Indians arrived from their own ancient lands had no Furrs had a little meat they gave to both Houses. They informed me of 5 Northern Indians good hunters who had departed this Life...(who) were properly attached to Churchill." On April 26th, another group arrived, including twenty-three men, "excluding Boys and youths." Between May 5-11, another group of twelve men and their families reached the posts, and between May 12-15, "...30 families of Nor^d Indians arrived from their own lands...". Thus some sixty-five

contagious phase of the disease, and the Chipewyan tradition of destroying all the dead person's possessions and immediately departing from the area in which death occurred. Thus the great measles epidemic of 1948 struck the Barren Lands band, but not the neighboring Hatchet Lake band.

male adults and their families, in addition to the unspecified number in the first band or "gang" came from the same general area to visit and trade.

At Lake Athabasca in 1801-03, "not fewer than fifty tents" of Chipewyan traded; the trader estimated that there were "two beaver hunters, two women, and four more including superannuated men and women would make in all four hundred souls" (Jenness 1956:16). Their only metal tools were the axe, file, and crooked knife (Jenness 1956:21).

In December, 1791, Peter Fidler (1934:532) reported forty tents of Chipewyan camped not far from him, south of Lake Athabasca, and in April, 1792, a camp of fourteen tents was encountered (Fidler 1934:555).

In his District Report for 1819-20 for Reindeer Lake, Hugh Leslie (HBC B. 179/e/1) provided more detail on the Chipewyan trading at his post. They lived primarily in the taiga and the tundra to the north; Reindeer Lake was clearly not their home territory, although a few had spent the winter near the lake to trap. They still lived a nomadic life, for he complained that "...the Northern Indians being such a wandering set [trading] never takes place at any one place above a year or two at the utmost."

During that year, forty-two Chipewyan men are listed as trading at the post, of which perhaps a dozen normally went to Churchill or had been associated with the Indian Lake post the preceding year. He noted another twenty-five hunters attached to the adjacent North West Company house. Sixty-seven hunters, indicating a population of over 250, were thus within reasonable, if temporary, range of this post. The home territory of the major group trading at Reindeer Lake was indeed far distant. In his District Report for 1820-21, Leslie (HBC B. 179/e/2) wrote:

I mentioned in my report of last year that a number of Indians intended to visit their country in the Summer consequently we could expect but little from them as half the season would be over before they would arrive in that part of the country where

a few furs could be got. Now this actually happened as shall appear For commencing towards the Spring the greatest part of them made their appearance destitute of every thing except Deer Skin cloathing.

The main band of about thirty hunters trading with the Hudson's Bay Company at Reindeer Lake in 1819-20 had been led by a chief, *Thu-ty-ah*, who had died in December. His immediate group had consisted of his brother, who assumed responsibility for his family, one son-in-law, and possibly another. Several others are referred to as "relations" and "dependents." The band contained other small groups who were among the chief's followers, but to whom there is no stated relationship. One such group consisted of a man and two sons-in-law. Another was described as consisting of a man, his son, and another adult of unspecified relationship. Several other small groups are mentioned as consisting of brothers, and still others as men who have consistently hunted and travelled together. One man was identified as a shaman, or "Conjurer."

Dependency upon the post was still limited to the essential trade goods. Leslie (HBC B. 179/e/1) wrote "...they are somewhat careless about furs being then well clothed in Deer skins so that they consider themselves somewhat independent."

Further to the west, near Great Slave Lake in 1825, the trader, Robert McVicar (HBC B. 181/e/1), cited as a major disadvantage of the district its proximity to the "Reindeer or Chipewyan Lands," which permitted a life of relative abundance and ease. Still only the axe, knife, and file were cited as the implements required from the Europeans, and the independence of the Chipewyan was often manifested by returning to their own lands "...where they have remained years utterly unprofitable to the Post."

Other information pertaining to the internal composition of bands is available from this early phase of the fur trade. Hearne (1958:passim) had earlier described marriage as arranged, that polygyny existed and was not

restricted to the sororal type, and that young women were the prizes of wrestling matches. Franklin (1823, II:79) wrote that cousin marriage was not prohibited. Hearne and others have repeatedly mentioned the tent as a basic social unit consisting of two hunters and dependents, totalling eight to ten persons. Post-marital residence was, according to an early North West partner (Jenness 1956:24), temporarily uxori-local or matrilo-cal until the wife began to bear children. Other data, cited above, indicate that the band sub-groups were based upon various combinations of relationship, but including those of father-in-law and sons-in-law, fathers and sons, and the sibling bond. An early Chipewyan word list (HBC B. 198/z/1) contains a number of kin terms, consistent with the system of patri-lateral cross-cousin marriage described by Curtis (1928:XVIII:148-151) for the Cold Lake Chipewyan, although the former is lacking in the critical cousin terms. It should also be remembered that affinal kinship is carried to an extreme degree by Anglo-American standards: *all* kinsmen of one spouse become kinsmen of the other spouse and his (her) kin, and that consanguineal and affinal kin are not differentiated, other than those in the marriageable categories.

The characteristics indicated are consistent with the data of the earliest part of this phase and, indeed, it is apparent that the bands remaining in the traditional territory had not significantly changed from the earlier phase. The bands were of considerable size, generally including several hundred individuals, and seldom fewer than one hundred, although the band was not necessarily together throughout the year. Although some bands may have been devastated by the smallpox epidemic of 1780-81, the survivors apparently amalgamated with other bands, and it does not appear that band size or composition was seriously affected. The bands from the earliest period, and to the early nineteenth centuries were large, composite bands, primarily oriented to the caribou, utilizing traditional methods, and only tenuously engaged in the fur trade. We may, in

fact, infer that Chipewyan institutions were adapted to the rigors of life in the Subarctic that included periodic reduction of the herds, possible starvation of some, skewing of the sex ratios and population pyramid that required a high degree of flexibility.

Although the data are only fragmentary, there is evidence that some Chipewyan groups or bands were in the same areas with which they were later identified as the modern regional bands. The groups trading at Churchill were, at least in part, the antecedents of the *Sayisedene*, the modern Duck Lake or Churchill band. Those associated with the post at Reindeer Lake included the antecedents of the *Otelnadidene*, the Barren Lands band, and the *Nunarnadidene*, the Hatchet Lake band. The association of early groups and late nineteenth or twentieth century bands must, however, be viewed in terms of the composite nature of the band and fluidity of its membership. The band was not a corporate group with a long-term, stable core of members.

The Developed Fur Trade Period: The late nineteenth and twentieth centuries

By the end of the nineteenth century the identity of the regional bands had become clear, as they were recognized by Treaty 8 of 1899 and Treaty 10 of 1907. Similarly, the relationship of the bands to the caribou herds is clarified for those Chipewyan remaining in their traditional territory. By the end of the century, however, many bands or amalgams of groups, had moved into the interior forest to the south, generally beyond the range of the barren-ground caribou, and were identified as the *Thilanottine*. Others had moved into the full boreal forest to the west, where they (the Athapaskans or *Kkrest aylé kke ottine*) were marginal to the herds. The Yellowknives were in the process of being assimilated into the Dogribs after their numbers had diminished after setbacks in warfare and the effects of disease.

Those bands remaining in the traditional Chipewyan territory had become known as the Caribou Eaters, the *etθen-eldili-dene*. Five regional bands were

then distinguished, which informants of the Barren Lands and Hatchet Lake Bands identify as Caribou Eaters. Their official names are essentially English translations of the names by which they knew themselves.

(1) The *Sayise-dene* (people of the rising sun), also known as the Churchill or Duck Lake Band. Their traditional main camping area, and site of the contact-traditional settlement until recently, was at Little Duck Lake, north of the Seal River and on a major caribou crossing, but about 1958 they were resettled at Churchill (Koolidge 1968). The main camp is one of the sites explored by Nash (1970:81-3) and has yielded materials indicating fairly continuous occupation since ca. A.D. 500. Shethanei Lake, forty miles south of the former site, has been intermittently occupied for seven centuries (Nash 1970:85); Hearne encountered a large number of Chipewyan at this point on his first trip. Jérémie (1926:20) established the Seal River as the boundary between the Chipewyan (or "Dogribs") and the Maskegon at the time of the French occupation of York Fort (1694-1714). The band is significantly situated in an area that is penetrated in late summer and again in early winter by the Kaminuriak herd in its major migration (Fig. 2; Parker 1970).

(2) The *Otelnadi-dene* (people of the lowland, i.e., barren lands), or the Barren Lands band. The major camp of this band was situated to the southwest of Lake Nueltin near a major caribou crossing, but other apparently long if intermittently occupied settlements were at lakes Kasba, Ennadai, Kasmere, Misty, and Maria, all strategically located with respect to caribou movements and, at least seasonally, of some value for their fish. Nash's most recent work in this area indicates prehistoric occupations near Lake Nueltin, but the data are not yet available. It was at Nueltin Lake that Hearne (1958:45-6), in 1771, encountered a small group of families, but observed that this excellent fishing lake was also an at least temporary camp for many others. It has, until the

last few years, been the primary encampment, and the contact-traditional settlements elsewhere are offshoots of the main camp. The band may be related to the early camps reported at Yathkyed and Dubawnt lakes. The area of exploitation is one in which the Kaminuriak herd, and perhaps portions of the Beverly, spends a major part of the winter.

(3) The *Nunarna-dene* (people of the south), or Hatchet Lake (*θanʔe-tue*) band, but sometimes also known as the Lac la Hache or Lake Wollaston band.⁷ During the late nineteenth and twentieth centuries this band has occupied an area bounded on the south by Wollaston and Reindeer lakes; on the north, the winter range has overlapped with that of the Barren Lands band at Kasba Lake. Charcoal Lake, in northeastern Saskatchewan, is a major center of winter caribou concentration of the Kaminuriak and Beverly herds, and an area of band exploitation. Snowbird and Wholdaia lakes, according to informants, have sometimes been camping areas for both this and the Barren Lands band. There is no archaeological evidence yet available for this region, and archival research has not yet progressed to the point of providing pertinent data, although it would seem probable that this may have been one of the groups trading at Reindeer Lake.

(4) The *Yodai-dene* (people of the west), or Black Lake (Delzen-tue) band, sometimes also known as the Stony Rapids band. Their territory was to the north and northeast of Black Lake. Some of this band was also sometimes found at Kasba Lake in company with members of the Barren Lands and Hatchet Lake bands, and Snowbird and Wholdaia lakes were reportedly within their range. Until "recently," some were still obtaining late summer caribou hides from the barren-ground for clothing. A current study, by H.S. Sharp of Duke University,

⁷Hatchet Lake (*θanʔe-tue*) is the Chipewyan name for what is shown on the maps as Lake Wollaston. The small lake north of Lake Wollaston, shown as Hatchet Lake or Lac la Hache, is not known as that to the Chipewyan.

should supply significant data on this band and its distribution and exploitative pattern. At present, it would appear they exploited the winter range of the Beverly herd, and sometimes the overlap area of the Kaminuriak herd.

(5) The *Ganikweⁿdene* (people of the pine house), or Fond du Lac band. Archaeologically this area is still unknown, although J.V. Wright of the National Museum has begun a survey. The present village is south of several groups encountered by Hearne on his return from the Coppermine, which may have been among the antecedents of those who came to trade at the North West and Hudson's Bay Companies' posts that were established in the late eighteenth century. The range of the band was doubtless great, if the present village-trading post complex was actually within their territory, for in the last decade some have trapped Arctic fox as far to the northeast as Lake Ennadai. In general, it appears that the band exploited the caribou of the Beverly herd, to the north and northeast of Lake Athabasca.

Other bands have been at best only vaguely known to my informants from the Barren Lands and Hatchet Lake bands. While they have at least distant kinsmen among the Caribou Eater bands noted above, they had never heard of the bands, the Athapaskans, at Forts Chipewyan, Smith, Resolution, Reliance, or Snowdrift and, although curious about them, had no knowledge of whether they might be Caribou Eaters in the strict sense, although the informants sometimes argue that all Chipewyan are "caribou eaters." At Fort Resolution, David Smith (personal communication) indicates that the term Caribou Eater is used to designate the people of the bands listed above, but is also sometimes applied to those of the Fort Resolution band who persist in a life oriented to "the bush."

The bands designated as *Thilanottine*, south of Lake Athabasca, at Buffalo Narrows, Cold Lake, Ile-à-la-Crosse, Janvier, and Patuanak, were only vaguely known to exist. Genealogical research, however, stimulated memories that in

the past kin relationships had existed with at least some of these.

The lack of knowledge of the Athapaskan and *Thilanottine* divisions is indicative of the extent to which, by the twentieth century, the Chipewyan had dispersed and of the decrease in nomadism and interband relationships that had existed earlier. Some of these factors are noted below; others have been considered elsewhere (Smith, n.d.).

Although the Caribou Eater bands of the late nineteenth and twentieth centuries retained much of their traditional orientation to the caribou, certain modifications had been made in the pattern of seasonal exploitation and range of movement. The gradual growth of the fur trade, however marginal some bands remained, created certain conflicts as the dual economy developed. For subsistence, the orientation was still to the migratory and nomadic caribou, but trapping required a secondary orientation during the winter and spring to the non-migratory fur bearers, somewhat more abundant in the interior taiga than in the very edge of the forest, although still sparse. The conflict was only partially resolved among the bands when they became settled in permanent villages during the 1960's.

The emphasis upon fur bearers led to virtual abandonment of the barren ground. In Hearne's time Chipewyan were found as far into the tundra as Yathkyed and Dubawnt lakes, but when Tyrell (1911:86, fn. 1) travelled through the region in the 1890's he found the area occupied by the Caribou Eskimo. Older informants assert, however, that the bands continued to hunt caribou in the southern portion of the tundra, although primarily for hides for clothing, until about 1950 or even later in a few cases. Some trapping for Arctic fox was done on the tundra until the 1950's, and perhaps still later for some individuals. Nevertheless, the orientation increasingly came to be toward the south, where caribou were present in large numbers in the winter, where some fur bearers

lived, and in proximity to the trading post-mission complex:

The location of the major camps was determined by the migration routes and foraging ranges of the caribou. The factors that most directly indicate this relationship are best known for the Barren Lands band, and to a lesser degree for the Hatchet Lake and Churchill bands (Fig. 2). Camping areas that tended to be occupied at least seasonally for many generations meet one or more of the following criteria: they are (1) near a regularly used migration path to the summer calving area, (2) in the path of the caribou major migration route to the winter foraging range, and (3) in the areas where large numbers habitually forage for long periods of the winter. Since the caribou are not completely dependable in their movements in any given season or year, and since numbers and southern distribution vary, the Chipewyan were variably nomadic and migratory as well. The relatively permanent camps and the log cabin settlements of the contact-traditional horizon should perhaps be considered base camps and points of rendezvous, although under favorable conditions the entire local band spent most of the year there.

The seasonal movement of the Kaminuriak herd (Fig. 2) is now known from the recent research of the Canadian Wildlife Service (Parker 1970). From its summer foraging area it moves briefly into the fringe of the taiga in the area of the Duck Lake band, then returning to the tundra, and then again moving into this area again in its main early winter migration. The recent slaughter at the crossing near Little Duck Lake has been noted (Kelsall 1968:219) as one factor in the recent great decline in the numbers of this herd. While some portion of the herd remains in this region, the major part moves to the west, north of Reindeer and Wollaston lakes, where it in part overlaps with the winter foraging range of the Beverly herd. This is the territory of the Barren Lands and Hatchet Lake bands.

The major camping area of the Barren Lands band was situated at the southwest of Lake Nueltin, near a major caribou crossing, and within convenient striking distance of the winter taiga and late summer tundra foraging ranges of the caribou. Informants have said that it was "often" possible to kill and preserve enough caribou at the early winter migration to last until spring, and in spring enough could be killed to last until the herd returned in early winter. In such years additional hunting was required to obtain hides for clothing in late summer, for fresh meat, including such delicacies as the tongues and heads, or for food when travelling, as on the traplines.

Since becoming enmeshed in the fur trade, the members of this band have been dispersed somewhat more during the winter to minor camps further to the south. Like the camp at Lake Nueltin, these appear to have been occupied at least seasonally for generations. They were located in areas in which caribou are always present during the winter, and fairly centrally located to the traplines. In every case, they were situated near a lake or widening of a river, the specific location of which was determined by the need for water, for fish, and for convenience of travel. Such major camps were at Lakes Nueltin, Kasmere, Misty, Maria, Fort Hall, Reindeer, in Manitoba and Saskatchewan. Earlier, through most of the first half of the twentieth century, other significant camps were on the Putahow River, at Lakes Putahow and Tice in Manitoba, Lake Wollaston in Saskatchewan, Lakes Snowbird and Kasba in the Mackenzie District, and at Lakes Poorfish, Windy, Nueltin, and Ennadai in the Keewatin District.

Band territories were not defined, and members of one band often lived temporarily with another; some shifts were, indeed, frequently permanent. Some camping, hunting and trapping areas were used jointly, and such areas as Lakes Snowbird, Kasba, and Ennadai were, for example, used by several. The fluidity of band membership and lack of territorial "ownership" seems always to have been

characteristic until recent provincial regulations affecting traplines and fishing were imposed. A few examples are illustrative of this flexibility. In 1938 members of the Barren Lands, Hatchet Lake, and Black Lake bands wintered at Kasba Lake. The members of the latter band invited the others to join them at Black Lake, and some ten families accepted that offer and moved permanently, transferring their band membership. In 1958, when the Saskatchewan government established a co-op and other facilities at Lake Wollaston for the Hatchet Lake band and put into force regulations governing fishing and trapping, those families close to Reindeer Lake and the trading post-mission complex at Brochet transferred their membership to the Barren Lands band, with which they had many ties of kinship. Further east, some members of the Barren Lands band had their camp within a few miles of the main camp of the Duck Lake (Churchill) band.

The size of the bands seems during the twentieth century to have varied from about 200 to 300 individuals, although in the last generation modern medical resources and air transportation resulted in a major population increase, more recently intensified by settlement in a village. The size has been variable not only due to the fluidity of band membership, but to the effects of European introduced diseases. In 1780-1, for example, Hearne (1958:115) estimated that 90% of some Chipewyan bands died of smallpox. The effects of tuberculosis cannot be estimated, but in 1923 an influenza epidemic killed twenty-three, and in 1948 measles killed eighty, almost all adults, of the Barren Lands band that could not have numbered more than 300. Such epidemics kept population low, and also contributed to interchange of band membership as widowed persons remarried.

The regional band consisted of several subgroups or local bands that became the subsequent all-native contact-traditional log cabin settlements.

These generally consisted of ten or more nuclear families, although that at Lake Nuelin was much larger, particularly until 1940 or even later. The local bands tended to consist primarily of families linked to one another by multiple ties of kinship or marriage, although such bonds existed with other local and regional bands. The nucleus of the local band consisted of one or more groups of closely related households that might include a man and his sons and their families, two or more brothers and their families, a man and son and son-in-law and families, or brothers-in-law and their families. While the tendency of post-marital residence patterns was toward patrilocality, there seems to have been no rule other than that the long term co-operative group must include several adult males. Any tie of marriage or kinship could be used as the basis for the relationship. In addition, there have been numerous instances of individual families shifting from area to area, often for only personal reasons. For example, one man, born into the Fond du Lac band, gradually shifted his residence, eventually becoming chief of the Barren Lands band. Sometimes, indeed, the cooperative group was made up of individuals unrelated save as *sitsene*, or partners, but this relationship was considered of enduring importance.

The size of the regional and local bands was related to the hunting of caribou by traditional means. For the impounding of caribou at the time of the great seasonal migrations, as much of the regional band as possible was gathered together to provide the labor for construction and the numbers required for the drive and kill. Smaller numbers operated a pound if an older one needed only repairs, and this was sometimes done by the local band. Smaller pounds were utilized in the winter foraging ranges, generally at river or lake crossings, a task undertaken by the local band. The summer kills were often done by a group the size of the local band, when large num-

bers could be obtained by spearing the animals in the water from canoes, or in ambushes at water crossings. Other hunting was undertaken by one or two men armed with bow and arrows or muskets, but for immediate needs. The use of the pound continued among the people of the Barren Lands band into the twentieth century, and fell into disuse only after the musket was replaced by the efficient repeating rifle of relatively light caliber.

Kin terms given in nineteenth century dictionaries (Petitot 1876b; LeGoff 1889; Penard 1938) are reasonably consistent, although incomplete, with those provided by Curtis (1928, XVIII:148-51, *passim*), all deriving from the area of the *Thilanottine* near Cold Lake, Alberta. According to Curtis, arranged patrilateral cross-cousin marriage had been the preferred form and he was able to describe it, but he did not provide specific information on the frequency of occurrence nor the operation of the system. Current kin terms of genealogies from the Barren Lands and Hatchet Lake bands, although showing some confusion in cousin terminology, are also indicative of the former presence of the pattern. A system of patrilateral cross-cousin marriage, in which there may be delayed direct exchange of women between the families and larger groups, appears appropriate to the linking of a series of rather large and amorphous bands scattered from Hudson Bay to the Arctic.

Cross-cousin marriage had evidently persisted at Cold Lake until the late nineteenth or early twentieth century, and for the Caribou Eaters it is not indicated after 1905 by the marriage records of the *Mission St. Pierre de Lac Caribou* at Brochet, nor is it mentioned in the mission journal. Missionary activities between 1861 and 1905 resulted in the full conversion of the Barren Lands and Hatchet Lake bands by the latter date. While the Christian interdiction of cousin marriage may be considered a factor in the demise of the pattern, the persistence of bilateral cross-cousin marriage among the adjacent

Rocky Cree makes it unlikely to have been the determinant. The loss of the system may be better explained by the decline in mobility of the families and bands, and orientation to specific trading post-mission complexes rather than to other bands, thus rendering this integrative pattern redundant.

Although not recorded in the literature, the bilateral kindred exists conceptually among the contemporary Chipewyan and there is little doubt that it has some time depth. The term *eʔlelotine* refers to all relatives, including affines; it may have an inclusive meaning, by which it refers to all known kinsmen, or a more restrictive one in which it designates those who habitually live and cooperate together. In its wider meaning, it could rarely be a localized group; in the narrower usage it refers to those who habitually live together, cooperate, and have strong and widespread obligations of reciprocity. LeGoff's (1889:43) *Grammaire de la Langue Montagnaise* refers to it as "parents, compatriotes." Another term, *eⁿθagebedele* or *eʔlnakwi*, refers to consanguineal kin only. The close blood kinsmen, bilaterally conceived, constitute the minimal group upon which the individual has absolute rights of cooperation and sharing. Both terms can perhaps be translated as kindred, with the indication of the parameters indicated by the context of usage. LeGoff (1889:43) incidentally defines *eʔlnakwi* or *e^clnahekoui* as *freres*; the difference may in part be dialectal, but in its wider sense it reflects the very strong emphasis upon the solidarity of siblings.

The kindreds, in either a minimal or maximal sense, are always distributed among a number of local bands, or more recent settlements, and regional bands. In the context of a largely nomadic life dictated by the uncertainties of the caribou population, the kindreds provided the basis of small hunting, and later trapping; groups that necessarily wandered over vast areas, and through the widespread network of kin relations could almost invariably rely upon encountering

others with whom they could depend for cooperation or assistance, and with whom they could affiliate either temporarily or permanently. The bilaterality of the kin groups, combined with the links between kindreds distributed through many fluid bands established by cross-cousin marriage, provided a degree of flexibility in realignments necessary under the severe conditions of the Subarctic.

Leadership of the band was vested in the traditional chief, the *denetθeritset'iⁿ* (implicitly accepted head of the people). His authority was limited, but he could be a man of considerable influence. Celestin Bonald, the last surviving traditional chief and sometime elected chief of the Hatchet Lake band, described the traditional duties as preparing for the major caribou kills, direction of the drive and impounding of the caribou, selection of sites for ambushes, and other activities related to hunting. He was also expected to caution the men and older boys to be careful of accidents in the bush or on the lakes, and to care for their equipment. He was of importance in decisions concerning seasonal moves, and to ensuring that the band members knew where the others would be located during the periods of dispersal. Although internal conflicts seem to have been rare, the traditional chief sometimes mediated disputes and was expected to be instrumental in reestablishing friendly relations. Chieftainship was not hereditary, but as a man gradually came to be respected for his knowledge, wisdom, self-restraint, and general integrity, people came to him for advice, information, or leadership; very gradually he became the implicit leader. The local bands appear also to have had minor leaders, although these were possibly the senior, respected heads of substantial kin groups, some of whom were incipient *denetθeritset'iⁿ*. In former times, before conversion to Christianity, he may have been a man of considerable supernatural power, or *iⁿkaⁿze* ("dream power"), as was, apparently, the Chawchinchaw mentioned by Hearne.

After the negotiation of the treaty, 1907 for the Barren Lands and Hatchet Lake bands, elected chiefs and councillors were required. These were initially the former implicitly accepted leaders, but as the relationships of the band to the government became more important and the traditional hunting techniques were abandoned, the elected chief was chosen for other reasons, particularly those having to do with his ability to interact with the Indian agents. The elected chief became the *denekoderi* (boss of the people), expected to deal effectively with the *koderinader* (big government or big power), although continuing some of the functions of the traditional chief. The elective chief was resident at one of the camps, and elected councillors at several others served the more limited requirements of the decreasingly autonomous band.

The increasing importance of the fur trade, particularly in the twentieth century, had gradually increasing consequences for the Caribou Eaters, although not so great as for the other divisions in the full boreal forest. The bands at the edge-of-the-forest retained their basic orientation to the caribou until the winter of 1969-70, although summer hunting on the tundra ended about 1950. The main features that emerged included a growing reliance upon trade goods; increased local mobility resulting from dog teams that reached modern size in the 1920's; decreasing nomadism resulting from utilization of traplines, construction of log cabin communities, and orientation to a single trading post-mission; reduction in the need for cooperative hunting as the rifle made the pound obsolete, coupled with emphasis on the small cooperative group for trapping; and a decrease in interband contact, especially in peripheral regions, resulting in a higher tendency toward endogamy or a decrease in the total range of the marriage universe. In the 1950's and 1960's the extension of government social services to the more isolated bands resulted in the collapse of the traditional economic base, and the period of the "micro-urban village" began.

The adjustments made by the Barren Lands and Hatchet Lake bands to the exploitation of the fur bearing mammals were minimal in contrast to the Chipewyan who moved into the interior forest, or to the neighboring Cree to the south. The comparison emphasizes the continued importance of the caribou and the limited interest in the fur trade.

Hunting and trapping territories do not correspond, in the taiga, to the well-known Algonkian patterns of the boreal forest. The migratory herds of caribou do not lend themselves to a family owned hunting territory, nor without the modern repeating rifle, to hunting by individuals or very small groups. The other large game animal, the moose, is also tracked wherever the trail leads, although the caribou eaters have never apparently been overly concerned with this animal.

Trapping territories did develop, but not to the degree found further south among the *Thilanottine* and the Cree. Among the trappers of the Barren Lands band, throughout the twentieth century, a man was free to establish his trapline in any area not in use. If a trapline should not be used, it was open to any other trapper. In general, a trapper would use the same trapline year after year, unless it proved unprofitable. Adjacent traplines were usually those of close kinsmen or sometimes non-kin partners (*sitsene*). The exceptions to this general portrayal are, however, frequent. If a trapline proved to be sparsely populated by fur bearers, it would be abandoned. Friction between partners could lead to dissolution of the partnership and possible relocation. An invitation to join a friend or kinsman on a trapline in the area of a different local or even regional band sometimes led to a move over a great distance, but short- and long-term "visiting" is a long established Chipewyan pattern. While some men never moved from the local band territory, others moved with great frequency, perhaps spending one winter in one place,

ten years at another, and intermediate periods at still others; these moves do not, of course, include the movements necessary in pursuit of the caribou.

The rather casual approach of the Chipewyan to "ownership" of traplines continued to the present. In 1958 the Manitoba and Saskatchewan governments extended the program of registered traplines to the very north of the provinces. For Manitoba, in the area of and to the north of Reindeer Lake, the Rocky Cree (*assiniskawidiniwok*) were allotted, by mutual agreement with the Chipewyan, most of the trapping territory around Reindeer Lake. Registered traplines were assigned to individuals or small family groups. The Chipewyan, on the other hand, reserved their traditional northern region which was then registered (trapline number 10) for the entire Chipewyan membership of the Barren Lands band (some Cree had in the last several years, been enrolled as members of the band). Within the huge trapline, the traditional rules are still followed: there are no traplines registered for Chipewyan individuals or families. In choosing the north as their "trapline," they deliberately selected the region in which caribou were to be found, but one in which fur bearers were much rarer than in the area assigned to the Cree. Caribou were important, not fur, an attitude that concerned the H.B.C. for two centuries.

The movement into the full boreal forest brought about greater adjustment on the part of the *Thilanottine*. Penard's (1929:20-23) description of the hunting and trapping territories, and the pattern of leadership, provides the only available data on this Chipewyan division. According to Penard (1929:21) the opening of a trapline established the territory as that of the trapper, and gave him the exclusive right to set traps and snares or to take the furs from traps placed therein by others. Any beaver lodges within the territory belonged to the owner, although in general a beaver house belonged to the first man to discover it and set his mark on it. The hunting territories corresponded to

the limits of the traplines, with the owner having the right to hunt fur bearing animals and the local big game, which Penard noted to be moose and [woodland] caribou; in much of the area other large game would include woodland bison, elk, and mule deer. While the local megafauna are almost sedentary in contrast to barren-ground caribou, they do wander and the *Thilanottine* made provision for an animal to be hunted if the chase had begun outside the hunting territory.

The pattern of hunting and trapping territories corresponds roughly to that of the historic boreal forest Algonkians, and is clearly an adjustment to the importance of fur bearers and non-migratory big game. A similar pattern could not exist in the taiga-tundra where the only abundant food game was the highly migratory and nomadic barren-ground caribou (see also Birket-Smith 1930:69).

Summary and Conclusions

In the eighteenth century, in the early period of contact, two major divisions or branches of Chipewyan were recognized. The terms Chipewyan or Northern Indians referred to the major body exploiting the taiga-tundra ecozone from Hudson Bay north of the Seal River, westward to Great Slave Lake. The Copper Indians, or Yellowknives, occupied the same transitional zone north of Great Slave Lake to the Arctic. The latter were differentiated on the basis of their monopoly of the source of copper, but do not appear to have been linguistically or culturally distinct. The Chipewyan proper exploited the Kaminuriak and Beverly herds of barren-ground caribou north and east of Athabasca, Wollaston, and Reindeer lakes; the Yellowknives were dependent upon the Bathurst herd north and northeast of Great Slave Lake. Both divisions were noteworthy for their almost total dependence upon this one species of game.

During the late eighteenth and early nineteenth centuries some Chipewyan groups, in response to the lure of the fur trade and peaceful relations with the diminished numbers of western woods Cree, moved into the full boreal forest

where fur bearing mammals were more abundant. There they adjusted to the new ecozone, although for decades they were vacillating in the adjustment as they returned to their former lands in quest of caribou. Their movement into the interior forest was facilitated by the maximal distribution of their familiar caribou herds, making somewhat easier their adjustment to the new zone in which woodland caribou, woodland bison, moose, elk, and mule tailed deer were the primary game animals. Those who moved into the boreal forest between Great Slave Lake and Lake Athabasca became the "Athapaskans," *Denesdekenade* (great river people) or *kkrest aylé kke ottine* (those who dwell in the trembling aspen); those in the lake country of the upper Churchill River became known as the *Thilanottine* (those who dwell at the head of the lakes).

The Yellowknives eventually became culturally and linguistically extinct as they were merged with the Dogribs in the nineteenth and twentieth centuries, following great losses due to smallpox and warfare. Those Chipewyan who remained in their own traditional territories became known in the early nineteenth century as the *etθen-eldili-dene*, the Caribou Eaters. These continued the traditional adjustment, although with gradual adjustments, remaining relatively marginal to the fur trade until their settlement in micro-urban villages in the last decade.

On the basis of anthropological and historical evidence, oriented to the recent zoological studies of the barren-ground caribou, specific statements can be made concerning the cultural ecology of the historic Chipewyan and their traditional, conservative descendants. Almost totally dependent for subsistence and raw materials upon the barren-ground caribou, their geographic range coincided with that species, including the northern part of the taiga and the barren ground to the north and extending only into the full boreal forest when such movement was necessitated by the maximal distribution of the herds. The

annual cycle of the migratory and nomadic caribou was paralleled by that of the Chipewyan. The major body of the caribou herds wintered in the taiga, not far from the tundra, but with the range extending into the interior, sometimes into the full boreal forest. Toward the end of the winter, the herds began to concentrate in the fringe of the taiga, and in April or May began the major migration to the calving areas in the tundra. There the calving females concentrated near the lakes from which the herd names are derived; the males and other females were more widely distributed. Toward the end of summer, in August and early September, the herds began to congregate in the tundra near the treeline, with some venturing into the woods, then returning to the north. In October or November the great migration into the taiga wintering zone took place. Within the taiga there was a degree of nomadism and separation dictated by foraging conditions. While the major seasonal migrations were largely predictable, and the major sequence of foraging zones tended to be so, there were sometimes major deviations that lent an air of uncertainty to life: total numbers varied, there is a possibility of a thirty-five year cycle of growth and decline, early and severe winter conditions altered the time of movement and area of distribution, and the availability of good foraging regions varied.

As the movements, numbers, and degree of concentration or dispersal varied, so the Chipewyan bands were variable. From time of contact to the present, Chipewyan bands in the taiga-tundra region appear to have numbered from 200 to 400 individuals, with either higher or lower figures also indicated. The early bands, the antecedents of the more recent regional bands, were concentrated at times of the major seasonal caribou migrations when hunting was a major communal activity utilizing extensive pounds. The concentration of large numbers was also possible when many caribou were concentrated in favorable foraging areas. At other times, the regional band was

required to separate into smaller local bands for the hunting of the smaller subdivisions of the major herds; at these times hunting was done by the use of the pound, by snaring, or by bow and arrow. During the summer, on the barren-ground, caribou were hunted largely for their hides, secondarily for food, by the methods already indicated, or spearing from canoes as they crossed narrow lakes or rivers; sometimes an ambush utilizing a variation of the pound was combined with this technique.

In keeping with the migratory and nomadic habits, and sometimes unpredictable range, of the caribou, there were no territories that were thought to be "owned" in any sense by the bands. Caribou movements necessitated the movement of bands or groups for survival. The movements of the herds were, however, sufficiently reliable to permit relatively regular use of particular camping areas, some of which are known to have been at least intermittently utilized for many centuries to the very recent past. The major band centers were located with regard to the caribou movements: in the vicinity of the major migration routes, and in the areas of good forage that permitted major sub-herds to congregate. The traditional camping areas in the taiga continued in recent times as the major log cabin contact-traditional settlements for the Caribou Eater branch, which remained somewhat marginal to full involvement in the fur trade. The Caribou Eaters remained traditional with respect to the non-definition of band territory until provincial fishing and trapping regulations were imposed in recent years, but trapping areas are still thought of as open to any member of the band as long as the area is not in use, and there is no concept of a family or individual hunting territory. A gradual decrease in the utilization of the tundra, the summer range of the caribou, was a consequence of late nineteenth and twentieth century involvement in the fur trade, although some Caribou Eater bands have remained in areas where few fur

bearers are found. Until settlement in sedentary villages, they have remained true to their caribou orientation, with their traditional settlements central to both the summer and winter caribou ranges.

Although the total Chipewyan population was probably on the order of 4000 at the time of early contacts, the bands were of relatively large size. The earliest contact within Chipewyan territory, in 1715-16, was with a band of 160 adult males and a total of 400 individuals. In 1771 Hearne travelled, at least temporarily, with a group of 600, and was seldom accompanied by fewer than 200. In general from the earliest historic times to present, Chipewyan band size seems to fall in the range of 200 to 400. Such a size is consistent with Steward's (1955:143-50) discussion of composite bands, and other evidence confirms the composite nature of these groups, although not the view that the band was composed of unrelated families. Service (1971:76-8), however, asserts that the bands, in effect, had to be patrilocal, and that the composite nature of the bands in historical times was the consequence of the initial shocks and later adjustments to the European presence. There is no historical or empirical evidence to justify Service's conclusions, which are based on commitment to a theory and to inadequate reading or evaluation of the primary published sources on the early historical period.⁸ From earliest contact to Hearne's time, first York then Churchill were the only European settlements at which the Chipewyan had minimal contact. There is no indication of smallpox or other devastating epidemics for the northeastern Athapaskan areas, which would have been duly noted by the officials of the Hudson's Bay Company if for no other reason than

⁸Service's (1971:73-5) remarks concerning the aboriginal and early historic patrilineal bands of the Ojibwa also rest upon a weak foundation. The early historical documents can equally show, at time of initial contact, the existence of composite named bands that in a comparative and historical perspective can be reasonably argued to be the antecedents of the patrilineal, totemic clans of a later historical period.

the adverse affect on the fur trade. The relative isolation of the Chipewyan through their limited contact at Churchill and the distance, both social and spatial, separating them from the Cree, limited the shocks, dislocations, adjustments, and changes, until peaceful relations with the Cree were established and the 'Montreal pedlars' reached the periphery of traditional Chipewyan territory in the latter part of the eighteenth century. As noted earlier, as well as by Helm (1965), any social system of the Canadian Subarctic must have the flexibility to cope with the variety of problems that have occurred in both aboriginal and historic periods. In terms of Service's evolutionary theory, it may be, without an environmental determinist argument, that conditions similar to those of the Chipewyan existed among the reindeer hunters in the taiga-tundra south of the glaciers during the European Upper Paleolithic and Mesolithic periods, and that a similar social system may have existed.

Although there is no doubt that the total Chipewyan population, whatever it may have been in aboriginal times, was reduced by the smallpox epidemic of 1780-81 and later catastrophes, the organizational principles do not appear to have been affected. On the highest level the Chipewyan nation includes all those with whom there was potential for cooperation and alliance. Because of the great geographic distribution, interaction of individuals or groups tended primarily to be within, although certainly not in fact limited to, a designated group of bands in relative proximity. These band groupings initially were the Chipewyan "proper," or Northern Indians and the Yellowknives; as Chipewyan territory expanded during and after the late eighteenth century, the "Athapaskans" and *Thilanottine* were differentiated. The four branches of Chipewyan were linked within themselves and to one another by kinship and marriage, and shifting of individuals and families from one to another was always possible. The branches were made up of regional bands, the largest group that lived

together for any substantial period of time, numbering from 200 to 400, which was the cooperative group during periods in which caribou movements or concentrations made communal hunting possible and highly productive. The regional band did not have a clearly defined territory; rather, there was a range based upon caribou migration and foraging ranges that tended to be exploited by the band. Because of the sometimes unpredictable movements of the caribou there could be no development of concepts of territoriality and ownership, since individuals and groups had periodically to venture into other areas. The size and membership of the regional band was variable, depending upon such factors as caribou populations, abilities of leaders, alignment of kin groups, and demographic factors. The band, like its territory, was fluid and noncorporate; its membership consisted of extended families, occupying a joint tent, related to other such groups both within and without the regional band, constituting the bilateral kindred. Such extended families were free to realign as members, temporary or permanent, of other bands with which they had ties of kinship or affinity.

The regional band was divisible into local bands, the antecedents of the contact-traditional settlements of the late fur trade period. The local bands were relatively small, consisting of several tents or extended families, united through primary ties of kinship and affinity, and probably numbering about fifty individuals, although the figure could be highly variable. The local band operated as an autonomous unit during those periods of the year when caribou dispersal dictated dispersal of the regional band, and later, when trapping necessitated a wide distribution of the larger entity. The composition of the local band was based on a variety of possible kin relationships chosen from the various possibilities offered by the bilateral kinship system or by marital alliances. Specific combinations included those based on the father-

son, father-son-in-law, sibling, or sibling-in-law relationships, or some combination of these; it sometimes also included unrelated *sitsene*, or partners. The normal living unit was the tent, or caribou lodge, averaging eight to ten persons, including two hunters, their wives, children, and superannuated adults; this was generally the minimal household and the minimal "task force." Post-marital residence was temporarily uxori-matrilocal until the bride began to bear children which, because of the early age at which the girl married and adolescent sterility, was often a period of several years. Such residence may be viewed as bride service, since one early trader (Jenness 1956:24) observed that "if the son-in-law be a good hunter he generally supports the family of the wife's relations should they require it." Patrilineal cross-cousin marriage was the preferred type, and sororal polygyny and the levirate are indicated, but polygyny was not limited to the sororal variety, and marriage was complicated by the practice of wrestling, with wives as the prize to the strongest.

The composition of the groups was, at all levels, of great flexibility and variability. At the extended family level aging and death resulted in realignments as a unit shifted, for example, from a father-son to a sibling based group. Extended families were free to shift from one larger local or regional band to another, on the basis of the choices made available by the bilaterality of the kinship system and the potential alliances based on affinal relationships. The kindreds, the *eʔlelotine* (all consanguineal and affinal kinsmen) and the *eʔlnakwi* (the blood kinsmen), were not localized but widely distributed among local and regional bands. Relationships within the kindred, and to other kindreds, were maintained or established by arranged marriages and/or those based on preferential patrilineal cross-cousin marriage; if the system of integration appears amorphous, it is doubtless because the kindreds were themselves fluid and the parameters differently defined for every individual other than siblings. It may be, indeed,

that the poor definition and apparent weakness of the kindred is its very strength under the taiga-tundra conditions of the central Subarctic by providing a maximum of potential alliances and range of cooperation.

The kinship terminology, kin groupings, and marriage pattern should be considered as adaptations of a society of big game hunters dependent on a single species of game, nomadic and migratory, varying in numbers, seasonal concentration and dispersal, in an extraordinarily rigorous climate. In a somewhat similar context, Pehrson (1957:107-8) noted that, for the Kõnkämä Lapp reindeer herders, bilaterality permits affiliation with either the patrilineal or matrilineal kin; it provides flexibility and variability, and gives an "impression of perpetual structural rearrangements, alliances and severance of alliances." Levi-Strauss (1969:451) considers patrilineal cross-cousin marriage systems to be of the direct exchange variety, although delayed by one generation, and limiting the degree of risk in the exchange. Its range of integration is less than that of the matrilineal variety, but it is "safer." Eggan (1955:543) suggested that this form of marriage among the Chipewyan as an integrative factor is more amorphous than the bilateral variety. Helm (1965:361-85) stressed bilaterality among the Arctic drainage Athapaskans generally as an adaptation providing the basis for new affiliations after the recurrent devastations that occur in aboriginal as well as historical times. Her assessment of the Arctic drainage Dene is in accord with the historic and contemporary Chipewyan.

In the context of life in the taiga-tundra the amorphous and flexible bands represented an adaptation to the variations in the population, concentration, dispersal, and predictability of the barren-ground caribou. The flexibility of the bilateral form of kinship permitted realignment, the establishment of new alliances, or the disruption of old attachments, as

necessitated by the caribou, or other factors related to the environment, by interpersonal hostilities, or by demographic features that could include starvation, skewing of the demographic pyramid, or a differential sex ratio. To these can be added the shocks of European contact, including the consequences of epidemic disease and tuberculosis. Polygyny, sororal or otherwise, was the prerogative of the successful hunter, not only as a reward of ability but as a necessary consequence of success. The sororate and levirate were a form of social insurance, a guarantee that the widowed and their children would have care. Patrilineal cross-cousin marriage tied together the bilateral kindreds with fluid parameters spread across the vast and often inhospitable taiga and tundra. It tied together not only the kindreds, but the bands among which the kindreds were distributed, from the Seal River to the Arctic. The bands and the larger population of which they were a part were larger than those Algonkian bands in northern North America tied together by bilateral cross-cousin marriage; but the risks were too great to permit the development of that strict form of asymmetrical cross-cousin marriage appropriate to more highly structured and stable groups.

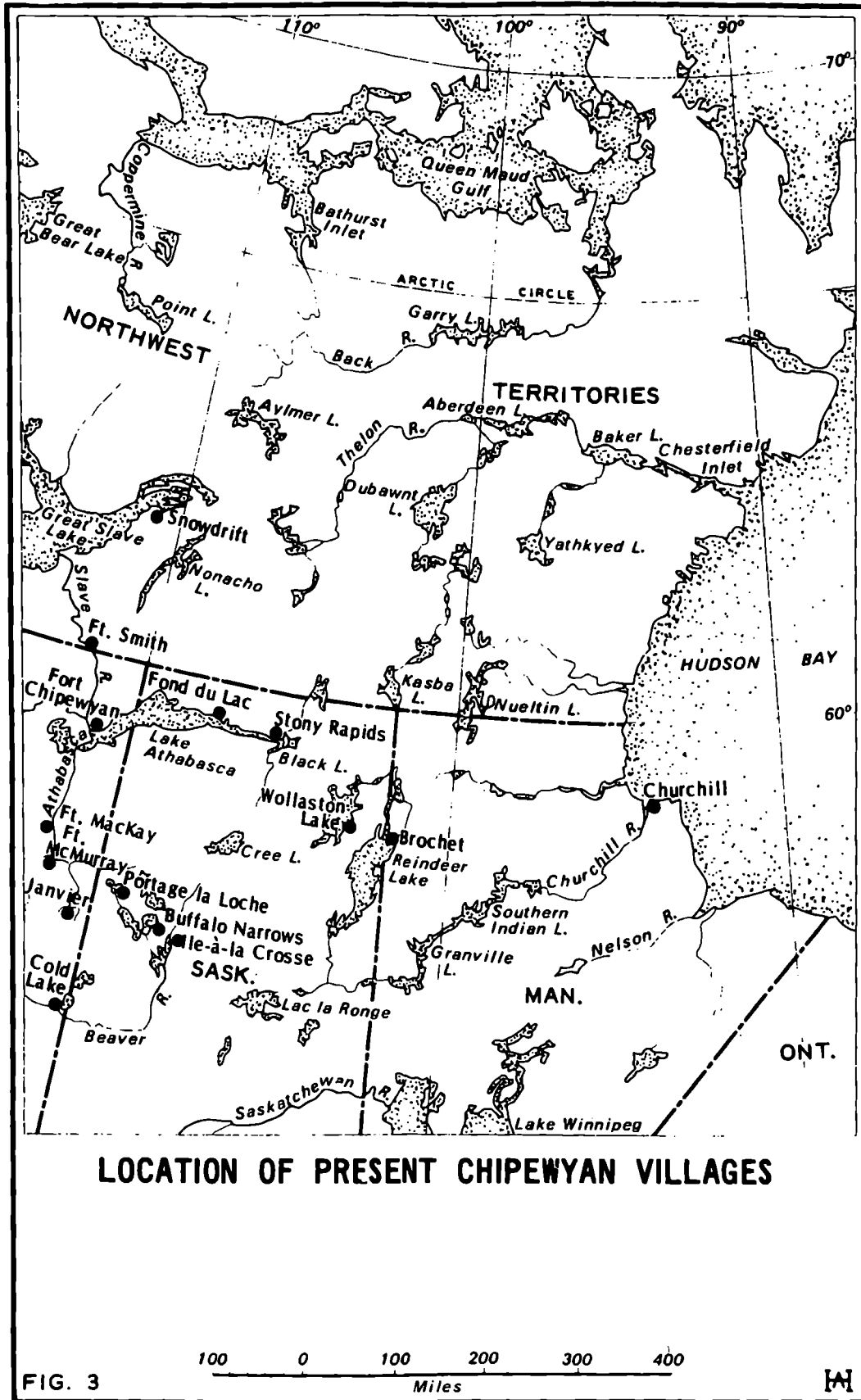


Figure 3. Location of present Chipewyan villages.

REFERENCES

- BANFIELD, A.W.F.
1954 Preliminary Investigation of the Barren-Ground Caribou. *Canadian Wildlife Service Management Bulletin, Series 1.*
- BIRKET-SMITH, Kaj
1930 *Contributions to Chipewyan Ethnology.* Report of the Fifth Thule Expedition, Volume 6, Part 1. Copenhagen.
- CURTIS, E.S.
1928 *The North American Indian*, Vol. XVIII. Norwood.
- DAMAS, David
1969 Environment, History and Central Eskimo Society. In *Ecological Essays*. D. Damas, Ed. *National Museums of Canada Bulletin 230.*
- DOWNES, P.G.
1938 Reindeer Lake Pottery. *American Antiquity* 4:48.
- EGGAN, Fred
1955 *Social Anthropology of North American Tribes.* 2nd ed. Chicago: University of Chicago Press.
- FIDLER, Peter
1934 Journal of a Journey with the Chepawayans or Northern Indians, to the Slave Lake, and to the East and West of the Slave River in 1791 and 2. In *Journals of Samuel Hearne and Philip Turnor.* J.B. Tyrell, Ed. Toronto: Champlain Society Vol. XXI.
- FRANKLIN, John
1823 *Narrative of a Journey to the Shores of the Polar Sea.* 2 vols. London: John Murray.
- GILLESPIE, Beryl C.
1969 An Ethnohistory of the Yellowknives: A Northern Athapaskan Tribe. M.A. thesis, University of Iowa, Iowa City.
1970 Yellowknives: quo iverunt? In *Migration and Anthropology, Proceedings of the 1970 Annual Spring Meeting of the American Ethnological Society.* R.F. Spencer, Ed. Seattle: University of Washington Press.
- HAEGERTY, J.J.
1928 *Four Centuries of Medical History in Canada.* 2 vols. Toronto.
- HEARNE, Samuel
1958 *A Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean, 1769, 1770, 1771, 1772.* Richard Glover, Ed. Toronto: Macmillan.

- HELM, June
 1965 Bilaterality in the Socio-Territorial Organization of the Arctic Drainage Dene. *Ethnology* 4:361-385.
- 1968 The Nature of Dogrib Socioterritorial Groups. In *Man the Hunter*, R.B. Lee and I. DeVore, Eds. Chicago: Aldine.
- HELM, June and David DAMAS
 1963 The Contact-Traditional All-Native Community of the Canadian North. *Anthropologica* n.s., 5:9-22.
- HODGE, F.W.
 1911 Handbook of North American Indians north of Mexico. *Smithsonian Institution, Bureau of American Ethnology Bulletin* 30.
- HUDSON'S Bay Company
 Microfilm records. Public Archives of Canada. Ottawa.
- JENNESS, Diamond
 1932 Indians of Canada. *National Museum of Canada Bulletin* 65.
- 1956 Ed. The Chipewyan Indians. *Anthropologica* 3:15-34.
- JEREMIE, Nicollas
 1926 *Twenty Years of York Factory: Jérémie's Account of Hudson Strait and Bay*. R. Douglas and J.N. Wallace, Eds. Ottawa: Thornburn and Abbott.
- KELSALL, J.P.
 1968 *The Migratory Barren-Ground Caribou of Canada*. Department of Indian Affairs and Northern Development, Ottawa.
- KELSEY, Henry
 1929 *The Kelsey papers*. A.G. Doughty and C. Martin, Eds. Ottawa: Public Archives of Canada.
- KENNEY, J.F.
 1932 *The Founding of Churchill*. Toronto: J.M. Dent and Sons.
- KOOLIDGE, W.W., Jr.
 1968 Chipewyan Indians of Camp 10. In *Ethnographic Survey of Churchill*. J.J. Honigmann, Ed. Chapel Hill: University of North Carolina.
- LEGOFF, L.
 1889 *Grammaire de la langue Montagnaise*. Montreal.
- LEVI-STRAUSS, Claude
 1969 *The Elementary Structures of Kinship*. Translated by J.H. Bell, J.R. von Sturmer, and Rodney Needham, Ed. Boston.
- MASON, J.A.
 1946 Notes on the Indians of the Great Slave Lake Area. *Yale University Publications in Anthropology* No. 34.

- MOONEY, James
1928 The Aboriginal Population of America North of Mexico. *Smithsonian Institution, Miscellaneous Collection* 80(7).
- NASH, Ronald
1970 Archaeology of Northern Manitoba. In *Ten Thousand years: Archaeology in Manitoba*. W.M. Hlady, Ed. Winnipeg: Manitoba Archaeological Society.
- NOBLE, W.
1971a Archaeological Survey and Sequences in Central District of Mackenzie, N.W.T. *Arctic Anthropology* 8(1):102-135.
1971b Applications of the Direct Historic Approach in Central District of Mackenzie, N.W.T. Paper given at Conference on Athapaskan studies, March 18-20, 1971, National Museum of Man. Ottawa.
- PARKER, G.R.
1970 Biology of the Kaminuriak Population of Barren Ground Caribou. Preliminary report, not for publication. Canadian Wildlife Service.
- PEHRSON, Robert
1957 The Bilateral Network of Social Relations in Könkämä Lapp District. *Indiana University Publications, Slavic and East European Series* Vol. 5.
- PENARD, J.M.
1929 Land Ownership and Chieftaincy Among the Chipewyan and Caribou Eaters. *Primitive Man* 2.
1938 *Grammaire Montagnaise*. Le Pas: Eveche. MS 84 pp.
- PETITOT, Emile
1876a *Monographie des Dene-Denidjie*. Paris: Leroux.
1876b *Dictionnaire des Dene-Denidjie*. Paris: Leroux.
1883 On the Athabasca District of the Canadian North-West Territories. *Proceedings, Royal Geographical Society N.S.V.*
- RAND, A.L.
1946 Some Canadian Fur Bearers. *National Museum of Canada Special Contribution* No. 46-1.
- ROWE, J.S.
1959 Forest Regions of Canada. *Department of Northern Affairs and National Development, Forestry Branch Bulletin* 123. Ottawa.
- SERVICE, Elman
1971 *Primitive Social Organization*. 2nd. ed. New York: Random House.
- SIMPSON, George
1938 *Journal of Occurrences in the Athabasca Department, 1820 and 1821, and Report*. E.E. Rich, Ed. Toronto: Champlain Society Vol. 1.

- SMITH, J.G.E.
 n.d. The Emergence of Micro-Urban Villages among the Northern Athapaskans.
- in press Preliminary Notes on the Rocky Cree of Reindeer Lake. In Jenness Memorial volume, *National Museums of Canada, Publications in Ethnology*.
- STEWARD, Julian
 1955 *Theory of Culture Change*. Urbana: University of Illinois Press.
- SYMINGTON, Frazer
 1965 *Tuktu: A Question of Survival*. Canadian Wildlife Service.
- THOMAS, Donald
 1969 Population Estimates of Barren-Ground Caribou March to May 1967. *Canadian Wildlife Service Report Series No. 9*.
- THOMPSON, H.P.
 1966 Estimating Aboriginal American Population: A Technique Using Anthropological and Biological Data. *Current Anthropology* 7: 417-424.
- TYRELL, J.B. (Ed.)
 1911 *A Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean, by Samuel Hearne*. Toronto: Champlain Society Vol. 12.
- WISSLER, Clark
 1915 Culture of the North American Indians Occupying the Caribou Area and its Relation to Other Types of Culture. *Proceedings, National Academy of Sciences* I:51-54.
- 1938 *The American Indian*. 3rd. ed. New York: Oxford University Press.
- WRIGHT, J.V.
 1968 Cree Culture History in the Southern Indian Lake Region. In *National Museums of Canada Bulletin* 232. pp. 1-31.

THE DOG AND THE HARE: CANINE CULTUREIN AN ATHAPASKAN BAND

Joel S. Savishinsky

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THE DOG AND THE HARE: CANINE CULTURE

IN AN ATHAPASKAN BAND¹

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Résumé

Même si on rencontre des chiens domestiques chez tous les groupes athapaskan du nord, les anthropologues ne se sont penchés que rarement sur toute l'importance culturelle de ces animaux dans l'ère aborigène et historique. Le présent essai cherche donc à déterminer le rôle et l'importance des chiens dans la culture athapaskan par l'étude d'un groupe contemporain d'Amérindiens Lièvre chez qui la race canine est toujours considérée comme une ressource capitale et très largement répandue. D'après des données ethnohistoriques, l'utilisation des chiens comme moyen de traction chez les Lièvre et autres groupes nordiques est essentiellement un phénomène de la période d'après-contacts, relié au métier de trappeur, puisque les bandes d'Athapaskan ne pouvaient pas, pour la plupart, ni élever ni nourrir un grand nombre de chiens dans des conditions aboriginales. En outre, l'utilisation de ces bêtes comme chiens de chasse variait considérablement d'un groupe à l'autre, selon le milieu écologique et le type de gibier poursuivi par les différentes bandes d'Athapaskan. C'est ainsi que le cas des Lièvre met en lumière une autre

¹The fieldwork upon which this paper is based was carried out under a grant from the National Science Foundation and with funds from Cornell University. The author lived for a twelve-month period among the Hare Indians of the Colville Lake band (Northwest Territories, Canada) in 1967-1968, during which time he was able to travel extensively with the people of the community by dog sled and snowshoe (Savishinsky 1970a). This paper focuses on only certain aspects of the people's relationship with their dogs, and other dimensions of this topic, such as the technology and material culture related to dog packing and dog sled transport, the training and feeding of dogs, and the techniques of sled travel and driving, will be published at a later time.

The author would like to thank Edmund Carpenter, Norman Ashcraft, and Ann Welsh, with whom he has discussed various ideas and observations included in this essay, for their helpful thoughts and suggestions. Participants in the Conference on Athapaskan Studies (Museum of Man, Ottawa, 1971) also provided many useful insights, and their contribution is gratefully acknowledged. Susan B. Frimmer criticized an early draft of the paper, and was of great help in clarifying some key points in its arguments. Final responsibility for the current version is of course mine.

série de phénomènes sociaux et psychologiques où les chiens jouent un rôle particulièrement important, y compris les modes de socialisation, l'expression affective, l'image de soi et la générosité. Les relations entre les enfants et les chiots comportent une domestication mutuelle dans laquelle humains et bêtes apprennent les uns des autres leurs rôles respectifs et définissent les modes de manifestation de l'agressivité et de l'affection. Ces liens complexes persistent même dans la vie adulte des deux espèces, et les chiens deviennent une source d'intérêt, de fierté et d'inquiétude, ainsi que l'image de soi de leurs propriétaires. Voilà pourquoi l'identité personnelle et la réputation dépendent, en partie, de l'état et du comportement des chiens, de même que du degré de générosité avec lequel chaque Lièvre satisfait les besoins de ses propres chiens et de ceux des autres. En outre, ces Amérindiens attachent une grande importance aux capacités sensorielles de leurs animaux: l'ouïe, l'odorat, la vue, et le toucher chez ces bêtes viennent ainsi faciliter les déplacements, l'orientation spatiale, la signalisation d'avertissement et le repérage du gibier. Les chiens constituent donc un prolongement social, sensoriel et psychologique, révélateur des caractères individuels et du système social humain. C'est pourquoi ils nous donnent une peinture plus complète et plus fidèle de la communauté athapaskan.

Abstract

Domesticated dogs are present among all Northern Athapaskan groups, but the total cultural significance of these animals in aboriginal and historical times has rarely been considered by anthropologists. This essay attempts to assess the role and importance of dogs in Athapaskan culture by focusing upon a contemporary Hare Indian band for whose members canines continue to be a pervasive and crucial resource. Ethnohistorical evidence indicates that, for the Hare and other northern peoples, the use of dogs for traction purposes is primarily a post-contact phenomenon related to fur trapping, since most Athapaskan bands could not maintain or feed many dogs under aboriginal conditions. Furthermore, the extent to which dogs were used as hunting aides varied greatly from group to group, depending upon ecological conditions and the nature of the game pursued by different Athapaskan bands. The case of the Hare illustrates an additional set of social and psychological processes in which dogs play an especially important part, including patterns of socialization, emotional expression, self-image, and generosity. The relationship between children and young dogs involves a process of mutual domestication in which humans and canines learn their respective roles from one another and also establish patterns for expressing aggressive and affectionate emotions. The complex bonds between humans and canines continue into the adulthood of both species, with dogs providing a source of concern, pride, anxiety, and self-image for the people. Personal identity and reputation are derived, in part, from the condition and performance of one's dogs, as well as from how generously an individual responds to the needs of his own and other people's animals. People also place great emphasis upon the sensory capacities of their animals, and they utilize their senses of smell, touch, sight, and hearing as an aide in travel, spatial orientation, warning systems, and locating game. Dogs thus constitute a significant social, sensory and psychological extension of the individual and the human social system, and they provide us with a much broader and fuller idea of the nature of the Athapaskan community.

Introduction

Anthropologists often feel the obligation to play the role of tribal historian to the group among whom they have done their fieldwork. In the case of peoples without written records and a strict historical consciousness, the methods of archaeology and ethnohistory often yield novel and provocative results. While scholars who have been concerned with the Athapaskan peoples of Canada and Alaska continue to work in the broad area of ethnographic reconstruction, it is imperative for us to realize that another, more current way of life is quickly passing away right before our eyes, and that the next few years might provide us with our final opportunity to study it. Specifically, I am referring to the semi-nomadic "bush" style of life, with its economy of hunting, fishing, and trapping, which has been the primary mode of existence for most Athapaskan peoples for at least the last century and a half. It is a life style that is rapidly disappearing from the Indian realm of experience in many areas of the North, and some day it may be as irretrievably lost as are the aboriginal patterns we devote so much energy to recreating. While the opportunities still exist to study and understand what it is like to live off the land and survive in the forest, we should make the most of our possibilities. Not only the traditional economy of the Athapaskans, but their social structure, their patterns of family life and socialization, and their personalities and philosophies, all stem, in part, from their long-standing involvement with the boreal forest. The more we can learn about the nature of this involvement the richer will be our insights in all areas.

It is a relevant fact, and one which I think many anthropologists have encountered, that when Athapaskan people speak of their past, they often talk in terms of "the good old days" -- but by this phrase they refer not to aboriginal times, but rather to the period of the mid- and late nineteenth century.

When the Hare Indians at Fort Good Hope and Colville Lake speak admiringly of "the real old-timers," they are talking primarily about Indian people who lived in the previous century, not individuals who existed two hundred years ago or longer. The people's interest in their own history, although not exclusively defined in this way, does tend to focus on the post-contact fur trapping and fort-trading period, the era that they know best from the oral traditions of their own elders.²

I would like to focus, in this paper, on an aspect of bush life which has points of continuity with both the aboriginal and the post-contact culture of the Athapaskans, but which has received little attention from anthropologists and other scholars despite its continued significance in modern times. Specifically, I would like to explore the relationship between the Indians and their only domesticated animal, the dog, and to try to delineate certain areas of canine culture which could provide us with some useful insights into Indian life styles. At first glance, a study of the cultural significance of the dog would seem to need little justification because of the ubiquity and economic importance of the animal. Perhaps it is the obvious nature of this situation which has led to its ethnographic neglect. Yet the issue is more complex and subtle than may be realized, and a few introductory comments are in order concerning the role and importance of dogs in Athapaskan culture.

One outstanding fact that emerges from the literature, and from the recollections of informants in many areas of the North, is the scarcity of dogs in aboriginal and early post-contact times. There would seem to be a paucity of dogs for hunting, packing, and traction purposes not only among

²Osgood related the following parallel experience among the Ingalik: "Although the writer, when first told, found it hard to believe that people no longer recognize that aboriginal conditions existed only a century ago, he was finally convinced. Certainly some of the contemporary Indians (1937) cannot conceive of the aboriginal past" (1959:76).

many of the Athapaskans, but among other northern Indians and Eskimos as well. Several studies provide evidence indicating that prior to the modern era, native groups had very few dogs, rarely enough for more than a few well-off families or bands to be able to muster full dog teams of six or seven animals. The literature of the North covering the early periods of contact show us groups of native people who are usually pulling and pushing their own sleds, or dragging and carrying their own loads. In general, dog traction and dog packing seem to be of limited occurrence and limited significance because people could not afford to maintain many animals. As the early and oft-quoted descriptions of Hearne (1958), Franklin (1823), and Richardson (1851) make evident, women -- rather than dogs -- would appear to be the traditional beasts of burden among most northern groups (cf. also Jenness 1967: 55, 104).

While our evidence on this particular point is sketchy for some areas, I think there are sufficient cases to be cited which testify to the widespread scarcity of dogs among many northern peoples. Jenness notes that: "None of the tribes in the basin of the Mackenzie River used dogs for dragging the toboggans except the Chipewyans, and they rarely" (1967:104). McKennan's Chandalar Kutchin informants "all agreed ... that in an earlier day dogs were very scarce and were not used for pulling sleds" (1965:42). Hare informants from Colville Lake point out an identical situation, stressing that even as recently as the turn of this century, dogs were a rare commodity among band members for both traction and packing purposes (cf. Sue 1964:285). Comparable cases involving the limited or non-use of dogs for pulling sleds and toboggans have been documented among the Cree (Honigmann 1952:513; Skinner, cited by Birket-Smith 1929ii:169), the Montagnais, Naskapi and Laurentian tribes (Birket-Smith 1929ii:169), the Ahtena (Allen 1886:264, cited by McKennan 1959: 92), the Chipewyans (Birket-Smith 1930:40; Richardson 1851, quoted by Jenness

1967:55; VanStone 1965:42), the Slave (Helm 1961:25),³ the Satudene (Osgood 1932:54), the Ingalik (Osgood 1940:357-358; 1959:28), several Kutchin groups (McKenna 1965:41-42; Jones 1866:321; Slobodin 1962:17; Osgood 1936:59, 64-65), the Kaska (Honigmann 1954:47, 52-53), the Tanaina (Osgood 1937:72), the Upper Tanana (McKenna 1959:36, 91-92, 116), the Eyak (Birket-Smith and de Laguna 1938:55, 57, 383), the Beaver (Goddard, cited by Birket-Smith 1929ii:169), the Central Keewatin Eskimo (Vallee 1967:37), the Caribou Eskimo (Birket-Smith 1929i:170), the Takamiut of the Ungava Peninsula (Graburn 1969:31, 44), and several early Eskimo archaeological traditions (Birket-Smith and de Laguna 1938:427-429). The use of dogs for packing also had a variegated distribution. Among the Athapaskans, McKenna (1959:92) and Allen (1886:264) note their utilization for this purpose among the Upper and Lower Tanana, the Kluane (Tutchone), the Han, and the Ahtena, and the aboriginal absence of the trait among the Tanaina, Eyak, and Ingalik. The Chipewyans (Birket-Smith 1930:40) and the Crow River Kutchin (Osgood 1936:64) utilized dogs in this way, but the evidence for the Chandalar Kutchin is ambiguous (McKenna 1965:41-42). Among the Kaska, on the other hand, dogs were rarely used for packing aboriginally (Honigmann 1954:53), and they were never utilized in this capacity prior to European contact among the Satudene (Osgood 1932:49-50).

Evidence from several regions of the North further indicates that dogs became a major factor in transportation and traction only after native people

³Helm, for example, reports the following for the Lynx Point Slave: "Two other items of aboriginal culture are vital to winter living, but they have undergone modification in use in response to the trapping economy. These are the toboggan and the domesticated dog. Actually, an amalgam has occurred, dog power having replaced human power in drawing the toboggan. The dog is also used for packing in the spring, but its important role is in toboggan traction. From four to seven dogs are commonly used in trace harness in drawing the toboggan or sled, or "sleigh" as it is called locally. Marcel, now 45 years old [in 1951-1952], recalls that when he was a youth, people were 'poor' and could afford to maintain only two or three dogs" (1961:25).

became deeply involved in fur trapping and the use of a Western technology. Serious fur trapping requires a type of mobility which is radically different from the style of movement which characterized aboriginal life. People who are living off the land move in conjunction with seasonal animal migrations and patterns of resource depletion. There is no special premium on speed, nor is there an economic commitment to non-food producing faunal resources.

Trapping as a way of life introduces new considerations, primary among which is the need to travel quickly and repeatedly over specific routes in pursuit of animals that contribute little to immediate family subsistence. The effective harvesting of fur resources is enhanced by a person's capacity to visit his traplines frequently and speedily, setting up new lines and extending old ones when the opportunities to do so are propitious. Furthermore, trapping constitutes a commitment, albeit a temporary one, to a fixed area. Since a region may not contain all the resources needed for the maintenance of one's family, a trapper may have to transport much more equipment and material than was true aboriginally (including tents, steel traps, stoves, rifles, and foodstuffs), and he may find it necessary to periodically undertake long trips from his base camp for purposes of hunting or replenishing supplies. The life of the trapper thus centers on his capacity for movement, and dog sled travel has become the basic means used to meet this need. The result is that not only do Indian trappers need and use many more dogs than was the case aboriginally, but that they also need the special kinds of equipment that are appropriate for rapid, dog team travel. Thus Indian trappers eventually learn from whites and other Indian groups to use toboggan-style wooden sleds, harnesses, carioles, sled backboards, brakings, and all the other specialized items that are associated with the use of a dog sled.

The changed cultural significance of dogs is also related to other aspects of Western technology, especially rifles and nets, for it was the Indians'

access to these latter items which enabled them to get enough meat and fish so that they could support a larger number of animals (cf. Cowan 1969:5; Jenness 1967:104; Birket-Smith 1929i:170).⁴ The economic and technological innovations accompanying trapping and dog sled travel thus have to be looked upon as an interrelated complex: trapping necessitates the use of more dogs, but it is the availability of rifles and commercial netting which enables Indians to maintain an increased number of animals. This is particularly relevant in view of the fact that a high proportion of hunting and fishing activities in many communities is devoted to securing food for dogs rather than people, underlining the focal role of these animals in the lives of the Indians.

Thus, while dogs are among the oldest of domesticated animals (Zeuner 1963), and while tame canine species undoubtedly accompanied Asiatic peoples on some of their later migrations to the New World, we must keep before us the realization that the development of different economies, including post-contact ones, has given the dog a variable cultural significance in North America. In more recent years, especially in the post-World War II era, there has once again been a series of major cultural and economic transformations among northern peoples. This has included the disappearance of most

⁴Weyer (1969:100-101), Graburn (1969:44), Birket-Smith (1929 Vol. I:170), Sue (1964:293-294, 297), and others have commented on the periodic, epidemic diseases which have wiped out large numbers of dogs in the North, and this may have also been a factor in keeping down the size of the aboriginal dog population among subarctic Indians. Franklin described a unique occurrence among the Chipewyans in the early nineteenth century which adds a religious dimension to the scarcity and limited utility of dogs: "The Northern Indians suppose that they originally sprang from a dog; and, about five years ago, a superstitious fanatic so strongly pressed upon their minds the impropriety of employing these animals, to which they were related, for purposes of labour, that they universally resolved against using them any more, and, strange as it may seem, destroyed them. They now have to drag everything themselves on sledges. This laborious task falls most heavily on the women..." (1823: 160-161). The relevance of Athapaskan mythology and religion to their treatment of dogs, as indicated here in the case of the Chipewyan, is more fully considered later on in the essay.

"bush" communities as native groups have been drawn more and more into towns and urban centers. Under these conditions, the introduction of snowmobiles and similar types of automated land transport has hastened the decline of dogs as important economic resources. Ecologically, the significance of trapping has been appreciably reduced in the last few decades, and there has also been a decline in the reliance upon hunting and fishing as subsistence activities. Since trapping utilizes dogs for transportation, and since hunting and fishing were carried out, in part, for the purpose of providing food for these animals, these changes indicate the diminished importance of dogs in Indian life in recent years.

This process of culture change has not, of course, occurred uniformly throughout the North, and some communities and bands continue to utilize and appreciate their dogs in terms of traditional bush activities. The Hare Indian community of Colville Lake contains such a group of people. I would like to focus here upon certain social and psychological aspects of their relationship with their dogs because of the historical interest of such a situation, as well as for the enlightenment that this can provide us with about other aspects of Athapaskan culture. In particular, I would like to describe how the people's treatment of their dogs reveals some basic features of Hare values, socialization processes, patterns of emotional expression, and modes of social exchange. These problems are best considered within the context of how the people use their dogs to further their own survival, and so I will begin with a brief description of the nature of the community and its ecology.

Community and Ecology

The Hare Indian village of Colville Lake is an isolated bush settlement of approximately seventy-five people, located some fifty miles north of the Arctic Circle in the Northwest Territories of Canada. The members of the Colville Lake community are drawn from the descendants of several Hare bands

which lived, during the last century and a half, in the boreal forest region lying to the northwest of Great Bear Lake. Although many of Colville's people have lived for varying periods of time at Fort Good Hope and other Mackenzie River settlements, the members of the band continue to lead a decidedly bush-oriented way of life. Hunting, fishing, and trapping persist as the major economic activities, supplemented by limited amounts of government financial assistance, and some seasonal wage labor offered by the village's only permanent white residents, a Catholic missionary and a fur trader (cf. Savishinsky 1970c).

The nomadic life style of the people, and their deep involvement in bush activities and forms of mobility, is evidenced by the annual cycle of the band (Fig. 1). Outside of the major Christian holidays of Christmas and Easter, the only protracted period that the people spend at the permanent settlement is the summer-fall season of June through September. Most of the eight-month arctic winter is spent in small, scattered bush camps of one to three families, and during this period the people continually travel by dog sled and snowshoe in pursuit of caribou, moose, marten, mink, fox, beaver, muskrat, ermine and fresh-water fish. The lakes of the area provide trout, whitefish, pike, loche, jackfish, and grayling, species which make up a substantial part of the diet of both the people and their dogs.

In a hunting-fishing-trapping economy such as this, the mobility of the people is a prime factor in their ability to live off the land. Furthermore, when the bulk of subsistence and income is derived from winter activities, the means of winter transportation becomes basic to the entire livelihood of the people. Life for the members of the band would therefore be unthinkable and impossible without dogs and dog sleds. Travel between the village and their bush camps; the process of setting, checking, and extending traplines; the hauling of wood, fish, meat, and equipment; the movement to caribou areas; and

FIGURE 1

THE ANNUAL CYCLE OF THE COLVILLE LAKE HARE*

PERIODS OF DISPERSAL
IN THE BUSH

Early Winter Dispersal: from the freeze-up of the lakes in mid-October until mid-December; hunting, fishing, and trapping in scattered bush camps.

Mid-Winter Dispersal: from mid-January until early or mid-March; hunting, fishing and trapping in scattered bush camps.

Spring Dispersal: from the end of April until the break-up of the lake ice in mid-June; hunting, fishing and trapping at scattered bush camps, with some larger hunting camps formed in May during the northward caribou migration.

PERIODS OF INGATHERING
AT THE SETTLEMENT

Christmas Ingathering: from mid-December to mid-January; hunting and fishing in the area of the village.

Late Winter Ingathering: from mid-March until the end of April, including Easter; hunting and fishing in the area of the village, with partial dispersal to nearby caribou-hunting camps.

Summer-Fall Ingathering: from break-up in mid-June until freeze-up in mid-October; hunting and fishing in the area of the village, with partial dispersal to nearby fish camps in August and September.

*Note that dog sled travel occurs during all phases of the year, except for the summer-fall ingathering, during which time dogs are nevertheless occasionally used to haul logs and firewood, and are also employed as pack animals. Gill-net fishing, which is carried out during all seasons of the annual cycle, provides most of the food for the people's dogs.

the periodic trips to the settlement to trade furs and replenish supplies -- these are some of the absolutely essential tasks that require the use of a dog team. Furthermore, in transporting wood and supplies in the late spring, summer and fall, when the snow cover on the ground is poor or absent, people nevertheless continue to use their dogs as pack and traction animals. During the course of a single winter and spring, a conscientious hunter and trapper may cover over 2500 miles with his dogs, and spend literally hundreds of hours getting the necessary meat and fish to feed them. It is not surprising, then, that the condition, the training, and the food supply of their dogs constitute some of the most ubiquitous concerns of the people throughout the annual cycle.

One index of the people's commitment to a semi-nomadic life style, and a good reflection of their dependence upon their dogs, is the number of domesticated animals supported by the members of the band (cf. Table 1). In a dog "census" conducted in 1967, the seventy-five people of the community were found to be keeping approximately 224 dogs. This was a ratio of three dogs for every man, woman, and child in the village, and an average of one full team for every two persons. The teams averaged out to 6.2 dogs apiece, and this corresponds to the number of dogs (i.e., six) which the people considered to be sufficient for adequate travelling. Four dogs was generally considered to be the minimum number required for a usable team. While the men of the community did most of the dog sled travelling, the women of the band were also adept at handling the animals, and several of the younger adult women regularly drove their own teams, set their own traps, and did some of the family's hunting and transporting.

Emotional Expression and Socialization

While the economic importance of dogs is evident from the nature of the people's ecology, there are several other respects in which dogs play an equally significant, if more subtle, role in the people's lives. In a community where

TABLE 1

DISTRIBUTION OF DOGS AMONG THE VILLAGE'S POPULATION

HOUSEHOLD	NUMBER OF DOGS	NUMBER OF DOG TEAMS
1	21	4
2	5	1
3	8	2
4	7	1
5	17	3
6	8	1
7	20	3
8	12	2
9	20	3
10	7	1
11	9	1
12	22	4
13	8	2
14	18	3
Missionary	7	1
Trader's son	12	1
Three men from Ft. Good Hope*	23	3
	—	—
	224	36

Average dogs per team = 6.22

*The census includes three men from Fort Good Hope who were trapping in the Colville area and were living with families from the band the winter that the survey was taken.

dogs outnumber people by three to one, one would expect them to have some pervasive influences. Forms of emotional expression among band members constitute one area of life in which the animals play an intrinsic and important part. The Hare exhibit many of the features of affective restraint and containment which have been found to characterize other boreal forest groups (Hallowell 1967; Landes 1937; Helm 1961, n.d.; Honigmann 1947, 1949, 1968, this volume; Slobodin 1960; VanStone 1965). There are a limited number of circumstances under which direct emotional displays are permissible, and a significant proportion of these situations involve dogs and young children in focal roles.

People show a great deal of concern over their dogs, and the animals are one of their most frequent topics of conversation. The role of dogs as expressive outlets is especially evident in the people's relationship with young pups. The latter are spoiled, indulged, played with, given choice food and scraps, and sheltered from harsh weather (cf. also Sue 1964:296 ff.). Fondling and handling of dogs occurs often, and they are rarely punished or scolded before they are several months old. They are sources and objects of pride which people talk about and display with great frequency. Members of the community constantly compare and comment on the care, condition, and growth of one another's animals, noting special qualities of size, strength, color, speed, and alertness. This affectionate and concerned treatment of young animals is participated in by people of all ages, and the nature of the relationship bears a striking resemblance to the way in which people treat young children. Pups and infants are, in essence, the only recipients of unreserved positive affect in the band's social life, all other relationships being tinged with varying degrees of restraint and/or negative feelings.

In every generation, however, both dogs and children must eventually be domesticated, and it is significant to note how much the Hare employ dogs and

children to socialize one another, and how much consistency there is in the way that the young of both species are brought up (cf. the same parallel described among the Kaska by Honigmann [1949:55, 185]). The raising of pups plays an important and early part in the training of children, and, given the importance of dogs in the people's way of life, the animals are an appropriate medium for this purpose. Underlying the efficacy of this technique is the fact that the psychosocial development of domesticated humans and canines show many remarkable parallels in both sequence and process (Scott 1963, cited in Fox 1965:116). Among the Hare, all dogs end up pulling in an adult team when they are grown, but initially they are usually given to young children to raise. A child of four or five years of age will be made responsible for the care and feeding of a pup, and children from two years on will hold, play with, and treat young dogs as pets. Since pups and infants are often both placed in the care of slightly older children, they are frequently exposed to the same socializers.

Young children learn to handle dogs by observing the way in which their peers, older children, and adults deal with the animals. From infancy, they have travelled by dog sled with their parents, and these experiences enhance their familiarity with canines. Two- or three-year-old children, for example, will tie up three- and four-month-old pups to large paper boxes or fragments of wooden sleds, and then have the dogs pull them around the village or camp. In such play situations, the children will yell at and beat pups who disobey or frustrate them, imitating their elders in sudden displays of mock or real anger at the animals (cf. Sue 1965:36-37). Along with their familiarity, ease, and lack of fear of dogs, children also learn to respect their potential ferociousness. They learn which dogs are habitually vicious, and, from experience, they can tell when a dog is angry, as well as what kind of behavior will provoke a dog. They also learn never to walk or run through an area

where another family's dogs are chained up, for their presence may excite the dogs to the point where one may break loose and attack them or another animal. A more experienced child or an adult will sometimes point out to a child that what he is doing will anger a dog and cause him to bite. Among the few instances in which parents feel that the spanking or smacking of a young child is warranted, is when the child repeatedly provokes dogs or exposes himself to danger in this way.⁵

Children who are five years of age and older are given more responsible experience in handling dogs. They are often asked by their parents or older siblings to go along and help feed dogs, and, by the age of eight or nine years, this task will have become an expected part of their household duties. During this same age period, children will often be given their own sled and harness to play with in conjunction with their pups, or they will be allowed to use their parents' spare equipment. A mother may sew a special harness or sled wrapper (cariole) for her child's "outfit," and a father will either make or adapt a backboard for it, as well as shorten the length of the sled itself in order to make it easier to handle. Children between the ages of five and ten thus often have, in miniature, a complete dog sled outfit to play and experiment with while they are gaining experience in handling the dogs themselves. One six-year-old boy was actually allowed to travel with his own sled when his family moved from camp to camp during the winter. He stood behind the small sled while two nearly-grown pups pulled it directly behind his mother's team.

⁵Adults in the community themselves refrain from passing through the staking area of anyone else's dogs, and they are also cautious when in the vicinity of another person's team (cf. the related observations on the Hare in Sue 1964:296, 462). Osgood's comment that Ingalik dogs "are considered unapproachable except by their owner" (1959:27) would not be entirely true of the Hare, however, for although people appreciate the viciousness of dogs when approached by strangers, they do borrow animals from each other, and occasionally drive one another's teams.

Having the use of their own sled and dogs is a matter of pride to young children, which is in turn reflected in their parents' pride for them.⁶ By the age of five or six, not only is children's play with dogs a close approximation of adult practice, but verbal behavior is also a close (if not perfect) imitation of what adults say and do. Children use the proper signals for "left" and "right," and they employ the same curse words and phrases (both in English and Athapaskan) that their elders use in yelling at their dogs. People in the village or a camp encourage the children in their handling of dog teams, shouting to them as they ride by, and commenting to one another on both a child's ability, and on the strength and appearance of his dogs. Despite the high level of adult interest, however, there is little formal instruction given to children in the driving of dog sleds, and most of what they learn is gotten from direct experience or by observation around camps and while travelling (cf. also Sue [1964:471-472], Helm [n.d.], and Honigmann's [1949:185] observations on the unstructured nature of childhood learning in Athapaskan culture).

As children grow older, they take on increased responsibilities in regard to the care and use of dogs. One nine-year-old boy had the responsibility of supplying a good portion of his family's winter wood. He would harness up four of his father's dogs to a full-length sled, drive about a mile and one-half to a good stand of timber, cut the wood, haul it back with the dogs, and then unharness them. He did this several times a week during the coldest part of the winter. A fourteen-year-old girl, who had two older and fully able

⁶The raising of young dogs as pets by children is a common feature in other Athapaskan groups. The same process is noted by Driver among the Eskimo: "Puppies were even turned over to children who harnessed them to toy sleds: both the pups and the children were supposed to learn something of value from this experience" (1961:466-467). Robert Flaherty captured just such a relationship on film in one of the segments of "Nanook of the North."

brothers, was still expected regularly to drive dogs and bring in two or three loads of wood for her family every week. All young female adults were expected to be able to drive and handle a dog team, and only the very young and old of either sex were exempted from this. Almost all the women in the band between the ages of twenty and thirty-five cared for and drove their own teams, and young men and women in their mid-teens were usually outfitted with a team, sled, and harness by their families. By their mid-teen years, young people were fully contributing, economically productive members of their households, making dog sled travel an integral part of their everyday lives.

At the same time that young men and women get socialized to the care, handling, and use of dogs, the latter are, in turn, being domesticated to their tasks and roles by the children and young adolescents who train and raise them. By the age of six or seven months, a dog is strong enough to pull its own weight in a team of adult animals, and it is at this age that a pup will be harnessed up for the first time in a full team. While a dog has been prepared and partially trained for this eventuality by its experiences with children in the preceding months, this new role nevertheless marks an abrupt and radical transformation in its life. As in the education of a child, it receives almost no directed help or assistance from either driver or fellow dogs in learning its new tasks, and its adjustment can thus be a long, hazardous, and painful process. The affection and relative ease with which the dog has been treated are suddenly withdrawn and they are now replaced with new levels of discipline, authority, strenuous work, and dominance competition within the adult team.

The parallels to the socialization experiences of young children are striking and suggestive, for the relatively undisciplined, indulgent, and

affection-laden early life of the child undergoes similar changes during an individual's fifth and sixth years. It is at this age that important tasks and responsibilities are first given to a child, including the hauling of wood and water, the feeding of dogs, and time-consuming care of younger siblings. While parental shows of affection are by no means abruptly terminated, they are gradually reduced in frequency and warmth, slowly giving way to an increase in discipline, commands, and reprimands. Loss of parental attention may be aggravated by the birth of a younger sibling at this time, which also introduces factors of rivalry and dominance for both younger and older children. This constitutes a difficult period of adjustment for children, and the sharp discontinuities in this phase of socialization have been described and remarked upon in other Athapaskan groups (cf. Honigmann 1947:236, 1949:306-315; Helm 1961:76-77; VanStone 1965:51, 57). This stage of life is marked by an undertone of rebellion and stubbornness, and the somewhat traumatic treatment that children experience in being "put in harness" resembles the difficulties faced by dogs in the corresponding phase of their own lives.

There are thus a number of shared experiences in the domestication of children and dogs, and the parallels are further accentuated by the fact that socialization is itself a mutual and reciprocal process in which children and dogs educate each other for their ultimate confrontations with adults and adulthood. The upbringing of dogs can be viewed in its context, content and style as an extension of the education of children, just as children and their young dogs may be viewed collectively as constituting a single peer group. Their respective socialization processes are so intertwined and interrelated that one would be incomplete and inadequate without the other. Both children and dogs depend upon reciprocal feedback and information from one another in order to learn and complete their respective roles.

Another factor which is also relevant to Hare socialization processes has been expressed in an argument made by William Laughlin, viz., that a crucial element in developing effective hunters in a society is "the ethological training of children to be skilled observers of animal behavior, including [that of] other humans" (1968:304). He explains that:

Three indispensable parts of the hunting system are programmed into the child beginning early in life. These are the habit of observation, a systematic knowledge of animal behavior, and the interpretation and appropriate action for living with animals and for utilizing them for food and fabricational purposes ... Appropriate behavior toward animals is prominently based upon familiarity with animal behavior and includes ways of living peacefully with animals, of maintaining a discourse with them, as well as the appropriate behaviors, the highly coordinated movements of the hunter proceeding toward a kill, and appropriate social behavior where other hunters are involved (1968:305).

One can suggest that, in the case of the Hare, childhood experience with dogs is an important first step in people's ethological training, being a type of programming which later pays off not only in their ability to handle dogs, but also in the hunter's capacity to understand, track, and relate to his prey. Here again, dogs would be the masters and teachers, people the pupils.

The way in which adults treat children bears additional resemblance to the upbringing and utilization of dogs. One basic distinction made in how children are reared hinges on the sex of the child, and the same criterion applies to the treatment of dogs. While all infants are ideally loved and indulged regardless of their sex, some perceptible differences in the treatment of boys and girls emerge at around the age of five or six. Males tend to be spoiled more and shown greater affection for a longer period of time than are females, and their introduction to responsibilities is often deferred for a year or two beyond the age at which such tasks begin for girls (cf. VanStone 1965:57-58; Honigmann 1949:185). Furthermore, in the limited number of cases observed in the field, it appeared that, among other things, boys received somewhat better

treatment than did girls in the relative quality and quantity of food and clothing given to them. Hurlbert (1962:39) recorded two cases among the Hare, occurring between 1956 and 1961, of female infants being neglected to the point where one child required hospitalization and the second one died.

These observations may indicate the persistence, in modified form, of some aboriginal attitudes towards selective infanticide and the relative desirability and economic worth of males and females, but the evidence at present is too scant to warrant any conclusions.⁷ It is interesting to note, however, that there are, once again, some suggestive parallels between the treatment of children and the fate of dogs. Female pups are often killed at birth because they are potentially less valuable than males: they grow up to be smaller and weaker, and are thus less desirable as sled animals (cf. also Sue 1964:295-296). Bitches will occasionally be kept for breeding purposes, but their presence in a team, especially when they are in heat, is so disruptive according to informants that they are of limited utility as draft animals. A taboo which is still adhered to by some of the more traditional families in the band forbids adult women to step over a dog harness lest the family's bitch have all female pups. In some respects, therefore, female canines and humans appear to be evaluated and treated in similar ways.

⁷A nineteenth century observer of the Hare, Bernard Ross, wrote that: "Male children are invariably more cherished and cared for than females. The latter are mere drudges, and obliged on all occasions to concede to their brother; and though female infanticide, formerly so prevalent, is now unknown, still in seasons of starvation or times of danger, girls invariably fall the first sacrifices to the exigencies of the case" (1866:310, quoted in Sue 1964:445). Sue gives population figures for the contemporary Hare in the Fort Good Hope-Colville Lake area which show "that today [*ca.*1963] more males of ages 10 to 30 have survived than females. The same reason as mentioned by Ross may be partly responsible for this fact" (1964:445). Osgood (1932:76) supplies additional historical documentation concerning the prevalence of female infanticide in the region.

The correspondence between human and canine sex roles and attitudes are admittedly tenuous and incomplete, but they derive some indirect support from the strength of the other parallels we have illustrated. There are, in addition, some other facets of people's relationship with their animals which further reinforce the image of dogs as members and extensions of the social system. As they do with humans, people recognize distinctive identities and personalities among their dogs. This individuality is acknowledged and symbolized by extending to canines the human process of names and naming, and if "one of the owner's favorite dogs has recently died, the deceased dog's name may be given to a newborn one which resembles the former (see also Birket-Smith and de Laguna 1938:57)" (Sue 1964:296). Athapaskan concepts of reincarnation (Slobodin 1970; Sue 1965:12-13), which often involve naming a child after a recently deceased person whom it resembles or about whom the pregnant mother or the child has dreamed, thus apply to the canine as well as the human realm, underlining the bonds and continuities between the two species. Dogs are even included within human names themselves, for, in accordance with the Athapaskan system of teknonymy, a childless adult, or one whose children are fully grown, may be referred to teknonymously by the name of his favorite or pet dog.⁸

⁸Names are given by the Hare in both English and Athapaskan: examples of the former are Gray, Buck, Aces, Horse, and Blacky. The English equivalents of some dog names in *deneké*, "the people's language," are Butter, Skinny One, and Sharp Ears. The practice of naming dogs is, of course, not unique with the Hare: see for example, Osgood (1937:161) on the Tanaina, (1959:28) on the Ingalik; McKennan (1965:58) on the Kutchin; and Honigmann (1949:56) on the Kaska. As part of the Tanaina system of teknonymy, Osgood notes that: "Before a man marries, people call him by his own name and if he marries and has no children, they substitute the name of his dog" (1937:161). McKennan (1965:58) points out a parallel process among the Chandalar Kutchin, among whom a childless man "might be known as the father of his dog." A similar phenomenon has been noted in the teknonymy pattern of the Land Dayaks of central Borneo, where "a childless couple may take the name of anyone in the next lower generation, or even the name of a favorite cat or dog..." (Geertz and Geertz 1968: 373, citing a study by W.R. Geddes).

Some people also stress the significance of what they regard as "kinship" bonds among the dogs. Several young men, for example, claim that they prefer to keep together sets of "brothers" in their teams because "they get along so well and work good together." They note with marked approval how, in a given dog fight, the canine brothers "stick together against the other dogs" and never turn on one another. In the words of one man, "that's the way brothers should be with one another." While these observations may not be totally accurate for the dogs in question, the model of social relations that they project is a clear reflection of how people themselves (i.e., siblings of the same sex) are ideally expected to behave towards one another (cf. Sue 1964:277; Honigmann 1949:126). People's perceptions and attitudes thus extend human kinship into the canine realm, incorporating the relations between dogs into familial and familiar patterns. Just as pups become the children's children (the child is father to the dog), man's best friend becomes his brother.

That dogs become members of the family through an extension of the corporate social bonds of the household is also evidenced by some deep-seated anxieties that people experience over the well-being of their animals. A lame or sick dog becomes a source of concern and worry for all family members, occupying their attention and efforts for many days. The members of a household or camp may spend hours discussing the condition and treatment of their animals, and other people will often be consulted in the search for an effective cure. Special brush will be cut for the dog to rest on, its sleeping place and hair will be covered with ashes from the stove (which is "real Indian medicine" according to many of the people),⁹ its sore limbs or paws will be rubbed with

⁹Ashes are used especially for treating a dog who has lice, a practice which Honigmann also describes among the Kaska (1949:56). Osgood (1940:187; 1958:230) notes that the Ingalik used charcoal and ashes to treat themselves, employing these substances both internally, in the form of a drink, for stomach-aches, and externally for wounds, but he does not refer to their use for treating dogs.

linament, and its diet will be varied and improved to include an increase in its portion of meat and the serving of a warm caribou or fish broth to it.

The health of their animals is a matter of concern to the people which goes beyond the economic value of the dogs. This deeper concern becomes especially evident when an animal becomes so sick or aged that it must be destroyed. People show an extreme reluctance to shoot their own dogs, and they will resort to numerous rationalizations, strategies and subterfuges in order to either postpone the inevitable or to induce someone else to perform the act for them. The dilemma becomes especially pronounced at the beginning of the summer period, for this is the only season of the year during which the dogs are relatively inactive, and the people do not care to feed any more non-working animals than they have to during the three-month interval. The anxiety over killing one's own dogs nevertheless persists. People may try to sell or give away dogs that they consider too old or too sick to be worth keeping for the following winter, but few are willing to take on new animals at this time of year. If this strategy fails, a person will usually try to get another individual to destroy the animal for him, but this is one of the few favors that people will often refuse to do, even for a close friend. As one man explained: "Me, I just can't look at that dog and shoot it. It sure feels bad when you have to shoot a dog, especially when it's your own."

Statements like this, coming from people who hunt, trap, and even kill animals with their bare hands during the course of every year, clearly indicate an attitude toward dogs which places them in a category apart from other animals. The Hare share with other Athapaskan Indians a deeply-felt set of traditional proscriptions on both the killing and eating of dogs, and they also surround their animals with a series of taboos, including a prohibition on allowing dogs to gnaw the bones or parts of certain animals lest

the dog's owner incur bad luck in future hunting and trapping. It has been suggested by some scholars (e.g., Franklin, cited by Birket-Smith 1930:40, 106; Osgood 1932:82-83, 88) that the reverence, respect, and fear associated with canines in some Athapaskan groups (e.g., the Chipewyan, Satudene, and Dogrib) is related to the dog's role as one of the mythological ancestors of these people. Although all of the northern tribes do not share this specific belief, the basically supernatural attitude towards canines which can be derived from it are ubiquitous among them.¹⁰ As sub-human members of the human family, dogs thus provoke a pronounced ambivalence on the part of individuals who must dispose of them, and the problem of what to do with an animal may become a great source of stress. In their preoccupation with their dogs, the

¹⁰Birket-Smith and de Laguna, in their monograph on the Eyak (1938:57, 427-429, 492), and McKennan, in his work on the Upper Tanana (1959:92, 162-163), have summarized much of the relevant literature on Athapaskan attitudes towards dogs. McKennan's statement is as follows: "The Upper Tanana hold the dog in peculiar reverence, and they will neither kill nor eat it although they have no rationalized explanation for this taboo.

"Such a regard for the dog is widespread among the Northern Athapaskans. The Hare..., Dog-rib..., and other Mackenzie groups...will not kill this animal, and the Chipewyan...explain a similar taboo by claiming descent from the dog. This belief in canine descent is not found among the Alaskan Athapaskans, but the Han..., Kutchin..., Eyak..., and Tanaina... all hold the dog in such reverence that they will neither kill nor eat one. Many of these groups extend this taboo to forbid the eating of wolves also, but among the Upper Tanana the latter animal is occasionally eaten in times of famine" (McKennan 1959:162-163, references omitted).

Birket-Smith and de Laguna (1938:492) provide additional information on related beliefs among other Athapaskan and Eskimo groups, suggesting that "It is probable that this attitude [of reverence] towards both dog and wolf should be seen in a far wider connection, i.e., the typical circum-Pacific mythology to which Koppers has called attention." Other pertinent data relating to native beliefs and attitudes concerning dogs are reported for the Hare by Sue (1964: 163, 237, 295-298, 352), for the Slave by Helm (1961:27, 119; MacNeish 1954: 189), for the Kutchin by Osgood (1936:24, 34, 155) and McKennan (1965:30, 42, 84), for the Kaska by Honigmann (1949:55; 1954:38), for the Satudene and Dogrib by Osgood (1939:38-39, 42, 82-83, 88), for the Tanaina by Osgood (1937:37, 174), for the Ingalik by Osgood (1940:451; 1959:27), for the Chipewyan by Birket-Smith (1930:33, 40, 80, 106), for the Atna by de Laguna (1969/70:22, 24, 26), and for the Caribou Eskimo by Birket-Smith (1929 Vol. I:96, 170-173).

Hare alternately curse and commiserate with them. They complain of an animal's worthlessness and the trouble it has given them, and they then recall what a good worker it has been and how sick it must feel. The hostility and aggression which are usually displayed toward adult dogs (*infra*) are thus balanced with other "human" feelings at these moments. In the existential terms of Martin Buber (1958), dogs are neither an "It" nor a "Thou" to the people, they are beings of another order, perhaps somewhere in-between.

Due to the people's consequent ambivalence in the matter of unwanted dogs, an interval of several days or even weeks may elapse before action is finally taken on an animal. If the dog gets loose during this period, only half-hearted attempts will be made to catch it in the hope that some other person will eventually shoot it because of its troublesomeness. In some cases, rather than face up to the necessity of destroying their own animals, people have actually abandoned undesired dogs at their bush camps when returning to the community at the end of the spring.¹¹ Such an action was disapproved of by many of the villagers, however, who considered it harsh and cruel. Nevertheless, at this end point in the dog's life cycle, his fate again resembles one feature of man's treatment of his fellow man, recalling the current neglect -- and aboriginal abandonment -- of the infirm and aged by many northern groups.

There are a few remaining strategies which people employ to dispose of an unwanted animal. If the Royal Canadian Mounted Police are expected to visit the settlement soon, a dog may be intentionally turned loose so that the police, in fulfilling their responsibilities, will shoot it as a stray

¹¹One observer of the Tanaina has written of their recourse to a similar strategy: "It is stated that an Indian will not kill a dog, but when one becomes too old to pick up its living it is taken to some place, such as an island, from which it cannot get away, and there left until it starves to death. While the dog is not an object of reverence, yet the Indians will not kill or eat one of them" (Learnard, quoted in Osgood 1937:37).

animal. A person may even offer to pay someone else to destroy the dog. This is a rare instance of direct payment being proffered for a service, for Colville Lake, being a kin-based community, is a village in which goods and services are generally exchanged on the basis of generosity and reciprocity rather than money (Savishinsky 1970b). The offer of direct, cash payment underlines the exceptional and traumatic nature of the task, and it is only as a last resort that a man will kill his own animal.

The complex involvement of dogs in the people's emotional and social life also includes their role as outlets for aggressive and negative feelings. The burden of having to feed inactive dogs during the summer provokes resentment, and animals are often underfed and neglected during this period. During the winter, adult dogs are prime objects of verbal and physical abuse from their drivers, and although much of this treatment is the direct outcome of their misbehavior and disobedience, a good deal of what they experience is also the result of aggressive feelings which people have redirected from other areas of life. Men and women who set out from a bush camp in an angry mood are more prone to beat and yell at their dogs than a person who leaves in a tranquil frame of mind, and people who usually react mildly to the frustrations and stresses of dog sled travel tend to respond much more violently to the identical provocations when they have just left a tense social situation in the village or bush. Drinking situations are culturally defined as permissible circumstances for emotional release, and drunken individuals occasionally direct a lot of their hostility towards their dogs, whether the animals are pulling in a team or are chained at a camp. There is considerable individual variation in the extent to which dogs are abused and mistreated

under these and other circumstances, but most people indulge in such actions from time to time. Patterns of emotional restraint among the Hare are thus made viable, in part, because the people can rechannel their aggressions towards their dogs in a variety of ways. As noted above, children learn to relate to their animals in this manner at an early age, establishing an emotional pattern which will be continued throughout their adult lives (cf. the same pattern described among the "Lynx Point" Slave in Helm 1961:89-90).¹²

The inclusion of dogs within the human social and psychological order emerges dramatically in the development of the emotional 'pecking order' which characterizes most bush camps. Adult men, when they are angry, pick on their wives and their children, and they abuse their dogs. Women, in their turn, scold their younger sons and daughters. The latter take out their frustrations on one another, with the oldest and the strongest predominating. Children pass on their hostility to their pups and dogs, just as the adults displace some of their aggression onto their animals. Finally, among the dogs themselves, there is a dominance hierarchy which channels violence at this lowest rung of the social order. Every living thing in a bush camp is thus involved in an ordered series of emotional displays and responses, and the dogs are as crucial to this social process as they are to basic economic tasks. Family life would be incomplete -- and perhaps unbearable -- without them (Savishinsky 1971).

¹²Helm writes as follows concerning the Slave utilization of dogs as an emotional outlet: "The fact that any display of anger is so severely checked in the interpersonal situation gives special interest to the observations on the treatment of dogs. Toward dogs, all, but the men especially, give free vent to angry actions -- shouting, swearing, and belabouring them. More than one man spoke, almost with pride, of a flaring rage toward a loafing sled-dog that was released by sending a bullet or an axe into the animal's skull. The excited, angry actions of the men toward their dogs are startling to the observer accustomed to their usual quiet, controlled behaviour. By the age of two, children begin practicing the raging and beating techniques of their fathers on any amenable dog" (Helm 1961:89-90).

Dogs, as social and psychological extensions of the human group, are important as an instrumental as well as an expressive medium for the people. Consistent with the Indians' emphasis on emotional containment, the Hare rely heavily upon physical mobility as a way of avoiding socially disruptive encounters. The people's annual cycle consists of a rhythmic alternation between periods of social dispersal and concentration, and emotional and psychological factors are as much a motivating force in this process as are ecological ones. Whenever possible, people will remove themselves from stressful situations rather than intensify or confront the source of tension. This mode of coping with stress may help to explain the great love of travel, and the dislike for, and inability to cope with, prolonged periods of sedentariness, which are traits manifested by many Athapaskan peoples (Honigmann 1949:102, 156, this volume; Sue 1964:421; Helm 1961:88, 111, 176; Welsh 1970). Dogs, as a major means of movement, thus become an intrinsic and instrumental part of this process. Although neither the centrifugal nor the centripetal forces at work in Athapaskan bands (Slobodin 1960) depend exclusively upon canines as a *modus operandi*, dogs certainly do facilitate these movements during much of every year. Men are more mobile than women because they have, and use, more dogs and teams. They thus enjoy greater freedom and initiative within this system of avoidance and escape -- but their actions have simultaneous effects on all the people concerned, for their temporary separations from the group provide relief for the immobile as well as the mobile members of any camp (Savishinsky 1971).

Dogs and the Presentation and Extension of Self

If dogs are social and emotional members of the Indian family, each with an identity, a name, and a set of roles and functions, then it is possible that dogs, like people, have public images. In addition, if dogs and people

both derive and maintain their roles, in part, on the basis of their interaction with one another, then it is also possible that their public images are similarly a product of their mutual relationship. Furthermore, if dogs are physical, economic, social and psychological extensions of the human group, then it follows that their public image would be an extension of the individual and collective image of their extended family.

There are several respects in which family and individual identity among the Hare includes and incorporates the kind of public image projected by one's dogs (cf. Szasz 1969; Goffman 1959). Families and individuals are known, in part, by the quality, condition, and number of dogs that they keep, as well as by their ability to handle, train, and drive dogs. As noted previously, a minimal number of dogs is needed for adequate travel. People with very few dogs, just like people with very few kinsmen, are considered to be poor and hard-pressed (cf. Osgood 1932:54). When people tell hard-luck stories about others, or when they want to portray situations of distress and hardship that others have experienced, one of the first details seized upon is the number and condition of the victim's dogs: it will be related that they had few dogs to begin with, that some went lame, or that some got lost, sick, or injured in a fight. The drastic outcome is a portrait of a family who did not have enough animals to pull their sled effectively. As a consequence, they could not trap, or haul wood or caribou meat, and they may have had to walk all the way back to the settlement, pulling their own sled. There may then follow an account of the somewhat degrading act of their having to borrow dogs, or the economic hardship of their having to buy animals.

The ultimately destitute man is the one 'who was so poor he had to sell all his dogs, his sled, and even his harness.' Such a man's reputation and image suffer considerably, and most people become very *self*-conscious when

the low number and poor condition of their dogs invites public comment and thinly-veiled mockery and derogation. It is noteworthy that in the many tales and pieces of folklore that were collected among the Hare, most of which dealt with aboriginal hardships and dangers confronting the people, none of the stories made the paucity or abundance of dogs a crucial element of the people's well-being during that period.

People are very aware of the movement of others by dog sled, and every trip into and out of the village receives at least perfunctory notice within the community. Large teams invite admiration and respect, and they may be the subject of comment for several days after their appearance. People will stand at the edge of the village, overlooking the large lake which borders the settlement, and they will be able to identify individuals and families at great distances simply by the size and appearance of their teams. People are very proud and self-conscious when setting off with a large number of animals, and from travelling with such persons on numerous occasions, I have seen how their enhanced self-image becomes evident in their comments, their bearing, their posturing, and their close attention to details of appearance. Since a large dog team -- one with nine or more animals -- is often unwieldy, as well as being a strain on one's fish supply (and rarely an appreciable improvement in one's speed), the motive for travelling with so many animals clearly has more to do with self-image than with logistics.

The relationship between dogs and extended images of self also involves people's participation in cultural patterns of generosity, reciprocity, and economic interchange. At various times of the year, people find themselves in the position of either having to request or give fish and meat in order to feed, respectively, their own or someone else's dogs. Travellers who visit one's bush camp should be warmly received, and they and their dogs

well-fed. At the village, kinsmen and friends who, from either ill-fortune or inaction, are temporarily without fish, should similarly be assisted in feeding their animals. Economic exchanges, involving the sale or trade of dogs, sleds, harnesses, and related pieces of equipment, also provide opportunities for the display of generosity, and young men sometimes give away good dogs to their girl friends in the hope of gaining their families' approval for marriage. The loan of dogs to a needy friend or kinsman is an especially praise-worthy act. In a community where the good man is the generous man, the unending series of goods and services which people supply and reciprocate with are central to a person's public and self-image. In a band whose life style revolves around dogs, one's responses to people's needs are often a response to those of their animals, and since the welfare of people and dogs is so inextricably bound up with one another, it is, in essence, often impossible and unnecessary to separate one source of action from the other. Among the Hare, as in our own society, anyone who is kind to children and dogs can't be all bad.

An even more direct presentation of one's self, as personal as your reputation for generosity but more expressive than the mere number of dogs that you possess, is the quality and appearance of your animals. A well-fed, good-looking team is an advertisement of one's concern, care, and industriousness. People are very attentive to the size, weight, coat, color, and overall condition of dogs, and the collective image projected by a team is very much an extension of an individual's ego. Although the members of the band exercise little control over the breeding patterns of their animals, once a litter has been born they do attempt to weed out the weak and sickly pups, and several families made a concerted effort to raise only dogs of a certain color. They stated that they liked the appearance of a uniformly-colored team,

and they traded and exchanged animals with other households just to get the kind of dogs that they wanted.

Public awareness and personal sensitivity to the appearance of dogs is reflected not only in conversations which center on the animals, but also in the content of some popular jokes and phrases which have had currency in the band. One family was notorious for the large number of scrawny, pathetic-looking dogs that it kept, and not only were this group's teams the object of invidious comparisons by other community members, but whenever a person encountered an underfed animal wandering around the village, the usual comment was: "Well, there goes another Yawileh dog looking for something to eat." Another family's dogs were so slow and out-of condition that people used to joke about giving them "a three-hour headstart for a two-hour trip."

This concern with canine appearance and performance was widespread both at Colville Lake and at the Hare community of Fort Good Hope. It became especially manifest when individuals were approaching the town or village with their team after having spent a long period in the bush. When there was only a mile or two left to the journey, a man would often stop his team so that his animals could rest for a while, and thus appear "fresh and strong" upon entering the community. People took advantage of this stop to tidy up the appearance of their sleds by readjusting and retying the load, and some men, who had painted the front and backboard of their toboggans, would wipe these areas clean of snow and mud so that they would show up better. A few men had fancy dog "blankets," i.e., specially hand-embroidered collars and harnesses, sometimes fixed with pom-poms and bells, and these would be put on the dogs in place of their regular trail harnesses at this time. Finally, before starting off again, a person might take off his everyday parka and mukluks that had been worn in the bush, and replace them with elegant,

flower-embroidered garments reserved just for occasions like this. When a person enters a community, then, he does it not only in the company of his dogs, but -- visually and aesthetically -- in concert and in costume with them as well.¹³

The unitary image projected by driver, sled, and dogs is not merely a static pose, it is also an image created by performance. The ability to train, drive, and handle animals well are prestigious skills intrinsic to the social psychology of people's relationship with their dogs. Among the highest compliments that a man or woman can earn is to be considered a good hunter and "good with dogs." Capable children can earn such reputations by the time they reach their pre-adolescent years, and one of the most desirable qualities in a prospective husband or wife is that person's renown as a "good bush man" or "good bush woman." Young adult men frequently race their teams against one another, either in formally arranged competitions or, less directly, by comparing their travel times over standard bush routes. Status and respect go not only to the fastest but also the toughest man-and-dog team. People take pride not merely in the speed of their animals, but the colder the weather, the longer the trip, the rougher the trail, and the

¹³Osgood (1932:65), in discussing dog sled travel among the Great Bear Lake Indians, has documented a similar set of aesthetic and image-related concerns and practices, including the use of elaborately carved carioles, tuppies (dog blankets) elaborately embroidered with silk or wool on stroud, and standing irons of dog collars decorated with the tails of fur-bearing animals or with woollen tassels. These are all items introduced to the area by the métis population of the Mackenzie region. Osgood adds that dog blankets were used "especially when visiting a trading post at Easter or Christmas... Bells on dog harnesses are almost universal, and it is believed that dogs increase their speed when so equipped" (1932:65). Hare informants offered a similar explanation for the use of dog bells, but they also added two more functional advantages. They stated that when a man is walking ahead of his team on snowshoes in order to break trail, the sound of his dogs' bells indicate to him whether or not his team is properly following him. Secondly, the sound of one's dog bells serves to warn an oncoming sled driver that your own team is approaching his on the trail, and he can then pull his own dogs off the road and avoid an angry canine confrontation.

fewer the number of stops and rests taken during the journey, all attest to the strength and toughness of driver and dogs.

These are not the only facts which receive publicity and affect a person's image, however, for dogs are potentially a source of embarrassment as well as prestige. The breaking-in of new animals into a team, and the toughening-up of dogs after a long summer of inactivity, provide situations in which a person's patience and abilities are put to an acid test. The recalcitrance, rawness, and inexperience of dogs at such times make it difficult to control a team, and a person's efforts and level of success in handling his animals are publicly displayed when he enters and leaves the village. Even a well-seasoned team can give a driver trouble, and it occasionally happens that a man or woman is thrown from the back of a sled by a balky or irritable group of dogs who then proceed to run away. When such an event is witnessed by other villagers, the driver's self-esteem suffers a sharp, though temporary, decline. The chagrin experienced by an individual at such times is manifested in the severe beatings usually administered to dogs following such an incident.

The best insurance against the occurrence of such incidents, and a key element in the successful presentation of self by means of one's dogs, lies in the quality and ability of one's lead dog. By late adolescence, most people have become experts in the area of canine psychology and behavior, and an individual can judge the worth of a dog, picking out the hard worker and the potentially good leader. Qualities of strength, dominance, intelligence, sensitivity, and tractability are what make for a good lead animal, but these traits must first be recognized and then developed if an animal's potential is to be realized. Good lead dogs make for good teams, as the people say. They are objects of intense pride, and they may acquire village-wide reputations for their outstanding abilities. Their drivers, who put so much of

themselves into the training of these animals, share in the prestige and become part of the collective image, for the owner's name is always linked to that of the dog when the latter is being discussed.

Some of the most frequently and excitedly told stories in the band center on the exploits which people have had with their animals. These tales usually relate dangerous adventures in which a person's dogs have been instrumental in avoiding tragedy and disaster. Several men tell stories about getting lost in a severe winter storm while crossing a large, frozen lake, and having to turn to their lead dog to rediscover the trail and guide them to shelter in the forest. While Indians share with Eskimos a high degree of environmental and spatial sensitivity, in both groups, as Carpenter points out for the Eskimo, "a good lead dog is apparently indoctrinated with some of this knowledge, or at least possessed of a remarkable ability of spatial orientation" (Carpenter 1959).

A number of other men at Colville Lake have come within a few feet of possible death, only to be saved by their animals. One man, whose story is similar to those related by others, was travelling across a frozen lake on a windy winter night. The swirling snows and lack of moonlight made for poor visibility, and he could barely make out his lead dog running some thirty feet ahead of him. Suddenly his dogs stopped and he yelled at them to continue. When they failed to respond to a second and third command, he angrily grabbed his whip and ran up to where his lead dog stood. He raised the whip over his head, and was just about to bring it down on the animal's back, when he saw the huge, wide opening in the lake ice which had brought his team to a halt. The gaping hole lay some ten feet in front of his lead dog, and the animal had stopped just in time to prevent the team, the sled, and the driver all from plunging into the icy water.

Stories such as this illustrate an added dimension to the role of dogs in Hare culture. These animals are not simply economic, social, and psychological extensions of individuals and families, they are also, in McLuhan's (1966) terms, sensory extensions of the human central nervous system. Dogs can smell, hear, see, and feel under conditions where the corresponding human senses are inadequate to the situation. In some cases, canine sensory acuity is clearly superior to that of humans: dogs can smell or feel out a trail, and can sense the proximity of caribou and hear the approach of other dog teams much more rapidly and accurately than can their drivers. At other times, dogs are simply in a better physical position to acquire sensory data than are the people whom they serve: a dog team is linear in form, and lead dogs are literally ten to thirteen yards ahead of their drivers. Their sensory apparatus spatially extends the human eye, ear, and nose, just as their legs and paws are extensions of the human foot.

It is especially significant that in a hunting style of life, such as the one led by the Hare, dogs play only a marginal role in the actual stalking and killing of game. This may have some important implications for interpreting the aboriginal significance of dogs in Athapaskan cultures. Ecological factors and the type of game being hunted are key variables which have to be considered here. For example, while the men in southerly Hare bands, such as the ones at Fort Good Hope, occasionally employ dogs to chase moose, the people of Colville Lake, for whom caribou supersede moose as the major meat source, do not utilize dogs in this way. While the dogs are more sensitive to the proximity of game than people are, they become extremely noisy and difficult to control when they come within sight of a herd of caribou for example. Their loud barking alerts the animals, and they generally scare the **game** away before a hunter can get close enough to get off a shot. When a herd of caribou inad-

vertently crosses a lake and approaches a bush camp, the greatest difficulty that the people have is to keep their dogs quiet enough so that a hunter can successfully stalk the animals without their being alarmed. Men who set off on a hunting trip by dog sled usually tie their teams up in the woods once they have reached an area where caribou signs are good, and they then proceed on snowshoes so that the noise and excitability of their dogs will not ruin their chances of a kill.

One implication of the way in which the Colville Lake Hare use and refrain from using their animals, then, is that dogs are good sensors but bad hunters. The people do not even utilize dogs to run down wounded game: if two caribou out of a herd of ten are shot, a hunter wants to get at the remaining eight animals, and a bunch of loose dogs may only serve to scare them off. The wounded caribou can always be recovered later by following their spoor, and, if they are initially left unpursued, they will travel a shorter distance than they would if immediately followed. During the interval they get progressively weaker and stiffer as they rest, making their ultimate capture easier (cf. Carpenter 1961:148-149).

On the other hand, the fact that people do appreciate and value the sensory capacities of their animals is evident from the stories I have related above. By extending human senses, dogs enhance human survival. With the exception of the sense of taste, the whole repertoire of human sensory abilities is amplified, intensified, and spatially magnified by man's special relationship with his domestic animals. If they can be kept quiet and at a safe distance, dogs can also serve to locate and point out game to hunters. The alert traveller is always aware of the direction in which his dogs' eyes, ears, and noses are pointed, for a sudden shift in their orientation often indicates the presence of other animals nearby. At a bush camp, dogs will

suddenly stand up when they sense dog teams or caribou approaching, and here again the direction of their sensory organs points to the stimulus for their response. In the words of one man, the ears of the people's dogs constitute their "personal radar" and "warning system."¹⁴ As in our own culture, then, the Hare enjoy the varied sensory services of "pointers," "watch dogs" and "seeing-eye dogs" who "see" with several senses.

Discussion and Conclusion

There is the possibility that if dogs can warn the people of the approach of game and kinsmen, then aboriginally they also could have warned people of the approach of enemies. On the other hand, by their noisy reactions, they could just as easily have tipped off the enemies to the presence of the people themselves. Since the Hare often made their traditional summer camps in out-of-the-way locations, their emphasis upon hiding from enemies during this season of warfare and raiding would indicate a strategy of inaccessibility and quietude which noisy dogs could have jeopardized. The value of dogs for either hunting or defense among the Hare is thus ambiguous and inconclusive, and the animals would appear to be, at best, a mixed blessing in both regards. In the nineteenth century, Richardson and Wentzel (cited by Sue 1964:179-180) reported that the Hare used small dogs to run down moose on the hardened, crusty spring snow, but no other mention of the Hare's use of dogs in connection with hunting is made in the post-contact literature. Their possible utility for taking caribou and other game does not materialize as a cultural technique. Currently, the use of dogs for direct stalking, tracking or chasing of either small or large game is rarely exploited in the Colville area. A more exhaustive analysis and pursuit of folklore, post-contact documents, and the recollections of key

¹⁴The imagery resembles a point made by McLuhan, who speaks of art as a "radar environment" and the arts as "radar feedback" (1966:xi).

informants may ultimately help to resolve these historical issues, but at present they remain unclear. The extent to which the current utilization of dogs by the Hare reflects the aboriginal (and modern) significance of these animals among other Athapaskan groups is also an open question, but this is a problem to which I think we can now attempt at least a partial answer.

If the Hare and certain other Athapaskan groups did make only limited use of their dogs in the areas of hunting and defense, then observations which have been made on other hunting societies where dogs are also present, would indicate that the northwestern Indians are not alone in these respects. M.J. Meggitt, for example, after reviewing the literature on Australian Aboriginal use of tame dingoes, offered the following conclusion:

The available evidence, limited and uneven as it is, suggests that over wide areas of Australia the tame dingo was by no means an effective hunting dog and that it contributed relatively little to the Aborigines' larder. It seems that only in ecologically specialized regions where particular kinds of game were abundant (as in the tropical rain forest) was the dingo a significant economic adjunct to the family hunting unit (Meggitt 1965:24).

Edmund Carpenter has made observations that are even "closer to home" for the consideration of the Athapaskans:

Canadian Indians, in my experience, prefer not to hunt with dogs. Could it be that their attitudes stem from an ancient hunting tradition?

We know that dogs were fairly common in many prehistoric camps in the Northeast, yet we know little of their role. Historic records more frequently refer to them as a source of food, or in connection with ceremonies, than as aides in hunting, and it may be that their hunting duties were slight.

Hunting with a bow is quiet work. The hunter must get in close to the game and here a dog could prove more troublesome than helpful. The Eskimo use dogs to locate seal-holes in the ice; Australian and Kalahari Bushmen dogs harass and keep at bay large game; Iban dogs tree game in the Borneo rain-forest. In the woodlands of the Northeast, however, where deer are the principal game, dogs can prove far less helpful.

One advantage the bow has over the rifle is silence. If the first arrow misses, the animal may fail to bolt and simply stand there, thus offering the bowman a second chance. A dog, however, would probably set the animal to flight.

Similarly, a wounded animal, if not pursued by dogs, often flees but a short distance, rests and stiffens up. Modern Indian hunters know this and generally, after wounding a deer, instead of racing after it, brew tea. Then they track down the animal which probably is but a short distance away (Carpenter 1961:148-149).

I do not mean to imply by the above quotations that dogs are everywhere of marginal utility to hunters, for as Meggitt, Carpenter, and many others have noted, certain groups do make considerable use of these animals in taking game. The Eskimo employed dogs for hunting polar bear, seal, walrus, and muskoxen (Birket-Smith 1929 Vol. I:112, 119; Birket-Smith and de Laguna 1938:427-429; Weyer 1969:100), and Osgood notes that the Tanaina used well-trained canines for pursuing or scenting several different kinds of animals, including porcupine, bear, caribou, sheep, and beaver (1937:32-33). Osgood also states that dogs were commonly used for hunting among the Bear Lake Indians (1932:40), and both he (1936:27) and McKennan (1965:32, 42) note that the Kutchin employed them to run down moose and caribou on the hard spring snow (or "crust"), as well as to chase wounded game. The Upper Tanana similarly used dogs for pursuing moose and bear, as well as for treeing lynx and wolverine (McKenna 1959:49). The Tahltan raised a special breed of small dogs for driving bears out of their dens. The Eyak employed canines to chase mountain goats and also to scent out bear and porcupine (Birket-Smith and de Laguna 1938:57, 241, 427-429). Other Athapaskan groups among whom the use of dogs for hunting is also reported include the Han, Ahtena, Koyukon, Nahane and Slave (McKenna 1959:49; Birket-Smith and de Laguna 1938:427-429).

In contrast to the above cases, the Ingalik only began to utilize dogs for pursuing game in historic times (Osgood 1940:451), and, with the exception of

Richardson's account (1851 Vol. III:26, 30), the Chipewyan are generally reported not to have used dogs for hunting moose or any other game (cf. Birket-Smith 1930: 19-26, in which Hearne is also cited). The Kaska, while utilizing dogs to take porcupine, rarely employed them for pursuing moose, and Honigmann reports that their hunting dogs were actually purchased from the Tahltan (1949:54, 56, 64). Furthermore, while some of the Tanaina did use dogs for chasing caribou, other bands in the area captured them in surrounds without the aid of dogs, much like other Athapaskan groups did (Osgood 1937:33).

It should be evident from the foregoing that tribal and ecological variations thus have to be taken into account in order to evaluate the importance of dogs in specific Athapaskan cultures. Domesticated canines play a large role in the hunting techniques of some groups, while in others their significance is minimal, marginal, or non-existent. Even in regions where their role is evident, the specific animals that dogs are used to pursue, and the type of pursuit for which they are employed, also show variation from area to area. To cite just one non-northern instance of this kind of phenomenon, Meggitt makes an observation for Australia that may be indicative of comparable situations in many parts of the world:

...there may have been significant differences among tribes or from region to region in the efficiency of the training and use of dingoes, or in the kinds, number and habits of the animals available for hunting (Meggitt 1965:18).

The Athapaskan evidence would seem to bear out, in a general way, a similar observation made by Harold Driver in his discussion of the use of dogs for hunting in North America:

In general, it appears that dogs were of limited utility for large animals running in herds, which were easy for man to locate, but were of greater utility in hunting animals which were solitary or lived in small social groups and were, therefore, more difficult to find (Driver 1961:60).

This argument is especially pertinent for the Hare because of the contrasting dependence of different regional bands upon either migratory caribou herds, which are found mainly in the northeast, or more sedentary and solitary moose, which are concentrated primarily in the south and west. The argument concerning dogs and the type of game to be hunted is relevant historically as well as ecologically, because, in Richardson's (1851 Vol. II:26) estimation, the Hare were not successful in hunting moose, and according to modern informants, "...in the old days, there were mainly caribou in the area, and the moose were concentrated in the Rockies" (Sue 1964:175). It was only recently (i.e., in the mid-nineteenth century), that "the moose started to come downhill and move all over the Fort Good Hope Game Area" (*idem*). A similar northward movement of moose has also occurred in parts of Chipewyan territory, as well as in other regions of the Subarctic (cf. Gillespie, Smith [this volume]; McKennan [1965:18]; Rogers [1969:28-29]; Peterson [1955:36-45]). Gillespie and Smith (this volume) both cite evidence for the absence of moose as part of the aboriginal economy of specific Chipewyan bands, whose subsistence was focused mainly upon the taking of caribou (cf. the name "Caribou-Eaters"). In the case of certain northern Hare and Chipewyan groups, therefore, their traditionally greater dependence upon caribou herds rather than solitary moose as a major food source might have been a key factor in the limited role of dogs in their respective hunting techniques.

A major problem that we face in trying to determine the total cultural significance of dogs for the whole Northern Athapaskan area is that our historical sources are often silent or contradictory on certain aspects of the matter, while our contemporary material frequently neglects the wider dimensions of the issue. Comparisons and generalizations are thus difficult to come by. I have tried to show in this essay that the modern role of dogs in

Athapaskan culture, especially in terms of their impact as extensions of man's senses, emotionality, and social structure, can provide a key to what the aboriginal importance of the animals may have been. The basic economic functions that we usually associate with dogs, particularly traction and hunting, would appear to be primarily either of recent vintage (traction) or of debatable or only regional validity (hunting). Perhaps there is an incompatibility between the use of dogs for traction and their employment as serious hunting aides. It could be that animals which have been trained and used in one capacity may be of limited utility in the other. If aboriginal Athapaskans could not support enough dogs to make them significant as draft animals, it may have been more worthwhile for them to train the limited number of canines as silent stalkers and game chasers. This aspect of canine culture would perhaps have been superseded in some areas by the introduction of modern dog sled travel, with its focus upon different patterns of canine training and utilization.

As primary sources of food and clothing, domestic canines were probably resorted to only in extreme situations in the North, especially considering the strong and pervasive taboos on killing and eating dogs which continue to exist among almost all the Athapaskans.¹⁵ Their potential significance for packing

¹⁵See the summary of the Athapaskan evidence given in note 10. Jenness states that dogs were "of little value for either food or clothing" among Canadian Indians, although dogs' wool was utilized in Coast Salish clothing (1967:29). He adds that: "The Iroquoian and other tribes frequently ate the dog when meat was scarce; the Ojibwa, some Plains' and some Pacific coast tribes also ate it on ceremonial occasions; but it was never an important article of diet. The Eskimo of southeast Baffin Island, according to the historian of Frobisher's voyage, raised a small breed of dogs solely for eating, and a larger breed for drawing the sleds; but apparently this small breed quickly became extinct, for there is no further reference to it in the literature" (1967:29; Jenness cites a study made by G.M. Allen, on the dogs of the American aborigines, in support of this point).

Brief summaries of the use of dogs for food by native Americans are provided by Wissler (1957:36) and Driver (1961:34), who stress its rareness outside of certain geographic regions and its general restriction to ceremonial and religious occasions.

and dragging, while undeniable, was probably limited by the small number of animals that the people were able to maintain in the past. That dogs also may have been used as a source of direct, bodily warmth during nighttime sleep is also a possibility, but one for which I can find no substantial proof (although see Slobodin's essay in this volume).¹⁶ It seems more likely that dogs, as extensions of man's senses, were more valuable as receptors, integrators, and conveyors of information for many groups rather than as executors of economically important tasks. Furthermore, by giving children and adults experience in relating to a non-human species, the presence of domesticated canines may have been an important aspect of sensitizing hunters to the ethological patterns of animals in general and their prey in particular, thereby making people more effective stalkers. The fact that some Athapaskan groups aboriginally maintained various other types of animals as "pets" (including bear cubs, foxes, rabbits, wolf pups, minks, and several species of birds) may indicate a similar extension of human social bonds, which provided a set of relationships that indirectly allowed people to take advantage of these other species as teaching aides in the area of animal behavior (cf. Osgood 1940:185-186, 1958:259-260; Honigmann 1949:187-188; Sue 1964:297; Helm 1961:74; and de Laguna 1969/70:26, who notes a taboo on non-canine pets among the Atna).¹⁷

¹⁶Both Eskimo and Australian groups utilized dogs in this manner (cf. Meggitt 1965:15n), as did the early white trappers in the North (cf. Franklin 1823).

¹⁷Laughlin, in his analysis of hunting as a process, mentions "pets" (i.e., captured wild animals) as a source of feedback for hunters, providing them with information about the nature of the game that they pursue. He adds that these "pets" are also a useful means for instructing children about animal behavior (1968:310, 320). Although Laughlin does not discuss domesticated dogs from the cybernetic-feedback viewpoint suggested here, his analysis could be extended to include this aspect of their use.

The process of extension, in the contemporary case of the Hare and their dogs, is ultimately an act of mutual incorporation and learning. People, in a sense, identify with and become their dogs while their dogs become members of society. Artists, photographers, and psychotherapists in Western cultures have poignantly (and therapeutically) shown how much people and their pet animals actually come to physically, psychologically, and behaviorally resemble one another over time (Szasz 1969), and the same may be true within the cultural aesthetic and self-image of the Hare. People not only become what they behold, as Carpenter (1970) and McLuhan (1966) have shown, but they are also domesticated by their domesticated animals. In such cultural traditions, projection, displacement, dominance, aggression, identification, nurturance, succorance, incorporation, and other psychologically expressive processes accompany, or supersede, the more utilitarian aspects of dog ownership (cf. the psychoanalytic and experimental research on man-dog relationships summarized in Fox 1965:116-125). When thus viewed as "domesticated" members and extensions of the human social system, the dog's cultural significance takes on the added dimension of sociability and companionship. The social and psychological integration of the Athapaskan band would then have to be viewed from this wider perspective: dogs serve as sources of emotional interest and anxiety, as well as outlets for affective displays of both a positive and a negative nature.

It is a short step, in the case of the Hare, from identifying people by their teams to identifying people with them. If one can do this for others, one can also do it for one's self, and people's animals thus become an inherent part of their identity. Dogs are thus a social, sensory and psychological, as well as an economic resource, and they are a self-reproducing resource at that. If one considers the various ways in which dogs are extensions of Hare social

groups, then one must expand one's concept and definition of the band. At Colville Lake, for example, the band, in a corporate social, psychological, and economic sense, is no longer composed of just seventy-five people, but rather it consists of some 300 social beings, 224 of whom happen to be dogs.

I do not wish to stand Alexander Pope's dictum on its head (or tail) by suggesting that the proper study of mankind is the dog, but I think we can learn a great deal about certain groups of human beings by observing how they relate to domesticated canines. In an excellent essay on the role and position of dogs in Polynesian culture, Katherine Luomala (1960) has pointed out many of the same social and psychological factors which have been emphasized here, including processes of mutual identification and domestication between canines and humans.¹⁸ Similar insights have emerged from the work of Szasz (1969), Speck (1964), Levinson (1962), Scott (1963), Hartley and Shames (1959), Fox (1965) and other scholars, who have looked at the social psychology of pet-keeping in Western societies. Evans-Pritchard's classic study of the Nuer

¹⁸Among Luomala's key points are the following:

The dog, or any other creature, of whom man projects his way of life, recreates him in turn. Both must adjust to each other if their partnership is to continue. Emotionality about the creature arises. "Love me, love my dog," which implies preferences and values, reveals the dependence, whether sentimental, economic, or both, and the extension of self and personal and cultural values into a nonhuman part of society. In the relationship man has different levels of identification with the animal according to circumstances (Luomala 1960:214).

Any domesticated animal has a peculiar situation in a culture. Its domestication and the traits forming part of the complex of domestication are determined by the existence of culture. Particular forms assumed by elements of the complex are fixed by the peculiarities of each culture. The appearance, habits, and comings and goings of an animal are altered by the culture adopting it. The animal, however, does not thereby become a passive figure in the cultural scene. It also modifies its human owner's superficial appearance, habits, and comings and goings. Animal and human being reciprocally influence each other's way of life. Man in a sense becomes as much a servant of his domesticated animal as the animal is his servant (Luomala 1960:236).

(1940) long ago demonstrated how central domesticated cattle can be in the thoughts and social relations of pastoralists, and so by now we should be sensitive to the possibility of analogous situations in societies with different economics and ecologies.

My own observations on the Hare, while directed to just such an analysis, have two obvious limits to them. First, by arguing from the present to the past, there is the problem of their validity as historical arguments. Hopefully, future work in archaeology and ethnographic reconstruction will enable us to verify or reformulate our ideas on this and related problems. Secondly, my arguments are limited by the fact that they are derived primarily from the study of one community -- a representative and crucial community, I would argue, but a single case nevertheless. Thus, it is difficult to judge the degree to which contemporary and historical statements about the Hare are applicable to other Athapaskan groups. While I have tried to check my analysis by reference to published material on other northern peoples, the paucity of data on this problem makes comparison a tenuous proposition. There has evidently been a great deal of regional diversity in the training, breeding, significance and use of dogs in the North, and this variety has undoubtedly had its social and psychological concomitants. Regional differences in modern trapping patterns and techniques may also be reflected in these ways (cf. VanStone 1963; Leacock 1954). The Hare indicate how complex and subtle man's relationship with his dogs can be, and if the ideas presented in this essay have a wider applicability, then there are some important areas of Athapaskan culture which we are just beginning to learn about.

REFERENCES

- ALLEN, Henry T.
1886 Atnatanas; Natives of Copper River, Alaska. *Smithsonian Institution Annual Report* for 1886, Part 1. Washington. pp. 258-266.
- BIRKET-SMITH, Kaj
1929 *The Caribou Eskimo: Material and Social Life and their Cultural Position*. Report of the Fifth Thule Expedition 1921-1924. Vol. 5. 2 vols. Copenhagen: Gyldendalske Boghandel, Nordisk Forlag.
1930 *Contributions to Chipewyan Ethnology*. Report of the Fifth Thule Expedition 1921-1924. Vol. 6, No. 3. Copenhagen: Gyldendalske Boghandel, Nordisk Forlag.
- BIRKET-SMITH, Kaj and Frederica DE LAGUNA
1938 *The Eyak Indians of the Copper River Delta, Alaska*. Copenhagen: Levin and Munksgaard.
- BUBER, Martin
1958 *I and Thou*. 2nd ed. Ronald Gregor Smith, translator. New York: Charles Scribner's Sons.
- CARPENTER, Edmund S.
1959 *Eskimo*. Edmund S. Carpenter with Frederick Varley and Robert Flaherty. Toronto: University of Toronto Press.
1961 Ethnological Clues for the Interpretation of Certain Northeastern Archaeological Data. *Pennsylvania Archaeologist* 31(3-4):148-150.
- CARPENTER, Edmund S. and Ken HEYMAN
1970 *They became what they Beheld*. New York: Outerbridge and Dienstfrey.
- COWAN, Ian McTaggart
1969 Ecology and Northern Development. *Arctic* 22(1):3-12.
- DE LAGUNA, Frederica
1969/70 The Atna of the Copper River, Alaska: The World of Men and Animals. *Folk* 11-12:17-26.
- DRIVER, Harold E.
1961 *Indians of North America*. Chicago: University of Chicago Press.
- EVANS-PRITCHARD, E.E.
1940 *The Nuer*. Oxford: The Clarendon Press.
- FOX, M.W.
1965 *Canine Behavior*. Springfield, Ill.: Charles C. Thomas.
- FRANKLIN, John
1823 *Narrative of a Journey to the Shores of the Polar Sea; in the Years 1819, 1820, 1821, and 1822*. London: John Murray.

- GEERTZ, Hildred and Clifford GEERTZ
 1968 Teknonymy in Bali: Parenthood, Age-grading and Genealogical Amnesia. In *Marriage, Family, and Residence*. Paul Bohannan and John Middleton, Eds. Garden City, N.Y.: The Natural History Press. pp. 355-376.
- GOFFMAN, Erving
 1959 *The Presentation of Self in Everyday Life*. Garden City, N.Y.: Doubleday and Company.
- GRABURN, Nelson H.H.
 1969 *Eskimos Without Igloos*. Boston: Little, Brown and Company.
- HALLOWELL, A. Irving
 1967 Some Psychological Characteristics of the Northeastern Indians. In *Culture and Experience*. New York: Schocken Books. pp. 125-150.
- HARTLEY, E.L. and C. SHAMES
 1959 *Man and Dog, a Psychological Analysis*. Gaines Veterinary Symposium. New York: Gaines.
- HEARNE, Samuel
 1958 *A Journey from Prince of Wales Fort in Hudson's Bay to the Northern Ocean...in the Years 1769, 1770, 1771, and 1772*. Richard Glover, Ed. Toronto: The Macmillan Company.
- HELM, June
 1961 The Lynx Point People: the Dynamics of a Northern Athapaskan Band. *National Museum of Canada Bulletin* 176.
- n.d. The Dogrib Indians of Northern Canada. Forthcoming. In *Hunting-Gathering Societies*. M. Bicchieri, Ed. New York: Holt, Rinehart and Winston.
- HONIGMANN, John J.
 1947 Witch-fear in Post-contact Kaska Society. *American Anthropologist* 49(2):222-243.
- 1949 Culture and Ethos of Kaska Society. *Yale University Publications in Anthropology* No. 40.
- 1952 Intercultural Relations at Great Whale River. *American Anthropologist* 54(4):510-522.
- 1954 The Kaska Indians: an Ethnographic Reconstruction. *Yale University Publications in Anthropology* No. 51.
- 1968 Interpersonal Relations in Atomistic Communities. *Human Organization* 27(3):220-229.
- HURLBERT, Janice
 1962 *Age as a Factor in the Social Organization of the Hare Indians of Fort Good Hope, N.W.T.* Northern Co-ordination and Research Centre. Department of Northern Affairs and National Resources. Ottawa.

- JENNESS, Diamond
1967 The Indians of Canada. 7th edition. *National Museum of Canada Bulletin* 65.
- JONES, Strachan
1866 The Kutchin Tribes. *Smithsonian Institution Annual Report for 1866*. Washington.
- LANDES, Ruth
1937 The Personality of the Ojibwa. *Character and Personality*, VI: 51-60.
- LAUGHLIN, William S.
1968 Hunting: an Integrating Biobehavior System and its Evolutionary Importance. In *Man the Hunter*. Richard B. Lee and Irven DeVore, Eds. Chicago: Aldine Publishing Company. pp. 304-320.
- LEACOCK, Eleanor
1954 The Montagnais 'Hunting Territory' and the Fur Trade. *American Anthropological Association Memoirs* No. 78. *American Anthropologist* 56(5):Part 2.
- LEVINSON, B.M.
1962 The Dog as a "Co-therapist." *Mental Hygiene* 46(1):59-65.
- LUOMALA, Katherine
1960 The Native Dog in the Polynesian System of Values. In *Culture in History: Essays in Honor of Paul Radin*. Stanley Diamond, Ed. New York: Columbia University Press. pp. 190-240.
- MACNEISH, June Helm
1954 Contemporary Folk Beliefs of a Slave Indian Band. *Journal of American Folklore* 67(264):185-198.
- MCKENNAN, Robert A.
1959 The Upper Tanana Indians. *Yale University Publications in Anthropology* No. 55.
1965 The Chandalar Kutchin. *Arctic Institute of North America Technical Paper* No. 17. Montreal.
- MCLUHAN, Marshall
1966 *Understanding Media: the Extensions of Man*. New York: The New American Library.
- MEGGITT, M.J.
1965 The Association Between Australian Aborigines and Dingoes. In *Man, Culture, and Animals*. Anthony Leeds and Andrew P. Vayda, Eds. American Association for the Advancement of Science, Publication 78. Washington, D.C. pp. 7-26.
- OSGOOD, Cornelius
1932 The Ethnography of the Great Bear Lake Indians. *National Museum of Canada Bulletin* 70. pp. 31-97.

- 1936 Contribution to the Ethnography of the Kutchin. *Yale University Publications in Anthropology* No. 14.
- 1937 The Ethnography of the Tanaina. *Yale University Publications in Anthropology* No. 16.
- 1940 Ingalik Material Culture. *Yale University Publications in Anthropology* No. 22.
- 1958 Ingalik Social Culture. *Yale University Publications in Anthropology* No. 53.
- 1959 Ingalik Mental Culture. *Yale University Publications in Anthropology* No. 56.
- PETERSON, Randolph L.
1955 *North American Moose*. Toronto: University of Toronto Press.
- RICHARDSON, Sir John
1851 *Arctic Searching Expedition*. 2 vols. Longman, Brown, Green, and Longmans.
- ROGERS, Edward S.
1969 Natural Environment - Social Organization - Witchcraft: Cree Versus Ojibwa - a Test Case. In *Contributions to Anthropology: Ecological Essays*. David Damas, Ed. *National Museums of Canada Bulletin* 230. pp. 24-39.
- ROSS, Bernard R.
1866 The Eastern Tinneh. *Smithsonian Institution Annual Report* for 1866. pp. 304-311.
- SAVISHINSKY, Joel S.
1970a Stress and Mobility in an Arctic Community: the Hare Indians of Colville Lake, Northwest Territories. Ph.D. dissertation, Department of Anthropology, Cornell University.
- 1970b Kinship and the Expression of Values in an Athabaskan Bush Community. *Western Canadian Journal of Anthropology* 2(1):31-59.
- 1970c Anthropology's Eternal Triangle: the Missionary, the Fur Trader and the Ethnographer. Read at the 69th Annual Meeting of the American Anthropological Association, San Diego, California, November 19-22, 1970.
- 1971 Mobility as an Aspect of Stress in an Arctic Community. *American Anthropologist* 73(3):604-618.
- SCOTT, J.P.
1963 The Process of Primary Socialization in Canine and Human Infants. *Monographs of the Society for Research in Child Development*, Serial No. 85, Volume 28(1).

- SLOBODIN, Richard
 1960 Some Social Functions of Kutchin Anxiety. *American Anthropologist* 62(1):122-133.
- 1962 Band Organization of the Peel River Kutchin. *National Museum of Canada Bulletin* 179.
- 1970 Kutchin Concepts of Reincarnation. *Western Canadian Journal of Anthropology* 2(1):67-79.
- SPECK, Ross V.
 1964 Mental Health Problems Involving the Family, the Pet, and the Veterinarian. *Journal of the American Veterinary Medicine Association* 145(2):150-154.
- SUE, Hiroko
 1964 Hare Indians and Their World. Ph.D. dissertation, Bryn Mawr College, Bryn Mawr.
- 1965 *Pre-school Children of the Hare Indians*. Northern Co-ordination and Research Centre. Department of Northern Affairs and National Resources, Ottawa.
- SZASZ, Kathleen
 1969 *Petishism: Pets and their People in the Western World*. New York: Holt, Rinehart and Winston.
- VALLEE, Frank G.
 1967 *Kabloona and Eskimo in the Central Keewatin*. Ottawa: The Canadian Research Centre for Anthropology, Saint Paul University.
- VAN STONE, James W.
 1963 Changing Patterns of Indian Trapping in the Canadian Subarctic. *Arctic* 16(3):159-174.
- 1965 The Changing Culture of the Snowdrift Chipewyan. *National Museum of Canada Bulletin* 209.
- WELSH, Ann
 1970 Community Pattern and Settlement Pattern in the Development of Old Crow Village, Yukon Territory. *Western Canadian Journal of Anthropology* 2(1):17-30.
- WEYER, Edward Moffat
 1969 *The Eskimos*. Hamden, Conn.: Archon Books.
- WISSLER, Clark
 1957 *The American Indian*. 3rd edition. Gloucester, Mass.: Peter Smith.
- ZEUNER, Frederick E.
 1963 *A History of Domesticated Animals*. New York and Evanston: Harper and Row.

AN ETHNOGRAPHICAL MAP OF GREAT BEAR LAKE

Cornelius Osgood

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AN ETHNOGRAPHICAL MAP OF GREAT BEAR LAKE

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Résumé

Après avoir présenté un exposé intéressant sur certaines difficultés imprévues auxquelles se heurta un jeune anthropologue au service des Musées nationaux du Canada, au cours d'une étude menée en 1928 et en 1929 dans les Territoires du Nord-Ouest, plus précisément dans la région du Grand lac de l'Ours, Osgood fournit des explications précieuses sur les noms de 100 localités autochtones, ainsi que leur traduction, en plus d'y ajouter des remarques pertinentes. Chaque localité est indiquée avec soin sur une carte illustrant la région du Grand lac de l'Ours.

Abstract

Following an interesting exposé of some of the unanticipated difficulties encountered by a young anthropologist during his 1928-1929 survey of the Great Bear Lake region of the Northwest Territories for the National Museum of Canada, Osgood presents an invaluable discussion of 100 native place names, along with their translations and some pertinent comments. Each of the places discussed is carefully keyed to a map of the Great Bear Lake region.

In the year 1928, I was commissioned as ethnologist by the National Museum of Canada to conduct a study of the Indians of the Great Bear Lake region in the Northwest Territories. I had conceived the project as the first in a series of studies of the Athapaskan-speaking peoples of the interior of northwest Canada and Alaska. On July 1, 1928, I reached Fort Norman (91 -- numbers refer to the maps Figures 1 and 2) on the Mackenzie River, and the Fishery (4) at Great Bear Lake on July 23. Eleven months later I left the Lake (capitalized hereafter to designate Great Bear Lake) for the last time. Because of my inexperience this field trip might well be described as an anthropological fiasco. Among other unanticipated difficulties, during the first two months following

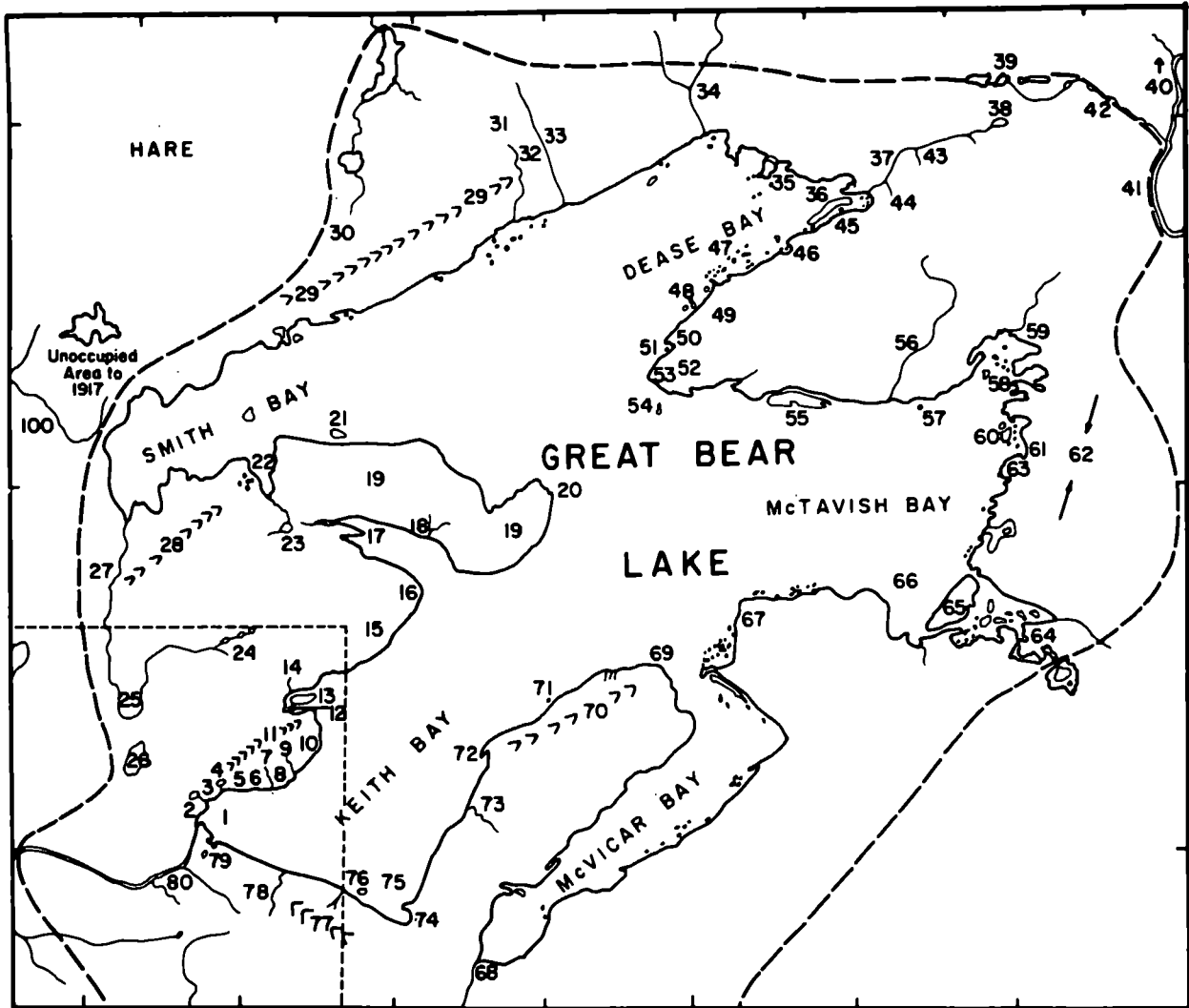


Figure 1. Map of Great Bear Lake

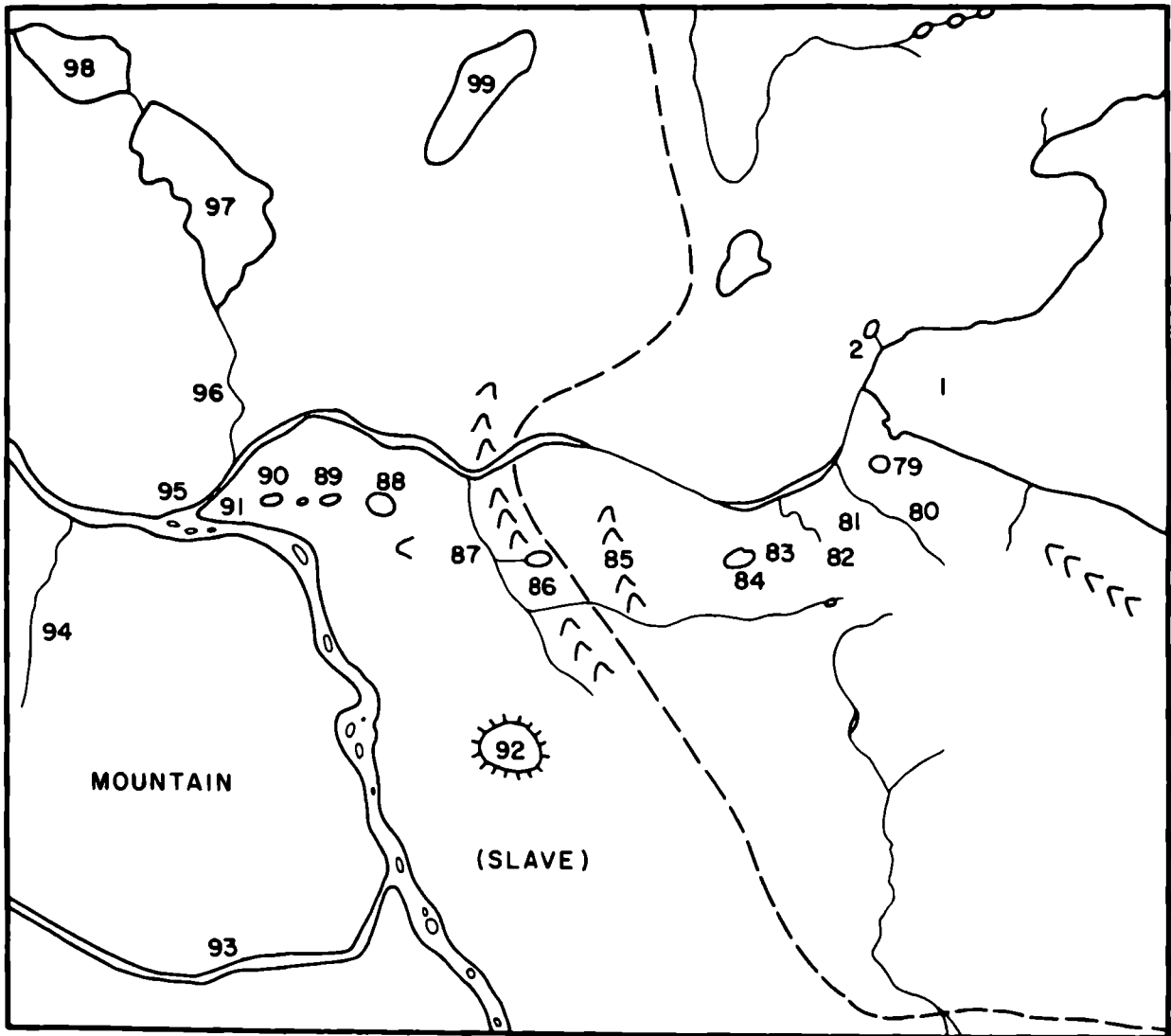


Figure 2. Map of the Great Bear River region

my arrival, the Indian population centering on Fort Norman was decimated by an epidemic of influenza, at least thirty-two out of a total of less than three hundred natives dying between July 8 and August 28. Moreover, it was discovered that the aboriginal culture had disintegrated beyond expectations. As a culminating disadvantage for an ethnographer, no native interpreters could be found. This was a crucial matter for the following obvious reason. In a functioning culture one may record much about a society's behavior and manufactures with only a meager knowledge of the language, but when the data on a culture are no longer empirically verifiable, a reconstruction is impossible without effective verbal communication.

The report on field work required by the Canadian government was submitted under the most painful of circumstances -- the exposure of one's inexcusable inadequacies. About a year later, permission was requested to publish this paper elsewhere with a view toward reorganizing the report into a useful, if limited, monograph. Surprisingly enough, after the request was granted, and despite a shortage of funds which caused the discontinuation of the museum's *Anthropological Monographs*, the Great Bear Lake manuscript was published in the Annual Report of the National Museum. Some emendations were made but the more complex part of the research notes which had never been analyzed were not included. Time was simply not available, the very subject was a psychological adversary, and the fortitude to demand that publication be delayed was apparently lacking. The above statements are not included here so much to clarify an insignificant matter perhaps better forgotten as they are to explain the sudden appearance of additional data on Great Bear Lake six monographs and forty years after the field work was completed.

Certainly one of the more satisfying aspects of the sojourn was the familiarity which was achieved with the terrain of the Great Bear Lake Indians.

Shortly before noon on July 26, 1928, three days after a second trip bringing supplies up the Bear River, I set off with Robert Porsild, a Dane from Greenland, on a survey of McTavish Bay carried out for the Canadian government under the direction of his brother, A.E. Porsild. The one and only vessel on the Lake with any sea-going capacities had been chartered from A.W. Boland, the lone fur trader of the whole Barren Ground plateau. The sloop *Star* was approximately twenty-eight feet long with a ten foot beam and, besides its sails, it contained a two-cylinder inboard engine. The *Star* was a sturdy ship but one that had to be protected as it was no match for storms that periodically arise on the eighth largest lake in the world, and that counting the Caspian Sea. The area of Great Bear Lake at an altitude of 512 feet has been given as 12,275 square miles and its maximum length, 232 miles (Figure 1; cf. also World Almanac 1967:285).

We reached Big Point (20) shortly after noon on July 27 and, the weather being fair, immediately crossed to the shelter of a bay (51) on the north side of Caribou Point where we landed at 9:30 in the evening. Then, after a run of twelve hours we reached the foot of Dease Bay (36) on the following day. At that place A.E. Porsild came aboard, he having wintered in the area in the company of a trapper named Olmstead. Daylight being continuous, we started on the journey to McTavish Bay half an hour after midnight on July 31. Following the coast, we entered Conjuror Bay (65) through a narrow passage on August 14, there to spend a week before returning via Leith Point (67) and Big Point (20) to the Fishery (4) where we arrived on August 28, 1928.

Since parts or all of many days were spent ashore, the topography and general character of the region became sealed in hundreds of images, later renewed or expanded by a circumnavigation of the frozen Lake during the following spring. Leaving the Fishery (4) at 10:15 on the night of May 11, 1929

with an Eskimo-type sled and the companionship of four dogs, I followed an Indian trail along the northwest shore of Keith Bay to the area locally known as Fox Point (10), from which place a crossing was made to a point marking the middle of the southeasterly shore of that bay (72). Once there, I followed the shore around the peninsula driving well down into McVicar Bay where visits were made to Indian camps. Turning back, Leith Point (67) was rounded in an easterly direction after which a crossing of the ice on McTavish Bay to Caribou Point (53) was begun at 8:30 on the night of May 24 and completed at 3:30 in the morning of May 26. After a layover of one day, the journey was continued northerly across Dease Bay. After working westward along the barren coast of Dease and Smith bays, I turned south to the peninsula named Big Point (19) by the Indians, following it around into Keith Bay and finally reaching the Fishery (4) on June 6 at 8:30 in the morning. This four-week journey has been described elsewhere in some detail (Osgood 1953:218-255).

Besides the two months devoted to travel along the shores of the Lake itself, three round trips to it from Fort Norman (91) were made by boat on the Great Bear River. Also, three round trips were undertaken by dog team from the fishery (4) to Fort Norman at various times during the winter. These, with excursions west of the Fishery into the Franklin Mountains and later into the Rocky Mountains southwest of Norman constitute the limits of personal contact with the area.

Obviously one does not undertake such journeys without a careful consideration of known geographic features, especially when a thousand miles is traveled alone. It was partly for this reason that considerable effort was devoted to obtaining a description of the principal landmarks of the country mostly distinguished only by Indian names. By so doing, it was also possible to gain some notion of the Indians' conception of local geography and likewise provide

the necessary base for charting the migrations and camping places of Indian bands.

Eventually the various notes that had been accumulated were collated and listed with the help of A.W. Boland who, directly or indirectly, had been responsible for a large part of the geographic data in the first place. Boland was an extraordinary man. At eighteen, he had been the youngest member of the Cardiff Coal Exchange. Later, a fur trader for the Hudson's Bay Company at Fort Rae and Fort Good Hope, he had married a Hare Indian woman and set up his own establishment in the grand isolation of Great Bear Lake. It was not the fact he made a fortune in mining and then lost it with the brokerage firm he established in Toronto that made his name legendary in the Northwest Territories, but his knowledge of the country, his generosity, and his almost incredible trustworthiness. In those days before the first airplane reached Great Bear Lake (August 1929), travel away from the Mackenzie was colored by intimate risk, and false information was only too often the precursor of disaster. During my entire career as an ethnographer I have never known a more careful and reliable informant in terms of a terrain than Boland, and on that rare quality of his I have gambled my life as others have most certainly risked theirs. This paragraph is written not merely as a tribute but to assert that even in areas over which we traveled independently it was his knowledge that illuminated my own.

Inevitably, in gathering information about the movement of Indian bands, about the distinctions in group territories, or about the distribution and concentrations of various species of fish and animals, it is maps and place names that become the necessary keys to comprehension. Except for a few, the English place names were too gross in their denotation to be of practical use, and it thus became essential to create a map showing the country as conceived in Indian terms. When I recorded a name, I naturally wanted to record it on my map. The

Indians were of little or no help, so I turned to Boland who had faced the problem years before and was one of the few men in the Territories with even a quasi-fluent command of an Athapaskan language. The greater the number of terms recorded, the clearer the topography became and the problem of completing the map was posed.

For me in 1927-28, the locating of places referred to was more of a practical matter than an intellectual one. The only printed map that I possessed was entitled *Map of the Mackenzie and Slave Rivers Northwest Territories* Dept. of Interior Canada (Corrected to Jan. 1921: Scale 35 miles to 1 inch). It is my guess that the pertinent Great Bear Lake section was based on the work of J.M. Bell about 1900 and that few, if any, corrections were made afterward. Even one of the five great bays, which together comprise the lake, was partly indicated by dotted lines and many other sections of the coastline were grossly inadequate by contemporary observations. Be that as it may, since any recordings were made with reference to that map, it is the map used as the basis for those in this paper, and my inaccuracies in some measure reflect its own.

As will be noted, 100 place names have been located, a number achieved by eliminating a few not in Great Bear Lake Indian territory or within the area of the maps. Inevitably, others must have been missed and for a few certainly, as for example a place called Wooded Point that lies on the coastline two-thirds of the way from location 18 to 20 (see Fig. 1 and list of place names below) I simply did not record the native term. In another case, I had neither the Athapaskan term nor its English equivalent for a known locale.

There is also a theoretical difficulty which involves distinguishing between a place which has a generally recognized name and others more casually designated. I have tried to restrict my presentation to the former category since one of the marvelous qualities of the complex Athapaskan language is that names can be en-

gendered at a moment's notice by synthesizing descriptive and accessory particles. Such terms (as 6 and 60) have been retained in the list where they seem to have become well established.

Finally, there is the problem that an Athapaskan place name may refer to a specific point or locality or, as in English, it may designate a general area quite beyond accurate definition. Broken-up Plate Creek (2) is an example of the former and Head of the River (1) well illustrates the latter, although the diffuse area of term may be even better indicated by a place name such as Berry Land (28).

Before going farther, it will be essential to present the list of the most common place names known to the Great Bear Lake Indians with locations shown on the accompanying two maps, (Figs. 1 and 2) the second of which is an enlargement to indicate such important details as are noted on the Fort Norman--Fort Franklin winter trail. It should also be emphasized that the first and more inclusive of the two maps shows the territory proper of the Great Bear Lake Indians, the boundaries of which are distinguished by a dashed line. As so often in the North, when a trading post was established outside a group (tribal, national) territory, the Indians were regularly drawn to it, thus creating a corridor which the *Pax Britannica* made reasonably safe from attack. Such was apparently the case after the North-West Company established Fort Norman (91). For most of the time since then, significant parties of Great Bear Lake Indians have made one or two annual trips to that post on the Mackenzie for purposes of trade and, after 1876, for baptisms and marriage services as well. Hence names for significant points in the technically non-Great Bear Lake area of Fort Norman (91) have been included as well. Thus we have 84 terms (1-39, 41-85) in the Great Bear Lake Indian area proper, 14 additional (86-99) in territory of the Mountain Indians, (apparently partly occupied in the nineteenth century by the Slave Indians) one

in that of the Hare (100) (cf. Fig. 2), and finally one for the Arctic Ocean (40).

In presenting our data on named localities, we shall first give the associated number to be found on the map, secondly the native place name, thirdly in parentheses a translation of that name, and finally a comment on the name and the point or area it designates. As will be seen, the numbers follow in clockwise order around Great Bear Lake and then on to Fort Norman and northward to the end of the list. The phonetic transcriptions leave much to be desired as they were recorded under difficult conditions from different individuals and have not been phonetically simplified. The translations of the Indian names are free and are also subject to the limitations of the recorder's circumstances in 1928-29. In 24 per cent of cases, the translation was unavailable or questionable. The notation "Translation not known" actually means not known to the writer, or at least not clearly intelligible, and possibly not to most or all of the Indians, the facts about which I could not determine. Comments when seemingly helpful are made about the name, or more often to clarify the character of the area to which the name refers and its utilization by the Indians.

1. de' li ni* (Head of the river). The name refers specifically to the place that Great Bear Lake empties into the Great Bear River, a locality famed for the excellent fishing, especially in midwinter. In the fog it is a treacherous place because the area of the head of the river never freezes. The term has also become applicable to the whole end of the bay from the site of Fort Franklin (4) to the head of Great Bear River.

* See phonetic key, at end.

2. kwa ta da tq (Broken-up plate creek). This stream, perhaps two miles from the head of Great Bear River, provides the outlet for a lake perhaps the same distance from the great one. The name of this small lake is bluefish, or ta tu e, which has not been listed separately as it was recorded by me only in English.

3. Ga čo eta (Big rabbit point). No explanation was given for this name.

4. eta i a (In the shelter of the point). This locality known as the Fishery and site of Fort Franklin, is historically the most frequently described place in all the Great Bear Lake country. It comprises the area adjoining a short slough and a small lake. It became the settlement of the first white men to reach the Lake about 1800. Two trading companies, the North-West and the New North-West, or X-Y, were competing there for furs before Alexander Mackenzie, a partner in the latter, left the fort in 1805. It is known that the two companies which merged at that time continued to occupy the fort at least through the winter of 1813-14 but it was apparently abandoned soon afterward (cf. Bryce 1968:149-153; Masson 1890:2, 104 ff).

In the autumn of 1825, John Franklin's men built a sizable establishment on the sloping easterly shore of the small lake and his party of fifty, including Indians, spent two winters there, leaving early in 1825. The buildings had entirely disappeared when Thomas Simpson arrived on September 14, 1837 (Simpson 1843:194). W.H. Hooper who visited the Lake in 1849-50 gives some description of the area (Hooper 1853:300-316). Then in 1864, the Hudson's Bay Company removed their post from Fort Norman on the Mackenzie River to the Fishery (4) where they kept it until 1872, retaining the name Fort Norman, a procedure that has caused some geographic confusion (cf. 91 and Duchaussois 1923:254). Between 1866 and 1873, the extraordinary traveler, linguist, and priest, Emile Petitot, visited the eastern bays of the Lake several times and provided a map with a

considerable number of place names, only some half a dozen of which correspond with our hundred (Petitot 1893: map). Altogether, a score of men, including explorers, traders, and missionaries, resided on the Lake for a season or two but I have found no record of any who remained as long as five years until the arrival of A.W. Boland in 1924. Because of the fishing, it was a principal location of the Great Bear Lake Indians.

5. Kwe we q eta (Stone-standing point). This is the first point of land one sees when traveling eastward from the Fishery (4). A large stone may be seen projecting from the water offshore.

6. be [ke] tθe se de gq eta (There was a fight on this point). An element 'ke' is missing from the usual designation which would make the name properly descriptive. This dark, wooded point can be seen from the Fishery (4).

7. wa ne to e li (It comes in alone?). This is a small stream that flows into the Lake behind some islands between points 6 and 8. An Indian named Clement had a camp there in the 1920's.

8. ᑎ kai bi (Canada jay cache). This is a well-known landmark known in English as Whiskey Jack Point.

9. 'ka ke de yi de le (Red willows --?). A stream that flows into the Lake where red willows grow adjoining the beach. A fish weir was placed in this stream.

10. wə ne ye ti (Low sandy point). This point, correctly described, was called Fox Point in English because a trapper named Peter McCullom once caught foxes there. It appears to be the same as that named L'oue-ya on Petitot's (1893) map.

11. θYu ai zi (Fish mountains). This is a general term for the range of hills paralleling the shore of the Lake between the Fishery (4) and Russel Bay (12).

12. si' a (Translation not known). This place name covers the whole foot of Russel Bay. Indians fished there in the fall before dispersing for the winter.
13. si' a du (Island in 12). Actually what appears to be an island when one first approaches from the sea, or southward, is not an island as it is connected to the north shore of the bay.
14. be le we da we šu (Translation not known). This is a small sandy stream near the bottom of Russel Bay (12).
15. ko ke yai ge' (In the middle, or between). This name is given to an area between Russel Bay (12) and Deerpass Bay.
16. ne da we ši (Hill alone?). This term refers to a hill about 150 feet high near the beach at the westerly point of entrance to Deerpass Bay.
17. no ye' e' (Where they swim across -- this expression is particular to caribou crossings). The place name for the foot of Deerpass Bay.
18. nai li a (Junction of two streams). Two streams flow together before emptying into Deerpass Bay on its north shore. Indians moving along the northerly shore of Keith Bay in canoes cross between this point and Hill Alone (16). This is apparently the Né-érékèni of Petitot's (1893) map.
19. eta čo (Big point). This term is used for the whole large peninsula that separates Keith and Smith bays. Petitot (1893) gives the name as Éta-tcho.
20. eta de' de le (Red point). The northeast tip of Big Point (19). This barren point has a reddish color when seen from a distance as does the point directly across Keith Bay which bears the same name (cf. 69).
21. eka du (Fat island). This island marks a crossing point for Indians in canoes going or returning from the north shore of Smith Bay.
22. ka kwe (Willow rock?). This term refers to Bell Bay and the surrounding area. An autumn fishing area with Indian camps during the autumn and spring.

23. ta tue' (Bluefish lake). This significant landmark should not be confused with the insignificant lake of the same name near the Fishery (cf. 2).

24. tu ye ta (Among the lakes). This term refers to the whole area surrounding a group of small lakes that are important as a fishing center in the autumn. They are also a source of muskrats. The locality served as a collecting point for several Indian bands before traveling to the Fishery (4) and to Fort Norman (91) at holiday seasons.

25. ya ka (Translation not known). A conical hill on a comparatively flat plain that serves as an important landmark.

26. ka tue (Willow lake). A sizable lake inland from the Fishery (4).

27. θi ue ča ni li ne (Whitefish River). This is a river of notable length that flows into the foot of Smith Bay. Large whitefish from the Lake swim up this river in high water but cannot do so at other times. Distinguished as the territory of one Indian family of great reputation. Petitot (1893) spells the name L'oué-tcha.

28. ži e ni ne (Berry land). This is a general term for the hills back of Smith Bay and it may be assumed that they produce significant crops of berries.

29. ne ye a (Translation not known). A general term for the low hills extending behind and parallel to the north shore of Smith and Dease bays. There are various autumn fishing sites along the north shore itself, but they fail after the end of the year until late spring.

30. ta ka ne (Translation not known). The term refers to the area at the headwaters of the Anderson River. Indians fished there in January for inconnu through holes in the river ice which are open even in extremely cold weather apparently because of eddies. Furthermore, it is the only place in the territory of the Great Bear Lake Indians that inconnu may be found, these fish being common in the Mackenzie River, however. It is the point at which Hare and

Great Bear Lake Indians occasionally met.

31. wa ni go kwi we o (Barrens placed alone). This term refers to the barren ground area that lies back of a pass through the hills (29) between the Spruce River (32) and Haldane River (33).

32. ču na u ča ne di (Spruce river). This translation is inadequate. In my personal opinion it is an unpleasant place in the first thaws as it floods widely. On the other hand, the autumn fishing site about one mile to the east of the mouth is one of the best on the Lake. This is apparently the river Petitot (1893) names Tayaékke.

33. te le ze ge di (Blood flowing down river). The Haldane River. According to tradition, the name derives from a fight that occurred there with the Chipewyan Indians. It is not explained how the Chipewyans reached there although it is recorded that early travelers such as Hearne and Franklin brought Chipewyans northward with them.

34. nai e li (Twin rivers). A river which converges from two main sources and flows into the Lake near its northernmost point. An autumn fishing and hunting camp, the Indians traveling north toward the barrens after game.

35. eka du (Fat island). This is one of three islands named Fat (21, 54). The name is of uncertain origin but the term "fat" or "oil" is one denoting excellence for one reason or another, if not actually referring to the food itself.

36. ta čo čo (Translation not known). This term is used for the general area at the foot of Dease Bay. Next to the Fishery, it is the most important historical locality as a wintering place of explorers, fur traders, and missionaries. Fort Confidence was built at the foot of Dease Bay by John Ritch of the Dease and Simpson expedition of 1836-39 and was used as their headquarters for two years (Simpson 1843:199, 394). The fort was reconstructed by John Bell

and others of the Richardson expedition in August 1848 (Richardson 1851:1, 336). These buildings, already in ruins, burned a few years after Hanbury's brief visit in August, 1902 (Hanbury 1904:241; Douglas 1914:143).

37. ta čo čo di (Ta cǎ cǎ river). Dease River.

38. ya ti tu (Priest lake). Lake Rouvier. This place name is obviously not aboriginal and probably supplanted an earlier one as Father Rouvier did not visit the area until 1911 (Douglas 1914:136).

39. ka yi tu (Willow lake). The Dismal Lake, so-named by Thomas Simpson (Richardson 1851:2, 332), consists of a long lake with narrows making it appear as three (Hanbury 1904:213-215). The locality, I believe, should be farther east than is shown on our map. It is in this area that the Indians occasionally came into contact with Eskimo.

40. ya ma tu (The ocean. This word is apparently a corruption or slang form of ya wa tu). This term for the Arctic Ocean has been included as the Indians are aware of the great sea to the north and speak of it in connection with the Coppermine River (41).

41. son di (Translation not known). The Coppermine River.

42. ža di (Louse river). This is the Kendall River which flows from Dismal Lake (39) into the Coppermine River (41). It was named for E.N. Kendall of the Franklin Expedition by Simpson (1843:231).

43. di č̣i du (Stick island). This is an island of scrub growth in the barrens. Vilhjalmur Steffansson wintered there in 1910 (cf. Douglas 1914:148). It was a headquarters for Indian hunting parties and occasionally for Eskimo.

44. Ga ši (Rabbit mountain). This is a hill about 12 miles east of the foot of Dease Bay. It was used by the brothers George and Lionel Douglas as an observation place when they wintered on Dease River in 1911-12. They record the Indian name as Rabbitskin Mountain which may be a variant, if not an error (Douglas 1914:96).

45. dīŋ ka (Narrows). The term refers to the narrows on both sides of the island which projects into the foot of Dease Bay. It is the site of a winter fishing camp.

46. ta ze če(?) (Boiling bluefish). This is a well-known fishing place and John Richardson's party apparently fished there as early as August, 1826 (Franklin 1828:278-279).

47. na ka (Translation not known). This term is used generally for a whole group of small islands on the south shore of Dease Bay.

48. e cɔ du (Excrement island). This is a single island, not two as shown on the map. The name derives from the caribou excrement found on the island.

49. be zi čo zu e (Big bull caribou mountains). This place name refers to three prominent conical peaks northwest of Bear Breast Hill (50).

50. sa ʔo (Bear breast). A lone hill on the east side of Little Open Water Bay (51) which suggests a human breast and is a notable landmark near the end of the peninsula that separates Dease and McTavish bays.

51. ta wo ya (Little open water). The small bay a few miles northeast of the tip of Caribou Point (52). Indians camped on this bay at all seasons but especially through the winter and spring.

52. eta čin la (Point --?). The whole end of the peninsula dividing Dease and McTavish bays commonly called Caribou Point in English although the Indian term is not recognizable as such. Petitot (1893) also gives Éta Tchin-la.

53. eta čin la lo (Point --? -- tip). The tip of Caribou Point.

54. eka du (Fat island). An island off the tip of Caribou Point being one of several of the same name (cf. 35).

55. du čo (Big island). A large island lying off the central part of the north shore of McTavish Bay (cf. 65). The Indians had a winter camp on the island.

56. ta ka čo di (Translation not known). A river flowing into McTavish Bay from the north.

57. no ga du (Wolverine Island). A small island off the north shore of McTavish Bay.

58. ka ye ta (Among the willows). The narrows created by a group of islands at the foot of McTavish Bay. This is Petitot's (1893) koritya.

59. su xo či (Shelter of Big Spruce). The mouth of the river which debouches into the foot of McTavish Bay. The river itself is said to have no name although is distinguished by a waterfall about 50 feet high with three above it 10 to 15 feet high.

60. mo la be ke we da du (White man buried there). An island on which a member of a Franklin expedition is said to have died after cutting his knee on a trip from Fort Simpson with mail. The Indians have a winter camp there.

61. ka wo če (Translation not known). The foot of Hunter Bay.

62. kwe ta (Among the rocks). A general term for the high country lying parallel to the east shore of McTavish Bay.

63. be kwe ni wa (It is far around). The point southwest of Hunter Bay. The water is shallow there making it dangerous for canoes in rough weather. The Indians say that the adjacent small islands are almost entirely composed of the bones of individuals who have drowned there.

64. kwe e (Rock weir). This is probably the name of the stream known in English as the Camsell River. It was an autumn fishing center with a weir; also a center for fall hunting.

65. du čo (Big Island). The large island shown on the map blocking a sizable bay (known in English as Conjuror Bay) at the mouth of the Camsell River. Actually it is not an island. Petitot (1893) writes it Ndou-tchô.

66. a na ke æ du (Eskimo gun island). A small island outside Big Island (65). The origin of the name is not known.

67. e wi (Translation uncertain but may mean a ghost visible as smoke). The general area at the end of the peninsula between McTavish and McVicar bays known as Leith Point. Behind the long island at the mouth of McVicar Bay was an autumn fishing and hunting camp.

68. tu yi le (The water runs). The mouth of the Johnnyho River which flows into the foot of McVicar Bay. The river is shallow at the mouth and contains (1928) many fish weirs. This was a fall and winter headquarters for Indians with permanent houses.

69. eta de de li (Red point). This is the barren point at the easterly end of Bear Mountain (76). It sometimes has a reddish color when seen from a distance (cf. 20).

70. sa xo zue (Big bear mountain). The ridge of hills paralleling the southeast shore of Keith Bay extending between Red Point and the peninsula marking the middle of that shoreline (72). Petitot's (1893) French transcription of the name is Sa Tchô Jyoue.

71. du ela (Island there). An island off the southeast shore of Keith Bay.

72. eta ye le i čo (Point --?). A distinct point of land marking the middle of the easterly shore of Keith Bay and what the Indians consider the beginning of Great Bear Mountain (70).

73. be ta de (Shallow river). A small stream flowing into Keith Bay from the southeast shore.

74. kwa to ne ti (Translation not known). This is the term used for the harbor in Great Bay (75).

75. kla do e (Great Bay). The southernmost corner of Keith Bay and one end of both the summer and winter trails to the Water Runs (68). This was one of the main settlements of the Great Bear Lake Indians. There were permanent houses there and a summer camp for fishing.

76. gu dai bi (Worm swimming in water). An island off the southwest shore of Keith Bay about which there is connected a myth of a swimming monster.

77. kwi gi (Mosquitoes rotten? -- the last word is questionable). The name for the range of hills paralleling the southwest shore of Keith Bay. Petitot (1893) writes the name Kkwi-tchi.

78. ta ka čo (Translation not known). A river flowing in Keith Bay from the southwest.

Place names on the winter trail from the Fishery to Fort Norman on the Mackenzie River.

79. co' to kwe' e' (Narrow barren lake). The end of the second spell from the Fishery (4), the first being at the edge of the timber near the south shore of Keith Bay. Indians traveling in winter with dog teams stop on the average of every five miles (but quite variable) and make tea, then switch to a new lead team which must work harder than those following. Hence the term . spell.

80. čo' na di (Porcupine river). A tributary of the Great Bear River. The winter trail follows it down to the banks of the latter which still may not be frozen by the end of the year.

81. kwe ne we o (Frozen overflow). A well-known danger spot in winter because of an overflow from a spring of water. A new surface may freeze only to precipitate the unwitting traveler into water with almost certainty of disaster.

82. de ci li (Little river). A small stream flowing into the Great Bear River from the left bank and the first of three desirable camping places at the end of the fourth spell from the Fishery (4) on the Fort Norman trail.

83. čo čo (Big muskeg). A treeless passage approximately ten miles long on the trail which, when unbroken, challenges the traveler to find the continuation on the opposite side.

84. čo tu e (Muskeg lake). A small lake with an island in the middle which is used as a camping place.

85. eta de na tθʔe (Dark ridge). A ridge readily seen as one approaches from the east as one rises into a pass in the Franklin Mountains. The half-way night camp (usually the second for Indians) at the end of the eighth spell is about an hour east of this point by dog team.

86. θʔue ʌq tu e (Poor fish lake). A lake in the pass through the Franklin Mountains. It is the first point in Mountain (Slave?) Indian territory and is not a Great Bear Lake Indian name. It is known in English as Marten Lake. The site is well-known for the fishing and Indians who trap in the Martin River (87) country camp there in the autumn.

87. ta ka čo de (Steep bank river). This is the principal river one crosses on the Fishery--Fort Norman trail. The right bank is about twelve feet high as I know from having carelessly allowed my dogs to go over it. This stream is known in English as Martin River, after George Martin.

88. tu ce ze ne tu e (Loon --? -- lake). This is one of the three usual camping places on the trail and the end of the twelfth spell from the Fishery.

89. ta ki tu e (Hell-diver lake). This lake, named after a small grebe, is one of the series of more than twenty that the trail follows into Fort Norman.

90. de le tu e (Crane lake). The lake nearest Fort Norman on the Fishery trail. This sixteenth spell (or the first if one is driving eastward) is

characterized by a heavy growth of willows.

91. tu le ta (Junction of the rivers). The confluence of the Great Bear River and the Mackenzie. This is the site of Fort Norman first seen by a European, Alexander Mackenzie on July 5, 1793 (Mackenzie 1902:1, 240). The first fort, or trading post, was built there in 1810 (Bryce 1968:390). For some reason the post and its name was transferred southwards upriver about 30 or 40 miles at some time before 1849 where it is described in that year by Hooper (1853:283, 300, map). Apparently it was moved back to the earlier site, as a return to the same or a nearby locale (Castor-qui-déboule) in 1860 is recorded. The post remained there only until 1864, however, when it was removed to the Fishery (4) on Great Bear Lake until 1872, after which it was relocated at the first-mentioned site at the confluence of the Great Bear River and the Mackenzie (Duchaussois 1923:254).

92. be do e (The great one?). The place name refers to the prominent peak one may see to the east from the Mackenzie River forty to fifty miles south of Fort Norman (91).

93. be ka de (Translation not known). The Gravel River, sometimes appearing on maps as the Keele.

94. be u le di (Beule's river). This was the term used in the early part of the twentieth century for a stream flowing into the Mackenzie from the left bank about 10 miles below Fort Norman. Beule was probably a leader of the Mountain Indians although I find no listing of this name in records going back over 100 years.

95. kwe te ni a (Rock standing in the water). This name refers to the prominent rock, or bluff, on the right bank of the Great Bear River where it debouches into the Mackenzie.

96. ka lɔ di (Willow tips river). A stream that flows into the Great Bear River from the north a few miles above Fort Norman (91).

97. ka lɔ (Willow tips). Willow Lake at the head of Willow Tips River (96). A trail leads from the east side of this lake to Overflow Lake (99) and on to the foot of Smith Bay (27). Petitot (1893) writes kkyay-lon.

98. θYu tu e (Whitefish lake). The second of a chain of lakes drained by the Willow Tips River (96). The lake is about 25 miles long. From between it and Willow Lake (97), a trail swings down between the hills east of the Mackenzie River and Willow Tips River (96) to Fort Norman.

99. tɔ kwe tu e (Overflow lake?). This is a sizable fish lake about half way on the direct trail between Willow Tip Lake (97) and Smith Bay (27).

100. xa ca ni li ne (Dry willow river). Only the headwaters of this river is shown (Fig. 1) and that in an area unoccupied by Indians. It is the long river that flows into the Mackenzie at Fort Good Hope where the name has erroneously been translated as Hare Indian River. (The difference between the voiceless guttural stop of the initial letter of ka, [and variants kai, xa], willow, and the intermediate G of Ga, hare, are so alien to Indo-European that a priest who had preached in Athapaskan for a quarter of a century could not be convinced that they were phonemes, especially as the pronunciation varies from group to group.)

It would be an oversight to conclude this section without adding the following.

Sa tu (Bear lake). The name of the lake probably derives from the unusual species of grizzly bears that are found on its shores (*Ursus richardsoni* Reid).

From an examination of the list of 100 place names, it appears that 53 of them refer to rivers, lakes, and ocean, 44 to various aspects of land, and 3 are related to activities (furthermore, the numbers also indicate the per cent

of each category). Of the water-related terms, 23 are general with respect to rivers or streams while 5 indicate specific aspects of them such as the headwaters, mouth, a confluence, or an overflow. General references to lakes comprise 14 more terms, while 9 denote bays including 2 designating the narrows within them. Finally, among the total of 53, there is one term designating the outlet of a lake and also the word for ocean.

It would appear obvious that in the country of the Great Bear Lake Indians, rivers and lakes are probably the best and certainly the outstanding signposts for anyone traveling across country in either winter or summer. They also represent a possible source of food which makes them even more significant. In one case, that of the overflow, danger is threatened.

When we turn to the 44 place names designating aspects of the land, the largest number, or 14, represent promontories, peninsulas, or other points of land as seen from the water. Furthermore, island names make up 10 per cent of our list, most of them appearing along the shores of the great Lake. Another group of 7 place names refers to hill or mountain ranges, and an equal number to specific hills or peaks. Finally, there are 6 place names indicating more specialized areas of land as, for example, 3 pertaining to the area at the base of a peninsula, one to an area of small lakes, one to a section of barren grounds, and one to a stretch of muskeg.

The large number of promontories, peninsulas, or other points of land as seen from the water clearly correlates with the fact that Great Bear Lake is the focal center of the Indian territory, and as one moves along its edge in summer with canoe or in winter with dogs and toboggan, jutting points of land as well as islands are the most obvious guides. Even some of the hill ranges and peaks are significant for those traveling on the huge Lake. It should perhaps be emphasized at this point that the Indian term for an island may embrace several

if they are small and clustered together.

Finally, there are 3 instances of activity-related place names. One indicates a caribou crossing, another mentions a camping place, and the last, a grave.

If we consider the 100 place names in terms of their content rather than places they designate, we discover that 51 are more or less descriptive of the areas they indicate, 15 are animal or fish names, 8 describe or suggest some activity or incident, and 2 have reference to particular persons. Of the remaining 24 place names, the translation is not known or uncertain.

It was long ago pointed out that one may expect the oldest place names to have lost their meaning (Sapir 1916:56-58). New names, at least among the Great Bear Lake Indians, may perhaps be gauged by their descriptive length, although exceptions to the rule must be considered. Unfortunately, it cannot be implied here that even the majority of the 24 place names for which adequate translations are not available have lost their meaning to the Indians. In some cases, I simply did not, or could not, record them when the data were gathered over forty years ago. As has been said, I was motivated more by practical demands and a study of the distribution of Indian bands than by an intent to make a specific study of place names. Had the problem originally been so conceived, undoubtedly more terms would have been compiled and more effort placed on their analyses. On the other hand, there is a certain virtue that lies in the indirectness of the work since the aggregate of place names probably represents those most commonly known and used. What results when a Northern Athapaskan Indian is pushed to name a place for which there is no generally recognized term is a new descriptive word constituted of elements that unite more psychologically than morphologically. Thus the procedure can become endless. As a

last word I must add that some deficiencies in this paper may be attributed to a memory that was dependable for a reasonable period but has not withstood forty years of academic dilution.

Phonetic Key

a	as in German <u>Mann</u>
e	as in <u>met</u>
i	as in <u>bit</u>
o	as in French <u>côte</u> or English <u>coat</u>
u	as in <u>fool</u>
ɔ	as in <u>law</u>
a', e', etc.	long vowels
ɤ, ɸ, etc.	nasalized vowels
w	approximately like Spanish <u>v</u>
d, g	as in <u>dog</u> , <u>god</u>
G	intermediate stop
t, k	as in <u>take</u> , <u>Kate</u>
s, z	as in <u>said</u> , <u>zone</u>
ʃ, ʒ	as in <u>mash</u> , <u>azure</u>
ʒ ʒ̣	similar to <u>dz</u> of <u>adze</u> , <u>j</u> in <u>jam</u>
θ	like <u>th</u> in <u>thin</u>
c, č	similar to <u>ts</u> in <u>cats</u> , <u>ch</u> in <u>chill</u>
l	as in <u>lead</u>
ɭ	like Welsh <u>ll</u>
ʌ	similar to <u>tl</u> in an infant's pronunciation (<u>dlass</u>) <u>glass</u>
ʔ, ʔ̣	glottalized stops, corresponding to the aspirate stops t, k
x	as in Russian <u>xolodno</u>
ʏ	as in Russian <u>boʏa</u> ('of God')
ʔ	glottal stop
m, n	as in <u>man</u> , <u>nan</u>
ŋ	as <u>ng</u> in <u>sing</u>

The indications of tone, inconsistently recorded, have not been included in the phonetic transcription.

REFERENCES

- BRYCE, George
1968 *The Remarkable History of the Hudson's Bay Company.* 2nd. ed.
New York. [originally published 1960]
- DOUGLAS, George M.
1914 *Lands Forlorn.* New York-London: Putnam.
- DUCHAUSOIS, P.
1828 *Narrative of a Second Expedition to the Shores of the Polar Sea.*
London: John Murray.
1923 *Mid Snow and Ice.* London.
- HANBURY, David T.
1904 *Sport and Travel in the Northland of Canada.* New York: E. Arnold.
- HOOPER, W.H.
1853 *Ten Months Among the Tents of the Tuski.* London.
- MACKENZIE, Alexander
1902 *Voyages from Montreal Through the Continent of North America,*
2 vols. New York. [also earlier editions]
- MASSON, L.R.
1889-90 *Les Bourgeois de la Compagnie du Nord-Ouest.* 2 vols. Quebec.
- OSGOOD, Cornelius
1932 *The Ethnography of the Great Bear Lake Indians, in National*
Museum of Canada Bulletin 70. pp. 31-92.
1953 *Winter.* New York: W.W. Norton..
- PETITOT, Emile
1893 *Exploration de la Région du Grand Lac des Ours.* Paris.
- RICHARDSON, John
1851 *Arctic Searching Expedition.* 2 vols. London: Longman, Brown,
Green and Longman.
- SAPIR, Edward
1916 *Time Perspective in Aboriginal American Culture.* Anthro. Series
No. 30, *Geological Survey Memoir 90,* Department of Mines. Ottawa.
- SIMPSON, Thomas
1843 *Narrative of the Discoveries on the North Coast of America...*
During the Years 1836-39. London: Richard Bentley.
- The World Almanac and Book of Facts.
1967 New York.

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Résumé

Des sources d'information variées, notamment des documents d'exploration, des études ethnographiques d'ordre général, des travaux personnels effectués sur le terrain ainsi que les résultats d'un petit nombre de tests psychologiques servent à établir la structure de la personnalité de divers groupes athapaskan septentrionaux vivant dans un milieu culturel en évolution. Le réaction des Athapaskan face aux changements rapides est alors comparée à celle de leurs voisins, les Esquimaux. Aucune conclusion rigoureuse ne se dégage de l'étude, mais, à la lumière des résultats obtenus, les facteurs psychodynamiques ne fourniraient pas l'unique explication des types de personnalités du Nord. Selon l'étude, il existerait des différences entre les types de personnalité athapaskan et esquimaude et, conséquemment, ces deux groupes réagiraient différemment dans un milieu culturel évoluant rapidement. L'Indien est fortement introverti; s'il doit répondre à des exigences excessives, il perd confiance dans ses capacités et son initiative. Si cet échec est grave, il manifesterait en outre des sentiments d'anxiété et de culpabilité. En revanche, l'Esquimau est doté d'une personnalité moins complexe et moins vulnérable que celle de l'Indien.

Abstract

Various sources of information, including exploration documents, general ethnographic investigations, personal field work and results from a limited number of psychological tests, are used to assess the personality structure of several Northern Athapaskan groups in a changing cultural milieu. In turn, the Athapaskan response to rapid change is compared to that of the neighbouring Eskimo. The results from the study are inconclusive, but suggest that psychodynamic factors are not the sole explanation for northern personality types. The study suggests that variations between Athapaskan and Eskimo personality types are extant and that consequently they exhibit different responses to rapid culture change. The Indian is strongly introverted and when excessive demands are made his feelings of capability and resourcefulness collapse, with the accompaniment of anxiety and guilt when his failure is significant. Conversely, the Eskimo possesses a less complex and less vulnerable personality than the Indian.

Purpose and Definitions

My purpose in this paper is to review information provided by various observers, including myself, who have studied the Indians of northwestern Canada and Alaska. I will also briefly compare Athapaskan behavior as manifested in one situation with the behavior of other native ethnic groups in the same situation.

At an early stage of writing this paper I thought of including more southerly Athapaskan groups -- the Sarsi, Apache, and Navaho Indians -- in the range of comparison. I rejected the idea chiefly because including them would have confronted me with the complex task of trying to distinguish psychological features that the southern people have shared with their northern cognates since their migration south from other traits tied to the ecological settings of the southerly tribes or learned from culturally different adjacent groups, like the Plains and Pueblo Indians. Whether there actually is a pan-Athapaskan social personality, I do not know, but I entertain the hypothesis that there is. Consequently, I could not simultaneously handle both the Northern and Southern Athapaskans without applying the hypothesis of pan-Athapaskan elements. The difficulty of finding such elements, however, is compounded by the fact that the methods and theoretical perspectives used in studying, say, the Navaho have been different from those used in studying the Kaska or Slave. Even in the northern area, as we shall see, different methods having been used for different groups makes comparison of the results obtained very difficult. When the screens used to obtain data are different, it becomes extremely difficult to find a common basis for interpreting the results (i.e., to know when we are dealing with the same or different facts). For example, using Florence Kluckhohn's (1950) value orientations, when the Navaho Indians turn out to prefer a collateral over a lineal orientation, is that equivalent or at least closely

related to the high evaluation of personal autonomy that observers have noted among Northern Athapaskans? Of course, we could just compare objective Rorschach ratios and frequencies and use conventional interpretations of those facts, but I do not find that a satisfactory approach to studying personality in its cultural context.

A word about my use of the terms "psychological traits," "personality," and "the individual." By a psychological approach I mean not merely attention paid to covert phenomena or mental facts but to any behavior that is useful for characterizing persons or individual behavior rather than groups. The term "culture," on the other hand, refers to group events and invites use of group-oriented concepts like magic, war, family organizations, partnerships, shamanism, and myths. To be sure, group events--for example, magic or myths--can also be interpreted in a way that provides information about the personal behavior of individuals who participate in those events. In general, however, I distrust such interpretation when it is very indirect or when it requires many prior assumptions.

Types of Sources

Psychological information about Northern Athapaskans is of two vintages. First, we have data reported more or less incidentally by observers who were not primarily studying individuals but were concerned with exploration or the study of culture. Most of the information published before 1947 is of this type. Subsequently we begin to get information obtained through observation specifically directed to individual behavior processes, for example, by anthropologists interested in culture and personality, in belief systems, and in certain kinds of competence.

I will initially review the older information, collected by explorers, like Franklin, and by such ethnographers as Lowie, Morice, and Osgood. Then

I will take up psychological studies that began to appear in the late 1940's.

Explorers and Early Anthropologists

The early nineteenth century explorers in the Mackenzie basin have comparatively little to say about Indian behavior. The Eskimo seem to have impressed them more vividly and also to have vexed them more. It is worth noting that the Loucheux, or lower Mackenzie Kutchin, adapted with considerable success to the opportunities for trapping and trade presented to them by the early purveyors of trade goods (Franklin 1828:99-109, 167, 195-197). In fact, the Indians set themselves up as middlemen between the white men and the Eskimo and sought jealously to hold on to their monopoly by discouraging Eskimo from visiting the upriver forts. Later, Indians embraced Christianity with considerable fervor while the Mackenzie Eskimo and immigrant Eskimo who joined them stood off the Anglican and Roman Catholic missionaries for a long time (Honigmann and Honigmann 1970:Ch. 2). I do not claim that specific features of the Loucheux Indian personality predisposed the Indians to become traders, monopolists, and, at Fort MacPherson, fervent Anglicans. I do not know what complex of historical factors can be held responsible for decisions the Indians made during the formative period of the new lower Mackenzie culture or for the Eskimos' reactions. I regard the Indians' behavior for what it is: indicative of a receptive attitude to change, evidence of adaptability, and a sign of a certain type of competence. These are traits worth keeping in mind until we come to the present-day adaptation of Indians in Inuvik.

Judging from what Franklin says, the Indians were less importunate, bold, and perhaps less overbearing toward the white man than were the Eskimo. Positively speaking, Franklin's description suggests reserve. Yet, we should not overlook Richardson's (1851) report that Indians tended to be lively and cheerful.

With considerable consistency, a number of early twentieth century ethnographers and travelers writing about the Northern Athapaskans between 1909 and 1937 describe them as receptive and adaptable. Lowie (1909) speaks of great susceptibility to extraneous influences as an Athapaskan trait, but he may have meant this to apply more or less figuratively to the culture rather than to the personality. Boas (1910) refers primarily to culture rather than to individuals when he ascribes Athapaskan adaptability to lack of cultural intensity in that culture area. But then he adds that the adaptability of the people is a well-defined characteristic, so clearly he hypothesized isomorphy between a cultural characteristic and a psychological trait. Morice (1928:77) also speaks of the wonderful receptivity of the Northern Athapaskans. Bethune (1937:49) and Jenness (1942:35) sound a different note. The former identifies the Athapaskans as lacking enterprise and being the least ambitious Indians in Canada. Jenness blames undernourishment for making them "less virile" than other Indians. Jenness (1942:35) adds that inadequate nutrition explains "why, generally speaking, they have shown no resourcefulness in meeting the changed economic conditions of the last 100 years, or any desire to adapt themselves to their new environment....in all occupations connected with industry and commerce they have shown themselves hitherto inefficient and unreliable." He saw a need to restore the Indians' morale.

Obviously Jenness' appraisal of the northwestern Canadian Indians conflicts with what I reported using sources dating 90 or 100 years earlier. It is possible that I have misinterpreted Franklin and that the Indians were not adapting as well as professional trappers and middlemen in the fur trade. I doubt such a conclusion to be warranted because Jenness, in 1941, said that the Indians were in many cases still well adapted to the fur trade, but for

some reason they were not adapting their culture to new demands or to an altered social environment. Their adaptability appears not to have extended to a way of life that cuts them off from a comparatively traditional orientation to forest living.

Cornelius Osgood is no doubt the anthropologist who has invested the greatest amount of time and effort in studying Athapaskan culture. Because of his nearly exclusive interest in aboriginal culture he has little to say about the Indian as an individual, but occasionally he does adopt an individual perspective. For example, in discussing modern conditions among the Alaskan Tanaina he observes that in the "cooperative village" of Tyonek the Indians are attempting successfully to adapt their social culture to modern conditions. Other Tanaina groups, however, have less to bolster their sagging morale (Osgood 1937:194). He perceives a historical tendency for the Kutchin to have moved away from communal activities toward increased individualism accompanying culture change (Osgood 1936:172). He reports how some Indians are eager to learn about their bygone native culture. He specifically identifies the Ingalik Indians as individualistic in their hunting and fishing activities (Osgood 1958:280). Elsewhere he refers to the Athapaskans generally as taciturn and introverted (Osgood 1940:6), and in a class once (on December 12, 1943, according to my notes) described the Athapaskan personality as being constructed on attitudes that conspire against warm, deeply emotional surrender in human relations. Context makes it clear that he was referring to a conflicting attitude toward sex expressed in the patterned struggle that regularly accompanies premarital sexual relations among the Ingalik (a pattern I also discovered among the Kaska Indians).

*Psychological Studies*Kaska Indians

With the deliberate aim of studying contemporary Northern Athapaskan communities as functional social systems there also began, in the early 1940's, the full-scale study of those people's psychological make-up. The first psychological study of an Athapaskan group--the Kaska Indians--was undertaken by me in 1944-45, over 10 years after A. Irving Hallowell had started his personality research among the northern Algonkians. The method I followed was to infer motivating psychological traits. I did so in two main ways: first, through the direct study of individuals by interviewing and psychological testing, and second, through analysis of cultural traits and practices. The type of dance music people preferred (exemplified by the tune, "Take Me Back to Tulsa") and the nature of their moccasin decoration are instances of cultural traits that I consulted for clues to Kaska motivations. Together with those, I also sought to gauge their inner life by analyzing drinking practices, childrearing routines, use of guns, and so on (see Honigmann 1940:18-27).

From both sorts of data I concluded that Kaska personality is governed by a small number of basic motivations; first, a high evaluation of personal independence that makes their interests self-centered rather than group-centered. This is what observers have called individualism. A second basic motivating conditioning is the practical and resourceful attitude they maintain toward the problems of living; with this I group their preference for concrete thinking and present-orientedness. Third, their state of mind tends consistently to subordinate necessity, duty, and hurry to personal inclination; in other words, they are not rigid, but flexible and tolerant, sometimes even indecisive, and not the victims of a severe conscience. Fourth, they value suppressing interpersonal hostility. Fifth, despite their independence and resourcefulness they

also become dependent under certain conditions. Finally, they manifest a strong inclination to remain aloof from strong emotional experience and emotional involvement. That is, they are emotional suppressors. I have also formulated the Kaska world- and self-views in more general terms. The world-view wavers between the idea that experience is manageable and the idea that life is uncertain. The self-view wavers between the value attached to self-reliance and a readiness to abandon striving and revert to passivity when things get tough.

Retrospectively, I have become aware of the extent to which my research among the Kaska was based on a disproportionately great number of observations made among the Upper Liard Indians and, within that subsystem, the members of one kin-community--Old Man's. Contrary to what I said I would do, I did not, first adequately establish the psychological homogeneity of the Kaska as a whole in order to demonstrate probable lack of bias in closely studying only a small opportunistic sample of those Indians (see the same criticism in Henry and Spiro 1953:427). Comparative studies made among the Slave and Dogrib Indians suggest that internal variation is present among the Kaska, but those studies also suggest that the generalizations I offer concerning Kaska personality traits are probably reasonably prevalent in that group, for a number of the same ones recur in the other groups. Hence, they are probably generic to the Athapaskan people in western Canada. The high evaluation of personal independence, present-orientedness, suppression of hostility, dependency strivings, and emotional suppression are specific traits that I noted among the Kaska whose recurrence in other Athapaskan groups has been demonstrated by other observers.

Slave Indians

The next venture into psychological work among the Canadian Athapaskans occurred among the Slave Indians in 1951-52, and was undertaken by June Helm and Teresa Carterette (Helm, DeVos, and Carterette 1961). Their 14 months of

fieldwork sought not only modal personality patterns characterizing a small kin-community, the Lynx Point Slave, but individual and family-linked variations in personality as well.

Several Lynx Point "behavioral norms" suggest specific personality traits or, in some cases, directly reveal such traits. The norms reported by Helm include (1) lack of any specific recognition of a particular individual or situation; (2) noninterference in the lives of others; (3) a tendency to retreat from sources of frustration, irritation, or unpleasantness; (4) holding a grievance; (5) severe checks on expression of hostility; and (6) discomfort with the expression of aggression by others. A seventh characteristic of Slave Indian behavior, easy shyness, may express the people's discomfort with the experience of strong emotion, even when it is warm and positive in tone. In addition to those norms, Helm reports that social sanctions within the community are diffuse and informal and that they include the ready use of gossip. Seven of the 8 Slave traits are quite similar to behavior I noted in my report on the Kaska. The exception--lack of specific recognition of individuals--I did not specifically report for the Kaska. I interpret the high degree of correspondence between the Slave and Kaska in part as evidence of considerable psychological and cultural homogeneity among the upper Mackenzie drainage people. The high degree of reliability among the small number of ethnographers involved can probably also be explained by the fact that we were all, at least for a time, working with a similar low-level common-sense psychological theory derived from similar cultural backgrounds. Personality, according to that theory, is what people reveal in behavior and consists primarily in traits that strike a foreign observer as notable or different.

Helm and Carterette aided by DeVos have also reported on the "Slavey modal personality" as they derived it from empirical observation plus analysis of projective test results (Helm, DeVos, and Carterette 1961). The Lynx Point people, they report, reveal constraint in interpersonal relationships and normally severely suppress their own hostile impulses. They also fear aggression from others. They evaluate personal autonomy highly and rely primarily upon techniques of avoidance, withdrawal, and flight to deal with anxiety arising from aggression or from infringement on personal autonomy. The projective test material reveals direct, undisguised oral concerns, such as the authors believe Indian men may adequately sublimate; for hunting gives men cause for pride and allows them to be providers of food. Sex seems to be a tension point among the Slave as well as among the Ingalik and Kaska. Slave Indian ideational ego defenses are not complex, and the people do not project themselves far into the past or future.

Although the members of the three families who are represented by the foregoing modal personality patterns show variation in personality traits, I will not go into the nature of such variation.

Dogrib Indians

Helm sent me two chapters of a manuscript in which she and George DeVos (n.d.) interpret Rorschach and TAT test records obtained from the Lac La Martre community of Dogrib Indians (see also Helm and Lurie 1961). Not only does the manuscript provide hitherto unequalled insights into an Athapaskan group's psychological make-up, but it skillfully compares the Dogrib projective test results with test data from the Slave Indians obtained by Helm and likewise analyzed by DeVos. American normal and neurotic subjects as well as other samples are also used to highlight comparison. DeVos and Helm make one thing clear: even comparatively nearby Athapaskan groups (like the Lynx Point Slave

and Lac La Martre Dogrib) contrast in the frequency with which they manifest particular psychological traits. Yet common psychological factors also connect such groups.

In stating insights into Dogrib personality that I have gleaned from Helm and DeVos' manuscript, I may be attaching undue weight or significance to isolated psychological characteristics whose proper meaning can only be gauged from a context that the authors have not yet fully written. I did not attempt to construct such a context from the data they provide. With that caution, let me set out some of the highly interesting discoveries reported in their manuscript.

Compared to the Slave Indians, the Dogrib show much more lack of socialization for affective reactivity. They exhibit a pronounced tendency toward diffuse anxiety as a predominant feeling in emotional life. Thinking tends to be stereotyped, and there are very few Rorschach responses of a hostile nature. Nor does hostility appear to be turned inward. Whatever may be the problems or incapacities of the Dogrib in achieving conscious awareness of empathic relationships with one another, they do not cause manifest tension. Nor do they induce the Indian to represent his inner state to himself in an ideational way. His Rorschach records give the impression of a placid rather than a disturbed individual. Affective expression, we have said, is not hostile; neither is there evidence of positive affective expression, and the same thing is true of the Slave. The Dogrib seem to be less dependent than the Slave and less dependent than the American normal group of subjects with whom the Dogrib and Slave records were matched. Yet the maladjustment score of the Dogrib is higher than the Slave and higher even than that of an American neurotic sample, though it varies from one family to another. A large proportion of the total average maladjustment is contributed by breakdowns in ego functioning, a factor lacking among the Slave and American normal samples. Members of a number of Dogrib families deviate from ideal standards of logic,

accuracy, and mature objective thinking. In fact, the best Dogrib families come out more poorly in that respect than any of the Slave families. Whereas the Slave reveal a relatively high proportion of disturbed thinking involving obsessive-compulsive defensiveness, sometimes with a paranoid flavor, the Dogrib records furnish no instance of this type of preoccupation, one that occurs in about 17 percent of the American normal sample.

Everyone must agree that the Rorschach test applied to the Dogrib has produced a number of psychological insights that could not have been easily obtained only by observing the people in action or by interviewing them unaided by a projective instrument. Similarly, the TAT test given to the same group reveals considerable unexpected information about those Athapaskan Indians' personal style of life, even though, as you will see, the interpretations are frequently given in terms of "zero patterns," (i.e., psychological characteristics lacking among the people studied).

The TAT records indicate that Dogrib culture orients its members to the immediate and the present and does not posit long-range goals or accumulation from one year to the next. Nor does the culture foster long-range achievement motives. The individual fails to learn a set of expectations or concerns anchored in past or future. Neither is personal adequacy or worrying about success or failure prominent in the Dogrib system of ideation. The culture neglects to emphasize differential ability and performance between individuals and does not instill in the individual much awareness of the relationship between ideal expectations that a person may hold for himself and his actual capacities.

When goal achievement appears in Dogrib as well as in Slave records it is characteristically directed toward the immediate reward of money. The Slave, however, are more concerned with their inadequacy and their uncertain ability to obtain goals than the Dogrib, who show little interest in standards. Forceful

self-assertation is the basic mode of coping in both groups. Dogrib also lack interest in matters pertaining to dominance or submission, in authority possessed by one generation over another, or in any other types of authority. The Slave Indians likewise do not structure interpersonal relationships in terms of superordination and subordination. Neither group dwells on the struggle of wills between parents and children. The relationship to father and mother is particularly interesting. Fathers are not to be obeyed by young men because of paternal authority per se. The older man is seen as merely having the best interests of his son at heart and as possessing the wisdom of experience with which to help the youth. There appears to be no culturally defined pattern for the way a young man is supposed to relate to his mother; no nurturance is involved in the relationship as seen from the youth's part. The strong affective role of a mother is directed almost solely toward an infant child and does not continue as the man grows up. There is, however, more continuity of affection between a woman and her daughter. Dogrib records reveal great concern with such critical events as the possible loss of love objects; with separation, abandonment, and deprivation. Impulses toward affiliation and nurturance are especially evoked by images of sickness and death. The authors (Helm and DeVos n.d.) say that the records have a prevailing depressive tone and that apathy is an overwhelming impression gained from them.

Difficulty in interpreting Rorschach and, to a lesser extent, TAT results in terms of the relatively non-technical common-sense concepts of personality that Helm and I used in studying the Slave and Kaska Indians restricts me in trying to estimate the extent to which Dogrib personality corresponds to the overt social personalities established for the former two groups. Furthermore, the Rorschach test taps features in inner life that cannot be easily inferred from data obtained by observing on-going behavior or through conversing with

subjects. The TAT results are more readily interpreted in terms of common-sense personality theory, but they also reveal behavior not evidenced in those samples of behavior directly observed among the Slave and Kaska. (As a matter of fact, information revealed by the TAT about the man's relationship to his parents is in some degree at variance with what I inferred on the basis of direct observation and interviewing among the Kaska concerning such relationships). Yet despite the problems of comparison presented by the nature of the Dogrib data, several correspondences are fairly obvious. Like the Slave and Kaska, the Dogrib are emotional suppressors (the Dogrib even more than the Slave); they put a damper on hostile impulses, manifest a present-time orientation, employ concrete modes of thought, and stress personal independence and egalitarianism. In the Dogribs' lack of concern regarding the relationship between ideal expectations and actual capacities I see evidence of what in the case of the Kaska I have called flexibility and tolerance.

Kutchin Atomism

One feature of northern Indian life pointed out by several anthropologists who have worked in the subarctic region is its structural atomism. The term means that native society possesses comparatively few forms necessary for group action (Honigmann 1968:220). The small band comprised of two or three families is the largest maximal group uniting in effective common action, and with the coming of the fur trade perhaps even that group lost some of the cultural activities, like group hunting, that had formerly made it important. As a result, the family emerged as the largest cooperative unit in the Indian community. On the level at which I speak, atomism is a social or cultural trait, an aspect of social structure, and a product of the low population density of the region. Although social factors may be important in structuring northern atomism, I believe the trait is also rooted in, or supported by, the psychological

character of the Athapaskan Indians, particularly in their preference for strong personal autonomy, reluctance to infringe on the rights of others, and disinclination for superordinate-subordinate systems of relationship.

Richard Slobodin in his fieldwork among the Peel River Kutchin in 1938-39 and 1946-47 ascribes social atomism among those lower Mackenzie people to a high level of free-floating anxiety. The anxiety gives rise to much social distrust and to projected hostility, attitudes that are socially centrifugal in their effect, resulting in extreme individualism or atomism (Slobodin 1960). As Hallowell (1946:222) says, and Slobodin (1960) quotes him, it is impossible for people to get together when their outlook is colored by the possibility of malevolence.

Asen Balikci (1963, 1968) points to similar behavior among the Vunta Kutchin. He finds the Old Crow Indian community replete with covert interpersonal antagonism. Ingroup relations are characterized by suspicion, hypocrisy, hostility, jealousy, and hate, the first three at least being traits that I witnessed among the Kaska Indians. Surface amiability among the Vunta Kutchin mitigates the potentially disruptive effect of the negative attitudes, but presumably sufficient amiability is not maintained to counter the widespread marital strife that Balikci refers to.

But Slobodin (1960) reminds us that there are also centripetal forces at work in Kutchin social organization. Communal bonds do exist and are valued for the way they bind people to one another. The positive forces counteracting centrifugal tendencies he likewise relates to the psychological trait of anxiety, whose effect he traces in defense mechanisms. One of those culturally founded defenses is fear contained in the belief that too much social isolation dehumanizes. (I obtained some evidence tending to support Slobodin from a Metis informant in Inuvik who ascribed a woman's subnormal mentality as due to the

prolonged isolation that her jealous white husband had imposed on her, keeping her locked in a trap line cabin.) Slobodin recounts myths of persons who became alienated from the community, at first physically and then socially, and who were consequently feared or mistrusted. He also refers to the popular Athapaskan tradition of the lone, feared Nakani, or Bush Man. The Kutchin think of loners with mixed feelings: "fear and suspicion on the one hand, pity and friendliness on the other" (Slobodin 1960:127). Such beliefs, he explains, symbolize the importance of communal bonds in a socially atomistic community and reinforce centripetal tendencies in the social organization.

Implications for Change

In assessing the high degree of correspondence between psychological interpretations of Northern Athapaskan groups it is worth keeping in mind that such correspondence occurs despite the fact that several years separate studies made in different groups and that the economic conditions also differed markedly. For example, the Kaska in 1944-45 were experiencing a boom in fur prices and were financially remarkably well off. On the other hand, the Slave in 1950-51 were suffering from the post-war collapse of fur prices and experiencing considerable financial insecurity (MacNeish 1956:173-175). Taking a broader ecological view, those two groups were, of course, still in many ways closely similar. They were both coping not merely with the natural environment through hunting, trapping, and fishing, but with the white world of traders, missionaries, and Indian agents as well. Nevertheless, the facts offer a modicum of evidence for claiming that those particular personality features are independent of short-term, fluctuating situational factors. Of course the evidence I can muster of psychological persistence among the Athapaskans is hardly as striking as that which Hallowell has adduced for the Ojibwa Indians.

Persistence in the face of a rapidly changing social environment to which the Indians must adapt has implications for change and for the evolution of Athapaskan culture. Helm (MacNeish 1956:177) makes the same point when she observes that the Slave Indian's high evaluation of personal autonomy coupled with the egalitarianism they manifest in interpersonal behavior are at variance with European tradition. The traits make it difficult for the Indians to cope with and take advantage of the larger society as it intrudes into the northern bush.

Nevertheless, Helm indicates, the Indians do not turn their backs on the modern world. They envy and desire the satisfactions which the white world offers, though they can not always achieve them. They also feel the challenge of learning electrical, mechanical, and other modern skills for the sake of the money and prestige that such skills promise, as well as for the inherent satisfaction that lies in mastering them. Parents view schooling for children favorably and criticize the school when it does not seem to offer effective preparation for entry into modern life.

Henry Zentner (1964), a sociologist who partly bases his observations on Athapaskan literature, examining differences between the "pre-Neolithic" ethic and values that the Indians still manifest and those of medieval and post-Industrial man sees ground for "modest optimism" concerning the future place of the Indians in Canadian society. He refers to Kaska personality and points out several close analogs between Kaska values and corresponding values held in the dominant society. However the analogy is clearest when the Indians are compared with persons occupying middle- or low-ranking social positions in modern society (cf. Zentner 1967:121). He also notes examples of successful modernization and strong political authority among northern Indian groups--the latter among a band of Sekani Indians. What is needed, he says, for capturing the Indians'

interest and energy, are policies of action that would tap the Indians' potential and utilize those of Indian values which possess counterparts in modern society.

Helm and Zentner join voices in admitting social and psychological barriers to modernization, while at the same time testifying that the Athapaskans possess some ability to don a modern way of life. Their intimation that the Indian is not fully competent or prepared to become more modernized, as he desires, is borne out by what Irma Honigmann and I discovered in Inuvik in 1967. But whether the disjunction between aspirations and achievements is due to discrepant values and other psychological factors or to something else remains to be more closely investigated.

Before turning to Inuvik I want to refer again to Zentner's suggestion that certain features of Kaska Indian personality ally them with the middle and lower classes of the dominant society. I think he means to emphasize a psychological correspondence with poor lower classes in the national social structure. If, as Helm and DeVos claim, the Dogrib see achievement primarily in terms of money or immediate material benefits, that outlook is also consistent with what some writers deem to be the prevailing lower-class attitude to achievement (Lawlor 1970). Thus we have two expressions verging on what I call the proletarianization view of social integration (Honigmann 1969). That view does not merely assert that Indians are becoming manual workers or members of the proletariat. The emphasis is more on their fate as a *Lumpenproletariat*, in Marx's term, "a mass sharply differentiated from the industrial proletariat [and] a recruiting ground of thieves and criminals ...living on the crumbs of society, people without a definite trade" (in Marx and Engels 1958: I:115; originally published in 1850; cf. Fainberg 1965:40, 41). In other words, proletarianization implies social disorganization, as the term used to be applied to high crime and delinquency neighborhoods of American cities. In less extreme

terms proletarianization includes the thesis that similar environmental pressures affecting Indians in several parts of the continent are giving rise to the same impoverished culture of poverty in the North that is found in metropolitan areas--a culture that includes such traits as family disorganization, lack of participation in the major social institutions, high rates of deviant behavior, and feelings of helplessness, dependence, and inferiority. Sometimes imitation of white behavior models is held responsible for such an outcome of acculturation. Both the extreme and less extreme concepts of proletarianization fail to give sufficient attention to the organizational and adaptive features of the new culture and of the psychological attitudes that have emerged among American Indians and Metis. Whether we wish to continue to call that configuration of culture and personality "Indian" or not, its unique and adaptive character ought not to be lost sight of by anthropologists.

Adaptation in Inuvik

Irma Honigmann and I did not study Inuvik with the exclusive aim of doing research in psychological anthropology, though we were constantly attentive to psychological features of behavior that came to our attention (Honigmann and Honigmann 1970). We went to the new Mackenzie Delta town in 1967 to study yet another instance of native adaptation to the institutions of a far northern Canada town. However, adaptation in the social sphere, regardless of how its achievement is studied and measured, is fundamentally an individual characteristic. It implies many complexly related features of competence and motivation, as well as of cognitive and emotional organization. We approached adaptation in several institutions of Inuvik primarily in terms of its outcome, using easily available indicators to measure it as it occurs in the different ethnic groups making up the town's native population. One of those native groups is comprised of Loucheux Kutchin Indians. But our measurements of Loucheux adaptation in specific social

situations gain much more point when they are compared to how the other native ethnic groups adapt to the same challenges. The other groups we measured are the Eskimo and a heterogeneous one that we call "Other Native." Members of the latter correspond to Slobodin's (1966) Northern Metis. It includes a few enfranchised Athapaskan and Cree Indians, somewhat more persons of mixed Athapaskan Indian-white or Eskimo-Cree descent. (Perhaps it is unnecessary to add that the terms "Indian" and "Eskimo" in northwestern Canada refer primarily to different cultural traditions or backgrounds and different social statuses, rather than to unmixed genetic makeups.) Only briefly, in trying to explain observed differences in adaptation between the different ethnic groups, have we ventured to explain, in psychodynamic or other terms, the degree of success with which adaptation occurs in the town's Athapaskan population.

We began research expecting, on the basis of reports and observations made elsewhere in the North, that substantial culturally-based differences would show up between the three ethnic groups. Personal experience had demonstrated the highly successful modernization of Eskimo in Frobisher Bay (Honigmann and Honigmann 1965; see also Vranas 1968 for similar information about the Eskimo in Churchill, Manitoba), but I knew of no comparably intense transformation of northern Indian culture. Therefore, I entertained the hypothesis that the Athapaskan Indians in Inuvik might for some psychological or culturally-related reason turn out to be relatively disinclined to modernize, or to be handicapped in doing so. My basis for this surmise included evidence from Churchill, where the Athapaskan Chipewyan are also reported to be far behind the steps to modernization taken by their Cree Indian, Cree-Metis, and especially by their Eskimo neighbors (Koolage 1970). Since then I have learned of the relative lag in Cree Indian acculturation in Great Whale River, Quebec, compared to the Eskimo belonging to that community or who migrated there in search of work

(Barger 1969; Barger and Earle 1971). Originally, I also thought that Other Natives would be handicapped in Inuvik, my prediction resting on reports of difficulties which Metis were experiencing in northern Manitoba, Alberta, and Saskatchewan (Card *et al.* 1963; Lagasse 1959; Zentner 1967:168).

A variety of administrative records provided objective information to use in comparing Indian, Eskimo, and Other Native adaptation in three town-based systems of behavior: the economic system; the normative system, and the educational system, where attention shifts from adults' adaptation to children's. To be sure, all three tests of adaptation employ an ethnocentric bias, but I believe the bias can be defended inasmuch as we are studying the degree to which native people find our transplanted institutions meaningful and congenial.

Economic System

With respect to adaptation in the economic system, figures covering employment and social assistance received by family heads during the previous 9 to 18 months provide most of the data. For each of the three native groups, we also note the proportion of men who for the most part forego jobs in town and follow careers of trapping, hunting, and fishing.

Job information concerning 34 Indian, 86 Eskimo, and 45 Other Native family heads (either male or female), shows a clear gradient in the proportion of each ethnic group steadily or fairly steadily employed. Other Native family heads lead; then follow the Eskimo, and finally come the Indians. Actually the figures reveal that a large proportion of family heads in every ethnic group work for wages only occasionally or rarely, but Indians show the largest proportion holding jobs only occasionally or rarely.

Turning to the amounts of welfare received by each ethnic group, Indian family-head recipients on the average received the most money, followed by Eskimo and Other Natives in that order.

With regard to the persistence of trapping, about 26 family heads take jobs only occasionally or rarely and make Inuvik their headquarters for selling fur and other country products, and for buying supplies to live in the bush. Surprisingly, we found that proportionately more Other Natives are professional trappers than Eskimo or Indians. Indians, who are relatively rarely found in the ranks of the steadily or fairly steadily employed, are also the ethnic group least devoted to exploiting the land's natural resources. Interrelating these economic measures brings out the relative success with which the three ethnic groups are adapting in the town's economic system. Other Native family heads occupy the most favorable economic position, but the high proportion of them with dependable employment leaves comparatively few whose economic position is marginal. Of Other Natives whose position is marginal, a surprisingly large proportion live off the country to a large extent, leaving few to depend on social assistance.

At the opposite extreme stand the Indians. Only a small proportion of Indian family heads hold dependable jobs and a large proportion are economically marginal. Of the marginals, only a small group lives by trapping. This means that a comparatively large percentage of Indians living in town lack steady or fairly steady work and do not secure country products. Consequently they depend heavily on social assistance. Eskimo occupy a position between the Other Natives and Indians.

Normative System

To gauge adaptation in the normative system, we consulted information about the extent to which the three native groups ran afoul of the law with respect to using alcohol.

For each ethnic group we calculated the proportion of persons 18 years or older who were convicted at least twice in the previous 18 months. Results

show that Other Natives contain the smallest proportion of persons who repetitively encountered trouble with the law over alcohol; Indians are at the other extreme, and Eskimo are again in-between, but the proportion of Eskimo convicted is closer to the Indians than to Other Natives.

Consideration of only young persons (between 16 and 24 years old) demonstrates that, in proportion to their size in the population, more young people land in court because of liquor than do older people. Eskimo young people are again in-between, but they are so close to the Indians that we can overlook the difference in percentage points and rank the two groups together.

Educational System

In the educational system we looked at how native children have adapted to the expectations of the Federal day school, an institution that contains 12 grades. For the purpose of comparison, 378 children have been grouped not by their own ethnic status but by the ethnic status of their family head, resulting in three groups of native children: (1) family head Indian, (2) family head Eskimo, and (3) family head Other Native. In addition, for comparative purposes, we secured information about a small group of children with white family heads living in the predominantly native section of the town. Over half of the youngsters with a white family head have a native mother. In most cases, family heads are parents, usually fathers.

We used several measures to test adaptation in school, including attendance and certain achievement test results. I will omit the details and report only that--as was in fact predicted--youngsters from homes with a white family head comparatively cope best most often in school. They are followed by children with an Other Native family head. Children with an Eskimo or Indian family head are almost equally disadvantaged when it comes to meeting the expectations of the school system. Those groups contain the largest proportions of youngsters

coping least effectively.

Conclusions

The general conclusion that emerges from these tests of adaptation is that in proportion to their numbers, persons of Indian ancestry or background most often have difficulty adapting to modern institutions in Inuvik. Yet Indian family heads also show extreme reluctance to continue with traditional pursuits of trapping, hunting, and fishing. We must bear in mind, however, that some Indian men and children do cope effectively in the town.

As I have already indicated, explaining the facts we discovered in Inuvik involves many complexly interrelated factors, including the historical and social position which each group has in northern Canada. Many questions requisite for adequate explanations remain unanswered. For example, to what extent is the relatively high incidence of social assistance among Indians compared to the Other Natives related to the Indians' possibly greater ease in securing such assistance? In looking for explanations of the Indian's position in Inuvik we must also keep in mind that different explanations of his performance may apply in each of the three systems of behavior. The abstract term hardly grasps reality as Indians perceive it when they go to work, confront alcohol, or attend school. Consequently we should have detailed information about the actual process of adaptation in a variety of particular social situations and not merely quantitative information about outcomes of the process or processes in three highly generalized systems of behavior. Fieldwork directed to the adaptation process itself remains to be done.

The facts by no means induce me to look exclusively to a psychodynamic explanation for the facets of Athapaskan adaptation that I have mentioned, but with regard to male family heads' response to employment--an area where, as far as I can tell, equal opportunities await the Eskimo, Indians, and Other

Natives--I think some aspects of Athapaskan personality structure are relevant. I am inclined to explain Indian men's frequent difficulties in the economic system of Inuvik as founded on certain features of their social personality, features that are more suitable for individualistic adaptation to bush life than to many conditions they encounter in jobs. My hypothesis holds that the Indian man's mode of looking at the world and at himself wavers between an optimistic idea that experience is manageable and a contrary apprehension that life is overwhelmingly difficult and social relations are potentially dangerous. As long as his life remains manageable and calls for no major adjustment--such as would be required in a critical circumstance--he feels resourceful and optimistic, albeit wisdom recommends proceeding cautiously in whatever he does. In the face of excessive demands made upon him, his feelings of capability and resourcefulness quickly collapse, presumably to the accompaniment of anxiety and guilt when his failure is significant. I realize that the latter part of this interpretation conflicts with what Helm and DeVos (n.d.) say about Dogrib not worrying much about meeting achievement standards. Indians are strongly introverted. They tend to overlook the importance of external cues and standards; yet those standards are important for guiding behavior in the situation which the Indians have entered. Their own standards do not suffice to guide them. Being primarily attuned to inner tendencies and personal needs, they also find it difficult to live closely with, and to respond to, other people, especially those who are differently equipped psychologically than they are. However, when external demands fortunately coincide with personal tendencies, or at least when there is no severe conflict, then the Indian does adapt successfully to his external situation.

We do not know the Other Natives as a group well enough to compare their adaptive style with the Indians, except to say that Other Natives men seem to

be more accommodating in meeting an assortment of social demands. An element of self-selection may be operative in their adaptation to Inuvik, for the group includes a large proportion of men who hail from the upper Mackenzie drainage area and more southerly parts of Canada.

The Eskimo also include migrants, including a sizable proportion (one-fifth of all family heads and spouses) who have come east from Alaska. As a group Eskimo possess a less complex and less vulnerable personality than Indians. In the words of an Other Native informant comparing Eskimo and Indians, the Eskimo is an easier-going person who is better able to bear frustration and slights to his ego, whereas the Indian is more sensitive, touchy, and proud. Available data suggest that defense structure of the Eskimo is simpler than the Indian's, particularly in that the former is less concerned with maintaining face in interpersonal relations. Also, the Eskimo is not as much inclined to blame others or external circumstances when things go wrong. Under threat and adversity the Eskimo is likely to take extra care in selecting his mode of response, and he exerts extra effort to meet his responsibilities. Eskimos, since the time of Sir John Franklin, have favorably impressed many non-native visitors to the Far North, some of whom have become the Eskimo's dedicated patrons, thus further aiding them to adapt to new conditions.

Further Research

In one respect I feel apologetic for having ended with unresolved questions. On the other hand, I would be well satisfied if the problematic nature of my conclusion were to stimulate afresh, on a new level of problem and theory, interest in the psychology of the Northern Athapaskan Indians.

I suggest that such research continue to be comparative. However, it should not only compare Athapaskan groups to each other, valuable as that

approach has been; it ought also to compare the Déné to their non-Athapaskan northern native neighbors, as we have begun to do in Great Whale River, Churchill, and Inuvik. Results of such a comparative approach may have considerable practical significance as northern Canada and Alaska become increasingly economically and socially integrated in the modern world.

REFERENCES

- BALIKCI, Asen
1963 *Vunta Kutchin Social Change*. Ottawa: Northern Co-ordination and Research Centre, publication 63-3.
- 1968 Family Organization of the Vunta Kutchin. *Arctic Anthropology* 1:62-69.
- BARGER, Walter Kenneth
1969 Adaptation to Town in Great Whale River. M.A. Thesis, Department of Anthropology, University of North Carolina, Chapel Hill.
- BARGER, Walter Kenneth, and Daphne EARL
1971 Differential Adaptation to Northern Town Life. *Human Organization* 30:25-30.
- BETHUNE, W.C.
1937 *Canada's Western Northland*. Ottawa: Department of Mines and Resources; Lands, Parks, and Forests Branch.
- BOAS, Franz
1910 Ethnological Problems in Canada. *Journal of the Royal Anthropological Institute* 40:529-539.
- CARD, B.Y., G.H. HIRABAYASHI, and C.L. FRENCH
1963 *The Metis in Alberta Society*. Edmonton: University of Alberta, Committee for Social Research.
- FAINBERG, L.A.
1965 The Contemporary Situation of the Eskimos (1940-1960) and the Problem of their Future in the Works of American and Canadian Ethnographers. *Soviet Anthropology and Archaeology* 4(1):27-45.
- FRANKLIN, John
1828 *Narrative of a Second Expedition to the Shores of the Polar Sea in the Years 1825, 1826, and 1827*. London: John Murray.
- FRENCH, Cecil
1967 Social Class and Motivation Among Metis, Indians, and Whites in Alberta. In *A Northern Dilemma*. 2 vol. Arthur K. Davis, Ed. Bellingham, Wash.: Western Washington State College.
- HALLOWELL, A. Irving
1946 Some Psychological Characteristics of the Northeastern Indians. In *Man in Northeastern North America*. Frederick Johnson, Ed. *Papers of the Robert S. Peabody Foundation for Archaeology* No. 3.
- HELM, June
1961 The Lynx Point People: The Dynamics of a Northern Athabaskan Band. *National Museum of Canada Bulletin* 176.

- HELM, June, G.A. DEVOS, and Teresa CARTERETTE
 1961 Variations in Personality and Ego Identification Within A Slave Indian Kin-Community. In Contributions to Anthropology, 1960, Part II, *National Museum of Canada Bulletin* 190.
- n.d. Dogrib Indian Personality: Rorschach thematic Apperception test and Observational Data collected in 1959 and 1960, N.W.T., Canada. Unfinished ms.
- HELM, June and Nancy O. LURIE
 1961 *The Subsistence Economy of the Dogrib Indians of Lac La Martre in the Mackenzie District of the N.W.T.* Ottawa: Northern Co-ordination and Research Centre, publication No. 61-3.
- HENRY, Jules and Melford E. SPIRO
 1953 Psychological Techniques: Projective Tests in Field Work. In *Anthropology Today*. A.L. Kroeber, Ed. Chicago: University of Chicago Press.
- HONIGMANN, John J.
 1940 Culture and Ethos of Kaska Society. *Yale University Publications in Anthropology* No. 40.
- 1968 Interpersonal Relations in Atomistic Communities. *Human Organization* 27:220-229.
- 1969 Deculturation and Proletarianization of Canada's Far Northern Native People. Paper presented at the Annual Meeting of the Canadian Sociology and Anthropology Association.
- HONIGMANN, John J. and Irma HONIGMANN
 1965 *Eskimo Townsmen*. Ottawa: Canadian Research Centre for Anthropology.
- 1970 *Arctic Townsmen*. Ottawa: Canadian Research Centre for Anthropology.
- JENNESS, Diamond
 1942 Canada's Indian Problems. *America Indigena* 2:29-38.
- KOOLAGE, William W., Jr.
 1970 Adaptation of Chipewyan Indians and Other Persons of Native Background in Churchill, Manitoba. Ph.D. Dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.
- KLUCKHOHN, Florence
 1950 Dominant and Substitute Profiles of Cultural Orientations: Their Significance for the Analysis of Social Satisfaction. *Social Forces* 28:376-393.
- LAGASSE, Jean H., W.E. BOEK, J.K. BOEK, W.M. HEADY, and B.R. POSTON
 1959 *A Study of the Population of Indian Ancestry Living in Manitoba*. 3 vol. Winnipeg: Department of Agriculture and Immigration.

- LAWLOR, S.D.
1970 *Social Class and Achievement Orientation. Canadian Review of Sociology and Anthropology* 7:148-153.
- LOWIE, Robert H.
1909 *An Ethnological Trip to Lake Athabasca. American Museum Journal* 9:10-15.
- MACNEISH, June Helm
1956 *Problems of Acculturation and Livelihood in a Northern Indian Band. Contributions a l'Etude des Sciences de l'Homme* No. 3.
- MARX, Karl and Frederick ENGELS
1958 *Selected Works. 2 vols. Moscow: Foreign Languages Publishing House.*
- MORICE, A.G.
1928 *The Fur Trader in Anthropology and a Few Related Questions. American Anthropologist* 30:60-84.
- OSGOOD, Cornelius
1936 *Contributions to the Ethnography of the Kutchin. Yale University Publications in Anthropology* No. 14.
1937 *The Ethnography of the Tanaina. Yale University Publications in Anthropology* No. 16.
1940 *Ingalik Material Culture. Yale University Publications in Anthropology* No. 22.
1958 *Ingalik Social Culture. Yale University Publications in Anthropology* No. 43.
- RICHARDSON, John
1851 *Arctic Searching Expedition. London: Longman, Brown, Green and Longman.*
- SLOBODIN, Richard
1960 *Some Social Functions of Kutchin Anxiety. American Anthropologist* 62:122-133.
1966 *Metis of the Mackenzie District. Ottawa: Canadian Research Centre for Anthropology.*
- VRANAS, George
1968 *Akudlik and Its Residents. In Margaret Stephens Egloff, William W. Koolage, Jr., and George Vranas, Ethnographic Survey of Churchill. Chapel Hill: Institute for Research in Social Science.*

ZENTNER, Henry

- 1964 The Pre-Neolithic Ethic: Avenue or Barrier to Assimilation.
 Calgary: University of Alberta. Mimeographed.
- 1967 Reservation Social Structure and Anomie: A Case Study. In
 A Northern Dilemma: Reference Papers. Arthur K. Davis, Ed.
 2 vols. Bellingham, Wash.: Western Washington State College.

SOME ISOGLOSSES IN MACKENZIE-DRAINAGE ATHAPASKAN:FIRST STEPS TOWARD A SUBGROUPING

Robert Howren

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SOME ISOGLOSSES IN MACKENZIE-DRAINAGE ATHAPASKAN:
FIRST STEPS TOWARD A SUBGROUPING

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Résumé

D'après les résultats d'investigations linguistiques intensives de l'athapaskan du bassin du Mackenzie, les Tchippewayan, les Liard, les Flanc-de-Chien, les Gens-du-Lac-de-l'Ours, les Lièvre et les Montagnard constituent un sous-groupe simple que Howren appelle les Athapaskan du Nord-Est (A.N.-E.). Il appuie ses conclusions sur une étude de l'évolution de la série I PA de radicaux initiaux (*s, *z, *ts, *dz, *ts') de Sapir, et sur l'étude d'autres radicaux initiaux, de la phonologie des affixes, de structures grammaticales, de phénomènes d'accentuation et d'innovations lexicales.

Abstract

The results from intensive linguistic investigation of Mackenzie Drainage Athapaskan suggest that Chipewyan, Slave, Dogrib, Bearlake, Hare and Mountain constitute a single substock to which Howren assigns the name, Northeastern Athapaskan (NEA). His argument rests on a consideration of the development of Sapir's PA series I (*s, *z, *ts, *dz, *ts') stem-initials, as well as on other stem-initials, affix phonology, grammatical structure, accentual phenomena, and lexical innovation.

Introduction: Grounds for a Hypothesis

The reconstruction of the history of the numerous varieties of Athapaskan that are distributed from Hudson Bay all across Western Canada and into Alaska, and the genetic subclassification of them, is a much-neglected area of Athapaskan linguistics. That these Northern Athapaskan languages do not form a single substock of the family is well recognized, but the question of how many substocks they comprise, to say nothing of the more specific questions of the historical relations among substocks and among particular languages and dialects, is far from having a definitive answer. Hoiyer (1963:26-27) tenta-

tively put forward seven groups of Northern Athapaskan languages: (1) Tanaina, which preserves the proto-Athapaskan alveolars, palatals, and palatovelars (Sapir's series I, II, and III) essentially unchanged; (2) Koyukon, which has merged Sapir's series I with the PA lateral series, and 'de-palatalized' series II; (3) Tanana, Slave, Chipewyan, Carrier, Nabesna, and Tutchone, with the first three, Carrier, and the last two as three separate subdivisions of the group, a classification based upon (a) the shift of series I from alveolar to dental, (b) the de-palatalization of series II, and (c) a shift of series III from palatovelar to palatal; (4) Ingalik, Kutchin, and Han, in which series I has developed as in substock (3), but in which some of Sapir's series II stems show up with retroflexion;¹ (5) Ahtena, Tahltan, Kaska, Sekani, Sarsi, and Beaver, with their more or less complete merger of the PA series I and II into a single (generally apical) series, but with some differences in the development of series III which set Ahtena off from the other five languages of the group; (6) Hare and Dogrib, which are grouped together because of their peculiar labiovelar development of series I; and (7) Tagish, in which all three of Sapir's PA series have merged into a single apical series.

Hoijer (1963:27) concludes: "Finally, there are a few northern languages, on which there is little or no data, and which therefore cannot be classified. These are Tsetsaut, Chilcotin, Mountain, Bear Lake, and Yellowknife."

There has been some progress in the genetic subgrouping of the northern languages beyond the avowedly tentative point reached by Hoijer in the 1963 paper just referred to. Krauss's brilliant insight into "irregularities" involving retroflex obstruents in Hoijer's group (4), the correspondence of these

¹These, of course, are the reflexes of Michael Krauss's labialized palatovelars (see Krauss 1964).

to a *pf*-series in the scant data on Ts'ets'aut (now presumably extinct), and the correspondences in Ts'ets'aut and Alaskan Athapaskan to the palatal and palatovelar series in Eyak led him to the reconstruction of a fourth (labialized palatovelar) series in addition to Sapir's three, and to the establishment of an isogloss of fundamental importance in the northern group of languages.² Less dramatically, my own investigation of Bearlake, Hare, and Dogrib has demonstrated the close unity of these three dialects, and explained what Hoijer referred to (1963:27) as "the confusion [in Hare] of P.A. *s and *z (both go to *w*), the partial confusion of P.A. *s and *ts, and the confusion of P.A. *xy and *ky." (See below, and Howren 1970). In what follows, I will attempt to show that with some degree of assurance we can now group Mountain (Mtn), Bearlake (Bl), Hare (Ha), Dogrib (Dr), Slave (Sl), and Chipewyan (Ch) into a single substock. This accounts for two languages (or dialects) which Hoijer was forced to set aside for lack of data (Mountain and Bearlake), and amounts to merging his group (3a), comprising Tanana,³ Slave, and Chipewyan, with his group (6), Hare and Dogrib. If, on the basis of ethnohistorical evidence (see Gillespie 1969), we take the now extinct Yellowknife to have been closely related to Chipewyan, then we must add this language, too, to the proposed substock.

The reasons for the conspicuous lack of progress in the subgrouping of the northern languages are not far to seek: first and most obvious is the

²The occurrence of both alveolars and palatals for series II in Ahtena, Tahltan, and Beaver (see Hoijer 1963:20ff.) is an 'irregularity' that should be investigated as possible reflections of this isogloss.

³I do not have access to data on Tanana and will therefore tentatively and tacitly assume its membership in the substock proposed in this paper; but for obvious reasons, Tanana will not figure in the discussion.

relative paucity of data on the languages in question, and the scarcity of structural descriptions. Little by much-too-little, the corpus of materials gets added to, and an occasional reliable description of this or that northern language becomes available but with two or three notable exceptions, the quantity of available data has not been much enlarged since Hoiyer proposed his tentative subclassification in 1963. Equally contributory to the slow progress of the linguistic history of northern Athapaskan has been, it seems to me, the failure to exploit fully such data as is available. Correspondences among stem-initial consonants representing the four PA series of Sapir and Krauss are of course of primary importance for the historical study of Athapaskan, but attention has been focussed almost exclusively on these four series in stem-initial position, to the exclusion of, for example, the phonology of affixes and the development of stem-initial consonants other than the members of those four series. Moreover, little attention has been paid to comparative noun and verb morphology or to lexical matters as sources of evidence on genetic subclassification. (Needless to say, Athapaskan syntax, whether northern or otherwise, the study of which might be expected to yield significant information about intra-Athapaskan relationships, is almost as virgin a territory as Circumpolar Martian; but see various unpublished papers by Kenneth Hale and his students at M.I.T. on Navaho syntax. Such works as Reichard [1951] are valuable as observations of Navaho grammar, but fall short of descriptive adequacy in syntax despite the enormous amount of labor and the considerable familiarity with Navaho in which they are grounded.)

In this paper, I will make a modest attempt to go beyond the usually-applied subclassification criteria in arguing that Chipewyan, Slave, Dogrib, Bearlake, Hare, and Mountain constitute a single substock, to which I assign

the name Northeastern Athapaskan (NEA).⁴ The argument will rest in part on a consideration of the development of Sapir's PA series I (*s, *z, *ts, *dz, *ts') stem-initials, but also on the consideration of (a) other stem-initials, (b) affix phonology, (c) grammatical structure, (d) accentual phenomena, and (e) lexical innovation. The addition of new data on all the languages and dialects involved⁵ naturally has contributed significantly to making such an argument possible.

The relationship of the languages constituting Northeastern Athapaskan, as I see it, may be roughly represented as in Figure 1. Genealogical trees purporting to display linguistic relationships and order of dialectal divergence are always highly oversimplified. This one is no exception. For one thing, it ignores a generally unbroken geographical propinquity of one branch of NEA to another: of Chipewyan to Slave and Dogrib, Dogrib to Bearlake, Bearlake and Mountain to Hare. In more recent times, Slave has moved into direct contact with Mountain. The tree also fails to represent properly different degrees of relationship, with regard to mutual intelligibility; that is, varying degrees of linguistic distance are obscured. Without being able to offer any kind of systematic evidence for the assertion, and speaking only

⁴This, of course, is Osgood's term (Osgood 1931). He used it as an ethnographic label for the Dogribs, the Hares, the Chipewyans, the Yellowknives, the Slaves, and the Satudene (i.e., Bearlake Indians).

⁵Principal sources of new data have been not only my own fieldwork on Hare, Bearlake and Dogrib, but also that of students in the doctoral program in Cultural Anthropology and Linguistics at the University of Iowa: George Tharp (Mountain, Bearlake, Hare); Virginia Lawson (Beaver and Slave); Stanley Witkowski (Slave); and Beryl Gillespie (Dogrib and Chipewyan). Tapes of Chipewyan and Slave have also been supplied by June Helm, James Smith, David Smith, and Michael Asch.

TABLE 1
SOME NEA CORRESPONDENCES

	Chipewyan	Slave	Dogrib	Bearlake	Hare	Mountain
PA *s <u>star</u>	θən?	θɛ?	Wɔ	Wɛ?	wɛ?	fɛ?
*z <u>liver</u>	-ðər	-ðe?	-wo	-we?	-we?	-ve
*ts <u>head</u>	-t ^θ i?	-t ^θ i?	-k ^w i	-k ^w i?	-f ^(w) i?	-pi?
*dz <u>stay</u>	-d ^ð ər		-g ^w o		-g ^w e	-be?
*ts' <u>bone</u>	-t ^θ 'ən	-t ^θ 'əne	-k ^w 'ɔ	-k ^w 'ene?	-w'ene?	-p'ene?

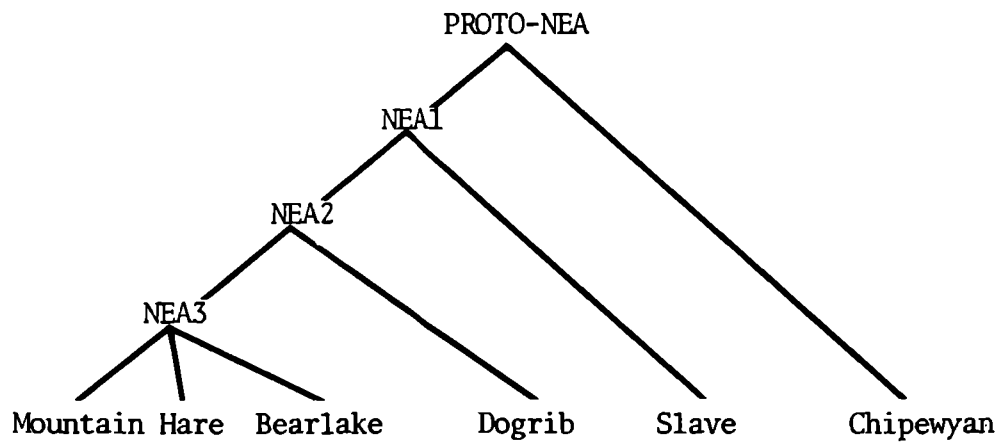


Figure 1. NEA relationships (greatly oversimplified).

from casual observation, I would venture to say that there is not two cents worth of difference between the degree of mutual intelligibility between Dogrib and Slave and that between Dogrib and Hare; yet the node labelled 'NEA2' in the Northeastern Athapaskan tree defines a sub-branch of NEA comprising a group of dialects distinct from both Slave and Chipewyan dialects. Bearlake is mutually intelligible with both Dogrib and Hare, and Mountain, from all accounts, is mutually intelligible with Hare and Bearlake. With this *caveat*, let us now proceed to the arguments for proposing a proto-Northeastern Athapaskan (PNEA) from which (at least) these six varieties of present-day Athapaskan have diverged in the manner suggested by the tree.

The most crucial part of the argument is the part which has to justify putting together into one and the same substock two varieties of Athapaskan which differ phonologically in a way that is rarely paralleled in diachronic linguistics. The change from PA *s, *z, *ts, *dz, *ts' to Chipewyan and Slave θ , δ , t^θ , d^δ , $t^{\theta'}$ is not terribly disturbing, even though it runs counter to contemporary theoretical conceptions of 'naturalness' in sound change.⁶ But any proposal to derive a language which has undergone this kind of sound change from a common predecessor with a group of dialects (NEA2) in which the same PA series has gone to labials and labiovelars calls for some careful argument, to say the least.

As I hope to show, the phonological contortions involved are not so great as might be expected, given an appropriate phonetic theory. But the relative ease of formulating the phonological details is irrelevant until it can be

⁶Current theoretical notions of 'marking' hold that dental fricatives and affricates are more 'marked,' or less to be expected in natural languages, than strident, alveolar fricatives and affricates. Discussions of marking theory may be found in Postal (1968), Chomsky and Halle (1968), and Cairns (1969).

first demonstrated, on independent grounds, that the languages in question ought to be genetically associated in a single substock. I think these independent grounds are to be found in certain asymmetries in shared innovations among Chipewyan, Slave, and the Dogrib-Bearlake-Hare-Mountain group. (This last-named group I will hereafter label "Great Lakes Athapaskan" (GLA), for convenience.) By "asymmetries in shared innovations" I mean the kind of geographical distribution of isoglosses, familiar to dialectologists, in which the individual geographical extensions of a set of dialectal innovations do not coincide, but intersect in such ways as to link together sometimes language A with language B, sometimes A with C, sometimes B with C, etc. Figure 2, an abstract "map" on which a sample of isoglosses is displayed, shows that Slave shares some linguistic innovations with Chipewyan, some with both Dogrib and Chipewyan, others with Dogrib only, and still others with GLA in general. An areal linguistic situation of this sort can only be interpreted, I think, as the consequence of divergence of the languages (or dialects) involved from a common predecessor, and provides the motivation for attempting to reconstruct the linguistic prehistory of these varieties of Athapaskan as a single substock.

Something of Proto-Northeastern Athapaskan

Proceeding, then, on the assumption that PNEA is not a factitious entity, but a real and defensible concept, I shall now try to say something about the interrelationships of the languages and dialects of which it is the common ancestor. There are two questions which, for obvious reasons, I am not prepared to deal with: (a) How do Tanana, Carrier, Nabesna, and Tutchone (the other northern languages grouped by Hoiyer with Slave and Chipewyan) relate to NEA?, and (b) What are the more remote relationships of PNEA -- that is, from what did PNEA diverge?

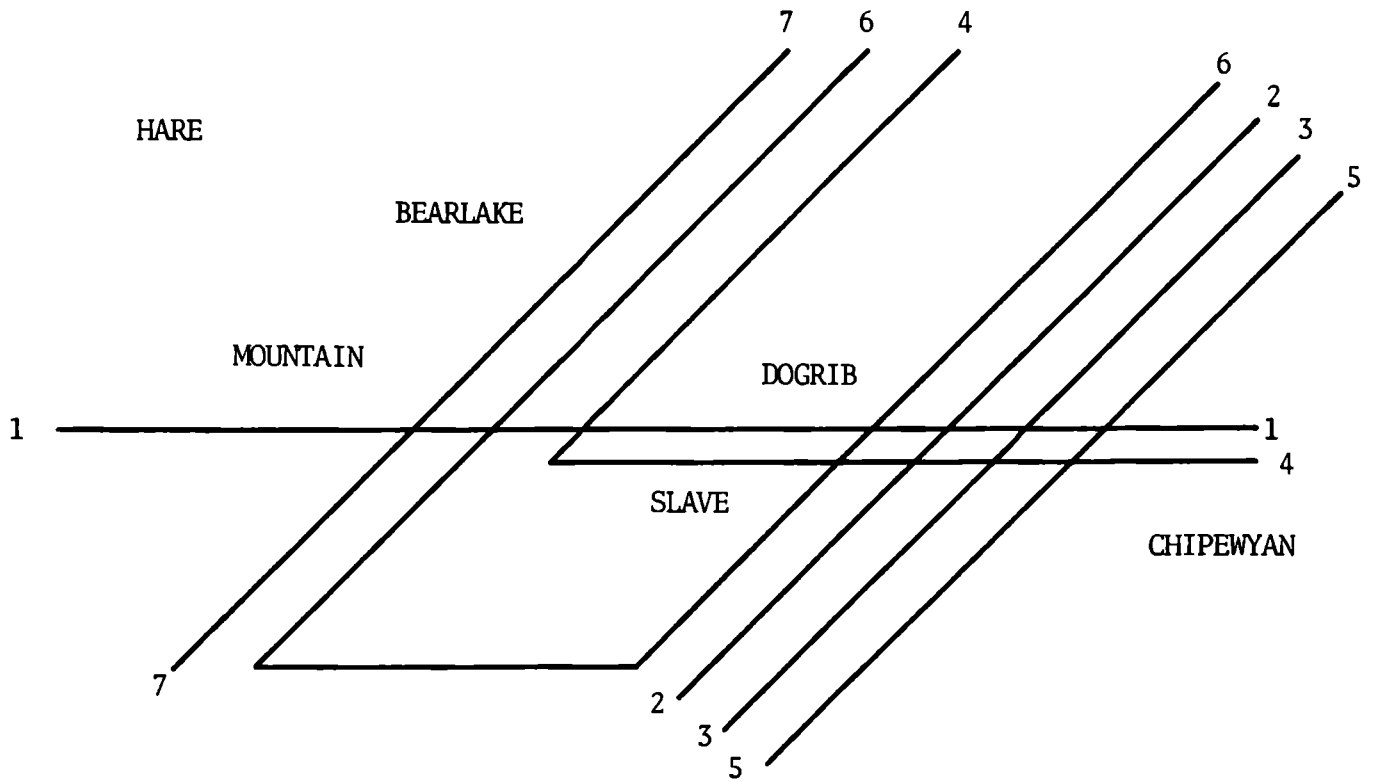


Figure 2. Some NEA isoglosses.

- 1 = Dental reflexes of PA alveolar obstruent series (Sl, Ch); labial reflexes (GLA).
- 2 = *h* as reflex of PA 1st sg. subject prefix *š (Sl, GLA); *s* in Ch.
- 3 = PA *L-classifier > *h* (Sl, GLA); > *L* in Ch.
- 4 = PA optative *y^wu(?) generalized as future (Ch, Sl, GLA-minus-Dr); Dr retains optative in negative sentences, marks future with post-verbal particle *xá*.
- 5 = Overt reflex of PA *l*-classifier lost (Sl, GLA); retained as *-l-* in Ch.
- 6 = Prenasalized stops as reflexes of PA **m*, **n* stem-initially before non-nasalized vowels (Sl, Dr); plain voiced stops in Ch and GLA-minus-Dr.
- 7 = ⁽ⁿ⁾*-da*, *-na* with meaning 'see' (GLA-minus-Dr); with meaning 'look at' (Ch, Sl, Dr), with occasional exceptions.

Hoijer (1963) grouped Slave and Chipewyan together on the basis of a single isogloss: PA *s, *z, *ts, *dz, *t^θ > Ch θ, ð, t^θ, d^ð, t^θ in stem-initial position. On similar grounds, he associated Hare and Dogrib, in which the same PA series developed into labiovelars. We can now extend this innovation to Bearlake and Mountain, as shown in Table 1 (tone marking is omitted). The difference between the Hare and Dogrib series is of recent origin; the details are presented below, and in Howren 1970.

What I propose, in brief, is that one of the principal innovations that marked the divergence of PNEA from its congeners was precisely this change of the PA alveolar obstruent series *s, *z, *ts, . . . into a dental series *θ, *ð, *t^θ, . . . , and that Chipewyan and Slave have preserved the PNEA series intact, while GLA innovated further by changing this PNEA dental series into labials and labiovelars. This latter change I will discuss in connection with the divergence of pre-Slave from NEA2 (see Fig. 1). First, we must examine the hypothesis that the PNEA series corresponding to PA *s, . . . is to be reconstructed as *θ,

From inspection of the correspondences displayed in Table 1, and from these alone, one might, I suppose, as reasonably reconstruct labials or labiovelars as dentals for PNEA; but the predominance in other Athapaskan languages of apicals in the corresponding series clearly invalidates that choice. It is also possible that PNEA retained the PA alveolar series without change, and that Chipewyan and Slave innovated by dentalizing the series, while GLA changed the alveolars into labials. If this is the way things happened, then the changes were totally unconditioned and are therefore beyond recovery by the comparative method. However, there is a good phonetic-theoretical reason for dismissing the speculation that both GLA and Chipewyan-Slave innovated from a PNEA *s,

. . . -series: if we accept -- as I think we must -- some sort of distinctive-feature phonetic theory, then a change from an alveolar to a labiovelar obstruent series such would have occurred in GLA involves changing more features than would a change from an alveolar to a dental series, as in Chipewyan and Slave. On the other hand, if we reconstruct for PNEA a dental series, then we can get from there to both GLA and Chipewyan-Slave by a simple, single-feature change for each, as I will now try to demonstrate.

Proto-Athapaskan as presently reconstructed had the inventory of obstruents displayed in Table 2. (The display is in the form of a classificatory matrix, in which the columns are segments, and the rows, plus, minus, or unspecified values of features which are the primitive elements of the phonetic theory -- which in the present case is basically that of Jakobson, Fant, and Halle 1963. The unspecified values are those which can be predicted by general rule from other feature-values occurring in the same segment. Certain ones of these which are relevant to the sound changes that concern us here are included between brackets.)

Table 2 includes no voiced continuant obstruents [l, z, ʒ, ʝ, ɣ^w, ɣ, ɣ^w], for the reason that at least in the late PA period these were derived, presumably, from their voiceless counterparts in certain environments by a phonological rule which I have elsewhere called the Spirant Lenition Rule (Howren 1968) or the Spirant Voicing Rule (Howren, In press b). This rule, which I take to have persisted in most Athapaskan languages as a synchronic rule, produces a phonetic series of voiced spirants which undergo the same changes as do the voiceless in the divergence of PNEA from "pre-PNEA."

The redundancy rule which supplies the bracketed features for the PA obstruents in Table 2 may be formulated as [continued after Table 2]

TABLE 2. CLASSIFICATORY MATRIX: PA OBSTRUENTS

	d	ɹ	j	ġ ^w	g ^w	ʝ	ġ	g	t	ʎ	c	k ^w	k ^w	č	k̂	k	t'	ʎ'	c'	k̂ ^w	k ^w '	č'	k̂'	k'	L	s	x ^w	x ^w	š	x̂	x
Continuant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+
Voiced	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glottalic									-	-	-	-	-	-	-	+	+	+	+	+	+	+	+								
Compact	-	-	-	-	-	+	+	+	-	-	-	-	-	+	+	+	-	-	-	-	-	+	+	+	-	-	-	-	+	+	+
Grave	-	-	-	+	+	-	-	+	-	-	-	+	+	-	-	+	-	-	-	+	+	-	-	+	-	-	+	+	-	-	+
Abrupt Release	+	-	-			-	+		+	-	-			-	+		+	-	-				-	+							
Strident		-	+	+	-						-	+	+	-					-	+	+	-				-	+	+	-	+	-
Lateral	[- + -]									[- + -]						[- + -]									[+ -]						

Bracketed plus/minus values are those which have been supplied by redundancy rules (i.e., implicational rules that fill in feature values which are predictable from other feature values occurring in the same segment):

$$(1) \quad \left[\begin{array}{l} -\text{Compact} \\ -\text{Grave} \end{array} \right] > [-\alpha \text{ Lateral}] \quad \alpha < \left[\begin{array}{l} +\text{Abrupt Release} \\ +\text{Strident} \end{array} \right] >$$

Rule (1) says that any noncompact nongrave segment that is either [+Abrupt Release] or [+Strident] is nonlateral, and that any noncompact nongrave segment that is not specified in this way for abrupt release or stridency is [+Lateral].⁷

(In the "alpha-environment" notational convention, the alpha to the right of the slash is plus if the environmental conditions within the angle parentheses are satisfied, and is minus if they are not. This alpha, in turn, determines the value of [Lateral]. '-a' indicates the value opposite the value of 'a'.)

Such rules merely state general constraints (some of which are language-specific and some of which are apparently universal) upon the co-occurrence of features within the same segment. These two redundancy rules supply feature values which are necessary for a proper formulation of the sound change which produced from the PA alveolar series the dental series of obstruents which I posit for PNEA.

This change may be formulated as Rule (3):⁸

$$(2) \quad [-\text{Compact}] > [-\text{Strident}] \quad \left[-\text{Grave} \right]$$

⁷The feature [lateral] has not previously appeared, to my knowledge, in the various inventories of acoustic distinctive features -- partly, perhaps, because Jakobson, Fant and Halle 1963 did not take Athapaskan into account in identifying and defining their set of universal phonetic features -- though Chomsky and Halle 1968 include it in their inventory of articulation-based distinctive features, citing among other languages Chipewyan as an example of a language in which such a feature is necessary (see Chomsky and Halle 1968:317). I think that [Lateral] is a legitimate acoustic feature as well: the lateral continuant, for example, as contrasted with the dental continuant θ (which like \underline{L} is nonstrident; the stridency feature distinguishes both of these from \underline{s}), exhibits an acoustic spectrum characterized by (a) a rudimentary formant-structure; (b) less total acoustic energy than either θ or \underline{s} ; (c) considerable energy in the 3000-5000 c.p.s. frequency range, where θ has little or none, and a marked periodic transitional phase that precedes the onset of the vowel.

⁸Synchronic and diachronic rules will be distinguished from each other by using the arrow symbol for the former, as in (1), and using an arrowhead without shaft for the latter.

That is, all nongrave segments which are noncompact become nonstrident. Rule (2) applies, by definition, to /d ʎ j, t ʎ c, t' ʎ' c', L s/, but it applies vacuously to the stops and laterals (they are already [-Strident]), and actually changes only /j, c, c', s/ -- and of course [z], which derives from /s/ by the Spirant Voicing Rule. These are changed by Rule (2) into /d^ð, t^θ, t^{θ'}, θ/, and [ð]. Thus the PNEA obstruent system was something like that shown in Table 3. (Differences between two inventories of Tables 2 and 3 include the consequences of another sound change besides that formulated in Rule (2), and these will be commented on later.)

Inspection of Table 3 reveals that the PNEA obstruent system differs from that posited for PA in several ways that are not accounted for by the sound change formulated by Rule (2). For one thing, the feature [Lateral] becomes distinctive for PNEA. This is because PNEA, unlike PA, distinguishes two noncompact nonstrident phonemes in each of the four subcategories of obstruents (ʎ t^θ; L, θ; etc.), and thus the stridency feature is not sufficient to uniquely specify all members of the class. A second difference is the absence from the PNEA inventory of the labialized palatovelars of PA. These have merged, presumably, before the PNEA stage, but probably not into a strident alveolar series as indicated in the PNEA matrix.⁹ If this had been the case, diachronic Rule (2) would have changed these, along with the original alveolars, into dentals, thus finally merging all three series. Since this obviously did not happen in NEA, we can only assume that the PA palatals and the PA palatalized labiovelars were in some way still distinct from the PA strident alveolars in PNEA. In

⁹The merger, as realized in NEA, is:

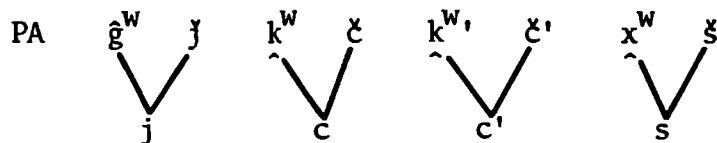


TABLE 3. CLASSIFICATORY MATRIX: PNEA OBSTRUENTS

	d	ɹ	d ^h	j	g ^w	ɟ	g	t	ʎ	t ^h	c	k ^w	ç	k	t'	ʎ'	t ^h '	c'	k ^w '	ç'	k'	L	θ	s	x ^w	ʂ	x	
Continuant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+
Voiced	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Glottalic								-	-	-	-	-	-	-	+	+	+	+	+	+	+							
Compact	-	-	-	-	-	+	+	-	-	-	-	-	+	+	-	-	-	-	-	-	+	+	-	-	-	-	+	+
Grave	-	-	-	-	+	-	+	-	-	-	-	+	-	+	-	-	-	-	+	-	+	-	-	-	+	-	+	
Abrupt Release	+	-	-	-				+	-	-	-				+	-	-	-										
Strident		-	-	+					-	-	+					-	-	+					-	-	+			
Lateral		+	-						+	-						+	-						+	-				

Table 3, /j c c' s/ probably ought to have been represented by some such symbols as /ĝ k̂ k' x/, to reflect the evident fact that this merged series did not become alveolars until after the innovation expressed by Rule (2).

The GLA Consonant-Shift

One of the principal isoglosses, then, which divide PNEA from its congeners is a simple matter of a stridency-switching rule. If the general outlines of the linguistic history of NEA are correct as I have proposed them in Fig. 1, above, then the situation produced by the sound change represented as Rule (2) persisted through NEA1 (that is, PNEA-minus-Chipewyan), and no further change in this obstruent series has occurred from pre-Chipewyan until the present day. However, NEA2 (NEA1-minus-Slave) is defined by a further change in this series: NEA1 /d^ð, t^θ, t^{θ'}, θ/ (and [ð]) become some sort of labials or labiovelars, from which the variety of labial, labiodental, and labiovelar obstruents exhibited by the present-day GLA dialects derive (see Table 1). Pre-Slave, after diverging from NEA2, kept the PNEA dental series unchanged, but in NEA2 an innovation which may be represented by Rule (3) took place:

$$(3) \quad \left[\begin{array}{l} \text{-Compact} \\ \text{-Strident} \\ \text{-Abrupt Release} \\ \text{-Lateral} \end{array} \right] > [+Grave]$$

-- that is, any noncompact fricative or nonstrident affricate, except the laterals, switched its gravity value to "+". In other words, the change represented by diachronic Rule (3) affected the NEA1 obstruents /d^ð, t^θ, t^{θ'}, θ/ (and [ð]), changing them into segments which have the distinctive feature specifications shown for NEA2 in Table 4. For reasons that will be evident, the NEA2 segments will be for the moment symbolized alphabetically as P₁, P₂, P₃,

TABLE 4
EFFECT OF DIACHRONIC RULE (3)

	<u>NEA1</u>				<u>NEA2</u>			
	d	t ^θ	t ^{θ'}	θ	P ₁	P ₂	P ₃	P ₄
Continuant	-	-	-	+	-	-	-	+
Voiced	+	-	-	[-]	+	-	-	[-]
Glottalic	[-]	-	+	[-]	[-]	-	+	[-]
Compact	-	-	-	-	-	-	-	-
Grave	-	-	-	-	+	+	+	+
Strident	-	-	-	-	-	-	-	-
Abrupt Release	-	-	-	[-]	-	-	-	[-]

P₄ -- the developments, respectively, of NEA1 /d[̃], t[̃], t[̃]', θ/.

The NEA2 segments resulting from the change are represented abstractly in Table 4 because I have deliberately formulated Rule (3) in such a way as to leave the resultant NEA2 segments phonetically ambiguous. The classificatory features define the first three segments as affricates (they are all [-Continuant, -Abrupt Release]) and the fourth as a fricative. All four are either labials or labiovelars (both of these classes of segments are [+Grave, -Compact]). Now, in the present-day dialects of GLA, the reflexes, respectively, of P₁-P₄ are, for Dogrib and Bearlake: /g^w, k^w, k^w', w/; for Hare: /g^w, k^w, 'w, w/;¹⁰ and for Mountain: /b, p, p', f/.

Thus, by keeping Rule (3) maximally simple (it specifies nothing more than a shift in the [Grave] feature,¹¹ and is therefore no more complicated than the stridency shift that marks the divergence of PNEA from PA), we arrive at a system of (phonological) obstruents for NEA2 that provides quite neatly and simply for the subsequent divergent developments of the NEA2 system into those of the present-day GLA dialects. Presumably, pre-Hare-Bearlake-Dogrib and pre-Mountain subsequently innovated further, in different directions, the former group ending up with labiovelars and the latter with labials (see Table 1).

A Digression on Wrigley Slave

Some months ago, in transcribing a tape-recording of Slave as spoken by the chief of the Slave band at Fort Wrigley, I was struck by an interesting peculiarity of the informant's phonology that would appear to have some re-

¹⁰Hare-Bearlake-Dogrib historical phonology is treated in Howren 1970.

¹¹If we must be phonetically realistic, the classificatory features of P₁-P₄ suggest either one of two sets of segments: (a) b^v, p^f, p^f', f, or g^w, k^{xw}, k^{xw}', x^w. The former seems more likely to me, but the question is both unresolvable and irrelevant.

relationship to the GLA sound change just discussed in section 3. In many utterances where one would expect a dental fricative (since the Wrigley dialect is certainly Slavey), I distinctly heard a velar fricative: for instance, xɛʔ 'star', rather than the expected θɛʔ, or some other form with a dental initial. Similarly, the voiced derivative of the PNEA *θ generally sounded velar, as best I could interpret what I heard on the tape,¹² and the PA *s-perfective prefix is clearly xe- (Ch and other Sl θe-, Dr We-).

I hear, or think I can hear on the tape such pronunciations as beyáʔ 'his mouth' (Ft. Providence beǎáʔ, Dr. wéwá), neyéʔ 'your skin' (Liard neǎéh, Dr néwo), etc. Tape-recorded fricatives are notoriously difficult to discriminate one from another, however, and I accordingly subjected several of the questionable utterances to acoustic analysis, using a Kay Electric 6061A Sona-Graph. In general, the spectrograms -- especially those of the voiceless fricatives -- confirmed my auditory impressions: the acoustic spectra of sounds in question bear a marked resemblance to those of obviously velar articulation. Either they are altogether velar, or they are dentals with a velar coarticulation.

The point of all this is that the Wrigley dialect of Slave seems to have been affected, either directly or indirectly, by the GLA "gravity-shift" (plain velars are [+Grave] but unlike labials and labiovelars, [+Compact] as well). If the single Wrigley informant's idiolect is typical and not idiosyncratic, the most likely explanation of this peculiarity is dialect borrowing -- and that from the labiovelars typical of Dogrib, Hare, and Bearlake,

¹²The tape was made by Michael Asch, an anthropologist who was engaged in ethnographic field work among the Slavey. He says (private communication) that he has never noticed any velars corresponding to Slave dentals.

not from the labiodental f, v of Mountain, to which Wrigley Slave is in closest proximity today. If there is any merit to this suggestion, then it points perhaps to an earlier association with the Dogrib branch of GLA, but I hasten to add that the whole matter is too nebulous to draw any conclusions from.

Back to NEA1

I have attempted thus far to trace the principal phonological divergence of PNEA from PA, and the further divergence of GLA from Slave and Chipewyan. I return now to the divergence of Chipewyan from NEA1 (=PNEA-minus-Chipewyan, or the common predecessor of GLA and Slave; see Figure 1, above). The innovations in NEA1 marking its separation from pre-Chipewyan include the following (see Fig. 2):

- (a) the first person singular pronominal subject prefix becomes h

"I eat"	Sl	šé-h-ti
	Dr	še-h-tí
	Ha	šé-h-ti
	Ch	še-s-ti

- (b) the L ('voiceless l')-classifier becomes h

"he makes it"	Sl	ye-h-ci
	Dr	yé-h-cí
	Ha	ye-h-si
	Ch	ye-L-ci

- (c) the l-classifier is lost as a discrete, surface-phonetic segment¹³

"you hunt"	Sl	ná-ne-zé
	Dr	na-né-ze
	Ha	rá-ne-ze
	Ch	n-ì-l-ze

¹³It is retained, however, as a constituent of the abstract underlying phonological form; see Howren 1968, and below.

The isoglosses listed above are so obvious that one wonders why no notice has been taken of them previously. Two of them, however, do not offer us any *prima facie* evidence of what their PNEA etyma were. Chipewyan clearly has retained the PA L-classifier in essentially its original form, and we may safely assume, I think, that PNEA has a voiceless lateral classifier, which developed in NEA1 into h, since this reflex is shared by Slave and GLA. Reconstruction of the PNEA forms of the first singular subject prefix and the l-classifier, on the other hand, is problematical. It seems to me that there is no way of deciding whether the PNEA form of the subject prefix should be reconstructed as *š (and that consequently we understand both Chipewyan and GLA to have innovated in this respect), or whether we reconstruct PNEA *s (and therefore take Chipewyan s to be a retention). On grounds of simplicity, I would posit the latter--but for our immediate purposes the question is of no importance.

A more interesting question, because it has implications for the synchronic grammars of the NEA languages, is the one of what to reconstruct for the PNEA "voiced l" classifier. A careful inquiry into this question in the framework of generative phonology, moreover, uncovers some less obvious isoglosses than those already listed.

Michael Krauss has proposed (Krauss 1965, and elaborated in Krauss 1969) that the d- and l- classifiers were syllabic (i.e., də- and lə-). He points out, among other pieces of evidence, that certain forms retain in various attested languages vestiges of the lə-classifier in initial position, where it has not, because of its non-intervocalic position, undergone the voicing of the lateral, and has retained the vowel. Examples are to be found in Dogrib, for instance, in verbs of tasting and smelling: Léⁿdí "it tastes", Lékq "it is sweet", Lécq "it smells." Moreover, he proposes (Krauss 1969:

55-56) a (diachronic) syncope rule as a way of accounting for the voicing alternation encountered in various languages in the *s-perfective prefix (Ch and S1 θe-, Dr and Bl Wé-, Ha we-, and Mtn fe-). Krauss proposes a change by which the vowel of the perfective prefix is lost when the following classifier is syllabic (i.e., when it is də- or Lə-): V-sə-də-C V-s-də-C. If, on the other hand, the following classifier is nonsyllabic (i.e., when it is L- or zero), then the perfective prefix retains its vowel. Thus the general rule that says that spirants became voiced between vowels voices the reflex of the perfective prefix-initial *s in the latter case (provided another ["conjunctive"] prefix precedes it). These diachronic rules explain, for example, Ch naheθja 'he has returned' (from *na-he-θe-də-ya), with its voiceless fricative in the perfective prefix, and Ch neōtj 'he lay down' (from *ne-θe-θ-tj), with its voiced fricative. That is, -θe- in the latter verb, because the classifier is zero and therefore nonsyllabic, did not lose its vowel, and the initial fricative consequently became voiced because of its intervocalic position.

I want to propose here that the syncope rule and the intervocalic voicing rule for spirants which Krauss puts forward as historical changes persist in NEA as synchronic rules--that is, that the synchronic grammars of at least some Athapaskan languages, NEA among them, include at the present time rules which reflect the historical changes in question. To posit such rules in the synchronic grammars of the present-day languages, together with a few other rules which I formulate below, is the simplest way of accounting for certain morphophonemic alternations in the individual dialects of NEA. Moreover, I think it can be shown that such rules permit us to refine and sharpen our notion of isoglosses within NEA. The point may be illustrated by the Chipewyan and Dogrib third person imperfective and perfective verbs

Ch helze, Dr naze 'he hunts', Ch hélzē, Dr nahze 'he has hunted'.¹⁴

First, two observations about the "hunt" verb: (1) it is an l-class verb, as is evident from Ch helze 'he hunts,' hīlze 'you (sg) hunt,' hīlze 'we hunt,' hehelze 'they hunt.' The voiced l classifier does not, however, appear in the Dogrib forms: naze 'he hunts,' nanéze 'you (sg) hunt,' nawize 'we (du) hunt,' nagéze 'they hunt,' etc. (2) It is a so-called s-perfective verb (that is, the perfective prefix is the appropriate reflex of PA *sə-, or Ch θe- and Dr We-). However, there is in the perfective forms of the Chipewyan "hunt" verb no overt representation of the prefix θe-,¹⁵ just as in the Dogrib verb there is no overt "voiced l-classifier." Nevertheless, by positing the appropriate abstract lexical representations of the verbal structures in the two languages, and by positing for the synchronic grammars of Chipewyan and Dogrib an ordered set of rules which include the Syncope Rule (SR) and the Spirant Voicing Rule (SVR),¹⁶ plus some others I propose here, the correct phonetic shapes of the verbs can be systematically derived.

We will assume, then, that the appropriate representations of the Chipewyan and Dogrib perfective forms of the verb "hunt," at the phonological level, include the "s-perfective" prefix as a discrete morpheme,

¹⁴I confine my illustrations to Chipewyan and Dogrib because the considerable quantity of Slave data gathered during the summer of 1970 by Virginia Lawson and Stanley Witkowski has not yet been adequately analyzed. Other information on this much-neglected language is altogether inadequate. What is said here about Dogrib would seem to apply equally to the rest of GLA.

¹⁵But compare Dr naWīze and Ch hīlze 'you (sg) have hunted'; and Dr naWéze and Ch hészé 'I have hunted.'

¹⁶My earlier formulation of the SVR (see Howren 1968, and In press b), which limited the domain of the rule to stem-initial spirants, must now be revised along the lines suggested in Rule (1), below.

and that all forms of the verb in both languages include the "voiced l" classifier in the phonological shape Le-. (Krauss writes Le- as a reconstruction, but the exact quality of the vocalism is irrelevant to the problem at hand.) Thus, underlying the phonetic forms of the verbs are the following abstract phonological bases:

- | | | |
|---------------------|-------------------------------|--------------------------------|
| (a) "he hunts" | <u>Ch</u> helze | / he ≠ Le ≠ se / |
| | | (≠ = morpheme boundary) |
| | <u>Dr</u> naze | / na ≠ Le ≠ se / ¹⁷ |
| (b) "he has hunted" | <u>Ch</u> heLze ¹⁸ | / he ≠ θe ≠ Le ≠ se / |
| | <u>Dr</u> nahze | / na ≠ We ≠ Le ≠ se / |

The first rule to apply in the order of derivation is the SR, which may be formulated¹⁹ as

$$(1) \quad V \longrightarrow \emptyset \quad \begin{array}{l} / \\ \text{---} \neq \text{PF}_s \quad \text{CL} \neq \text{CV} \end{array}$$

--that is, a vowel is deleted if (a) it is the vowel of the "s-perfective" prefix (PF_s), and (b) the perfective prefix is followed immediately by a classifier (CL) of the shape CV (either Le or de).

¹⁷In the Dogrib forms, the boundary between na- and the following prefixes is not an ordinary morpheme boundary, but a higher-level boundary marking the division of the prefix-complex of the Athapaskan verb into "disjunctive" and "conjunctive" prefix-strings (see Li 1946:409). The domain of certain phonological rules is the string of prefixes lying to the right of this boundary, and excludes those to the left of it. Since this distinction is not relevant to the four verbs being used as examples, no special indication of this boundary is needed.

¹⁸I cannot account fully and systematically for the alternation between high and low tones in the Chipewyan verbs, so I ignore this phenomenon in the rules which follow.

¹⁹This is a simplified form of the rule, or more precisely, it is one of two subrules governing the deletion of the vowel of the perfective. There appear to be other environments in which the deletion takes place, but they are not relevant here.

This rule, which by definition applies only to perfective forms, affects the phonological bases of Ch heLze and Dr nahze:

Ch / he ≠ θe ≠ Le ≠ se / → he ≠ θ ≠ Le ≠ se

Dr / na ≠ We ≠ Le ≠ se / → na ≠ W ≠ Le ≠ se

The second rule in order of application is the SVR:

(2) [+Continuant] → [+Voiced] / V ___ V

This rule, as stated here,²⁰ voices all fricatives occurring in intervocalic position. Since it follows the SR, it applies to the output of that rule, and not directly to the underlying phonological representation:

Ch he ≠ θ ≠ Le ≠ se → he ≠ θ ≠ Le ≠ ze

Dr na ≠ W ≠ Le ≠ se → na ≠ W ≠ Le ≠ ze

Note that if Rules (1) and (2) had been applied in the opposite order, all the fricatives would have been voiced by Rule (2), and that the forms would stand, after both rules had applied, as

*Ch he ≠ ð ≠ le ≠ ze *Dr na ≠ w ≠ le ≠ ze

--neither of which could have been derived into the correct phonetic shape.

In short, the effect of the ordering (1, 2) is to remove from the domain of the SVR certain of the prefix-initial fricatives.

The third rule deletes the vowel of the classifier, if any:

(3) V → ∅ / ___ ≠_{CL}

This rule, which is the synchronic reflection of a sound-change of great antiquity, appears to be a rule in the grammars of almost all Athapaskan

²⁰Like Rule (1), Rule (2) is oversimple. There are constraints, not germane to the discussion, which prevent the SVR from crossing over the disjunctive/conjunctive boundary. There are also probably some slight differences in the rule from language to language.

languages. Applied to the output of Rule (2), it yields for the Chipewyan and Dogrib forms

Ch he ≠ θ ≠ Le ≠ ze → he ≠ θ ≠ L ≠ ze

Dr na ≠ W ≠ Le ≠ ze → na ≠ W ≠ L ≠ ze

The ordering of (3) to apply after (2) accounts for the fact, among others, that in the first person singular imperfective Dr nahze "I hunt" (identical with the third person singular perfective), the stem-initial fricative is voiced, while the stem-initial of Dr éhsé "I shout" is voiceless. (Compare this last form with Dr ézé "he shouts".) "Shout" has a "zero-classifier" (the first singular imperfective is from underlying / e ≠ h ≠ se /), and therefore the subject prefix h- blocks the application of the SVR. If Rule (3) applied before Rule (2), the resultant forms for Chipewyan and Dogrib "he has hunted" would have, incorrectly, voiceless stem-initial fricatives.

The fourth rule,

(4) $C^i \rightarrow \emptyset \quad / \quad \text{---} C_2 \quad \text{Condition: } C^i = PF_s$

states one of several constraints on consonant sequences in NEA (and perhaps in other Athapaskan as well). It says that in any series of at least three consonants (C_2 means at least two consonants, upper limit not specified), the first is deleted, provided that it is what is left of the s-perfective prefix.²¹ The application of Rule (4) to the output of Rule (3) reduces the consonant clusters:

Ch he ≠ θ ≠ L ≠ ze → he ≠ L ≠ ze

²¹This constraint has to be placed on the rule because there are other instances of three-consonant series where the first consonant is not the one deleted. For example, there is in the derivation of Ch hészé "I hunt" an intermediate form he ≠ s ≠ L ≠ ze (resulting from the application of Rules (1-3), with the consonant sequence sLz. In this instance, a Chipewyan

No further rules apply to the Chipewyan form, and it is phonetically correct as it emerges from Rule (4): heLze (with removal of the boundary symbols, and ignoring the addition of high tone to the vowels of the stem and prefix). The Dogrib form, on the other hand, emerges from Rule (4) in not yet correct form:

Dr na ≠ W ≠ L ≠ ze → na ≠ L ≠ ze

The derivation of the Dogrib verb becomes complete with the application of one additional rule to the output of Rule (4):

(5)*

$$\left[\begin{array}{l} +\text{Continuant} \\ +\text{Lateral} \end{array} \right] \longrightarrow \left\{ \begin{array}{l} \emptyset / \\ h / \end{array} \left[\begin{array}{l} +\text{Voiced} \\ -\text{Voiced} \end{array} \right] \right\} C \quad * \text{Dogrib only}$$

This rule applies to any lateral spirant, voiced or voiceless, that occurs before a consonant: a voiced lateral continuant is deleted; a voiceless one becomes h²². Thus,

Dr na ≠ L ≠ ze → na ≠ h ≠ ze

and the derivation of the Dogrib form is complete.

Now the essential point of all this rather tedious detail can be briefly stated: It is somewhat less than accurate to say, as I did previously, that the "voiced l" classifier is lost in GLA and Slave but preserved as l in Chipewyan. Its presence in the underlying phonological forms of Dogrib l-class verbs is attested to by the correct phonetic output

(but not Dogrib) rule must be applied: if the middle consonant is a lateral, it is deleted. This is related to, but different from, the lateral-deletion rule that is specific to Dogrib. It is in relation to such rule-differences that dialectal differentiation is best stated.

²²Compare the third person imperfective form with the perfective: the former comes out of Rule (4) as na ≠ l ≠ ze (the SVR has applied to both the stem-initial and classifier-initial because the latter is not preceded by W), and it therefore satisfies the conditions of the first of the two environment specifications in Rule (5). Accordingly, l is deleted, yielding naze "he hunts."

of general and systematically ordered rules which operate on abstract forms which are assumed to contain the classifier in the shape Le. The "voiced l" classifier, far from being "lost" in Dogrib, not only has an indirect effect on stem-initial fricatives, but appears as an overt phonetic segment h in Dr nahze "he has hunted." Moreover, it appears in Ch heLze, by the operation of the same rules, as a voiceless lateral.

We must therefore reconstruct *Le (or *Lə) for the l- classifier in PNEA, but more important, we must redefine isogloss 5, Table 2, in terms of rules: Chipewyan grammar contains Rules (1-4); Dogrib grammar (and presumably Hare, Bearlake, Mountain, and Slave grammars) contains these four rules and one other, Rule (5), which Chipewyan grammar is missing.

The addition of Rule (5), then, we may take to be an innovation of NEA1.

Nasal Consonants and the Slave-NEA2 Divergence

Non-Chipewyan NEA exhibits a rather elaborate pattern of alternation among nasals, prenasalized stops, and voiced stops in the labial and alveolar positions. One subvariety of Dogrib²³ has prenasalized stops ^mb and ⁿd occurring in stem-initial position in complementary distribution with nasal resonants m and n, respectively. The stops occur in that position before oral vowels, and the nasal continuants before nasalized vowels: ^mbé "knife," -^mbo "belly," -^mbé "swim," but mɨ 'net', -mɔ "edge, around"; ⁿdí "island" (cf. dí "this"²⁴), -ⁿdá "eye," but e-né "mother," nɨ "you (sg)." In Slave,

²³See Howren (In press b) for an account of two subdialects of Rae Dogrib.

²⁴Even in the variety of Dogrib which does not have prenasalized stops, and in which, therefore, "island" and "this" are homophones (both dí), the initial of "island" and the initial of "this" are phonologically distinct entities. In some NEA, the two historically distinct d's have probably merged completely into a single phonological segment, from the point of view of synchronic grammars.

although the denasalization of vowels is rather widespread, correspondences with Dogrib clearly imply an earlier state of affairs identical with that in present-day Dogrib. Note, for example, beside Dr ^mbé "knife" and mɨ "net," (Liard) Sl ^mbéh and mɨh. The other subdialect of Dogrib, and the rest of GLA, do not have prenasalized stops, but plain stops in the same kind of complementary distribution with nasal resonants: Ha, Bl, Mtn bie "knife," Ha, Bl mɨ? "net," etc. Chipewyan, on the other hand, has in the labial position only a stop,²⁵ and in the alveolar position only a nasal resonant: bes "knife" bɨL "snare" (cognate with Dr mɨ 'net '); -na- "eye" (cf. Dr -ⁿdá), e-ne "mother."

The most likely historical inference to be drawn from the correspondences just illustrated is that the stem-initial segments in question derive in all cases from a PNEA nasal of some sort. (It would be hard to account for the nasality of the prenasalized stops if we assumed a nonnasal PNEA prototype.) I propose to reconstruct, then, PNEA *m, *n for those consonants in NEA which correspond to Dogrib ^mb/m and ⁿd/n.

If this reconstruction is correct, then we have a tri-partite division of NEA in terms of how *m and *n have developed. In Slave and in the subtype of Dogrib which has prenasalized stops (we shall call it DogribA), the development can be formulated as diachronic Rule (6):

$$(6) \quad \left[\begin{array}{c} +\text{Consonantal} \\ +\text{Nasal} \end{array} \right] > \left[\text{aContinuant} \right] / \text{STEM}^{\neq} \underline{\quad} \left[\begin{array}{c} \text{aNasal} \\ \text{V} \end{array} \right]$$

²⁵Li 1946:399: 'm occurs only once in my materials as the initial of a stem in homə "it stinks." This apparent counter-example to my generalization, though not at present explainable, does not materially affect the argument, and I shall ignore it.

That is, a nasal consonant remained [+Continuant] if it occurred stem-initially before a [+Nasal] vowel, and became [-Continuant] if it occurred stem-initially before a [-Nasal] vowel. Thus *m became ^mb or m, and *n became ⁿd or n.

In "DogribB" and the rest of GLA, however, a different development, formulated as diachronic Rule (7), took place:

$$(7) \quad \begin{bmatrix} +\text{Consonantal} \\ +\text{Nasal} \end{bmatrix} > \begin{bmatrix} \alpha\text{Continuant} \\ \alpha\text{Nasal} \end{bmatrix} / \text{STEM}^{\neq} \underline{\quad} \begin{bmatrix} \alpha\text{Nasal} \\ \text{v} \end{bmatrix}$$

A nasal consonant, in other words, came to have the same specification for continuance and nasality, and this specification matched the nasality specification of the following vowel. Specifically, the stem-initial nasal became [-Continuant, -Nasal] if the following vowel was [-Nasal], and remained [+Continuant, +Nasal] if the following vowel was [+Nasal].

Finally, there is Chipewyan, which innovated as in Rule (8):

$$\begin{bmatrix} +\text{Consonantal} \\ +\text{Nasal} \\ \alpha\text{Grave} \end{bmatrix} > \begin{bmatrix} -\alpha\text{Continuant} \\ -\alpha\text{Nasal} \end{bmatrix}$$

(In the "alpha-variable" convention, "-α" means "the value opposite whatever value α has in another part of the rule.") A [+Grave] nasal consonant becomes [-Continuant, -Nasal] (i.e., b), and a [-Grave] nasal consonant remains [+Continuant, +Nasal] (i.e., n).

The subareas defined by Rules (6-8) are displayed in Figure 3.

The linguistic situation which is abstracted in Figure 3 and formalized in Rules (6-8) contains the basis for some inferences about what is innovative and what is conservative, and about the relative

HARE

Rule (6)

(I)

$\begin{bmatrix} +Cns \\ +Nas \end{bmatrix}$

>

$\begin{bmatrix} \alpha Cnt \end{bmatrix}$

/

STEM#

$\begin{bmatrix} \alpha Nas \\ V \end{bmatrix}$

(^mb, m; ⁿd, n)

Rule (7)

(II)

$\begin{bmatrix} +Cns \\ +Nas \end{bmatrix}$

>

$\begin{bmatrix} \alpha Cnt \\ \alpha Nas \end{bmatrix}$

/

STEM#

$\begin{bmatrix} \alpha Nas \\ V \end{bmatrix}$

(b, m; d, n)

Rule (8)

(III)

$\begin{bmatrix} +Cns \\ +Nas \\ \alpha Grv \end{bmatrix}$

>

$\begin{bmatrix} -\alpha Cnt \\ -\alpha Nas \end{bmatrix}$

(b;n)

BEARLAKE

MOUNTAIN

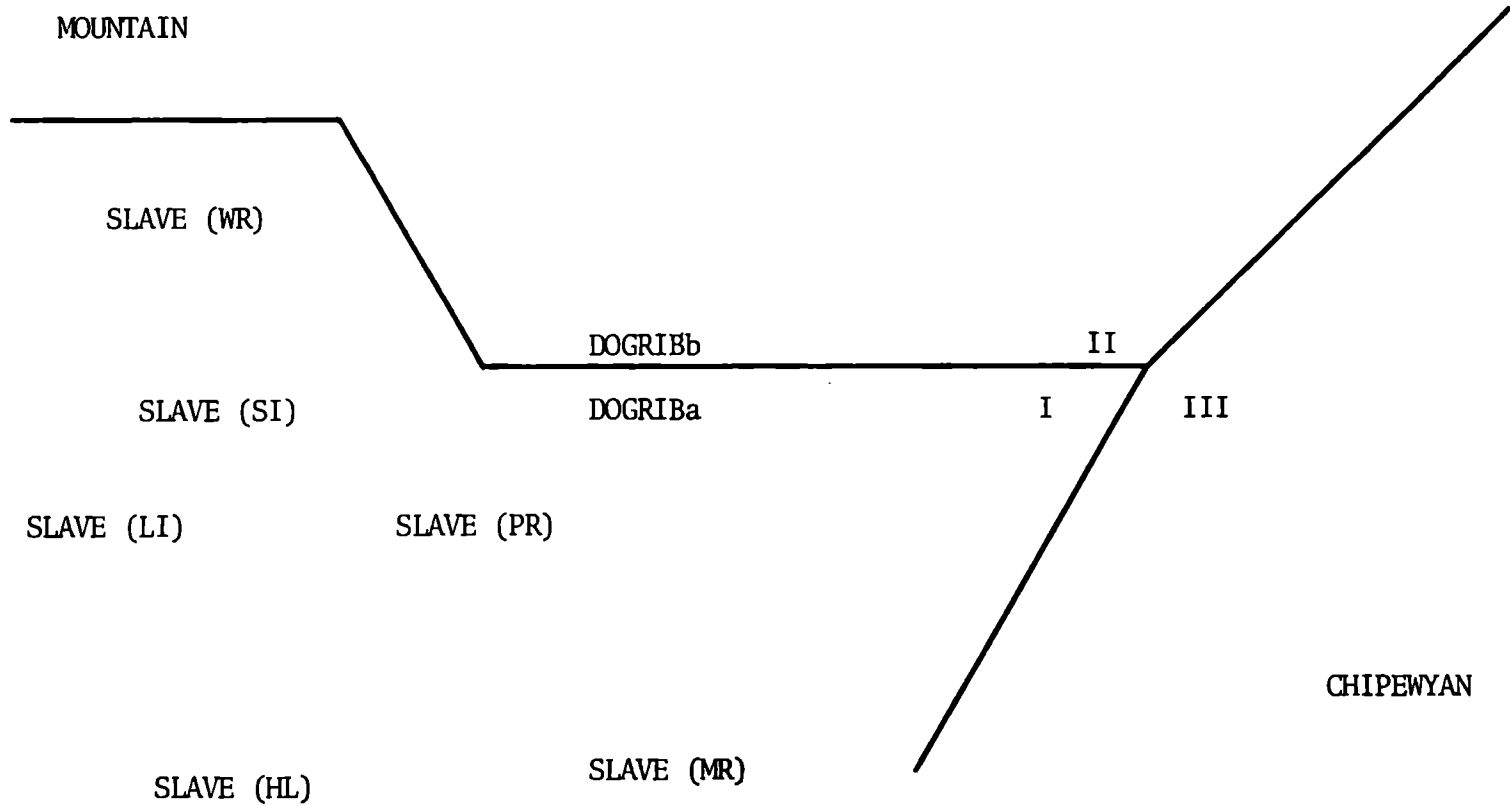


Figure 3. Developments of PNEA *m, *n as stem-initials.

chronological order of the changes that underlie the present dialectal differences in stem-initial labials. Notice the following relationships among Rules (6-8): First, the three rules may be ranged along an axis of "decreasing nasality." Rule (6) (Area I) produces a class of segments all of which contain the feature [+Nasal]; Rule (7) (Area II) eliminates nasality in one subset of segments; and Rule (8) "balances" nasality by eliminating it altogether in one subset of segments (instead of ^mb and m, there is only b) and generalizing nasality in the other (instead of ⁿd and n, there is only n). Second, there is an important difference in the phonological effect of Rule (8) compared with that of Rule (7): Whereas Rule (7) merges PNEA *d and *n into d, Rule (8) keeps them distinct. PNEA *d and *n are also kept distinct from each other by Rule (6).

Keeping these relationships in mind, we can infer that Rule (7) represents an innovation on Rule (6), and that the treatment of stem-initial *m, *n in Area I is therefore closer to the state of affairs in PNEA in this respect than that of Area II. Put another way, Rule (7) is not "reversible," in the sense that the PNEA stem-initial nasals could be uniquely and correctly recovered through it, whereas this can be done through Rule (6).

The segments defined by Rule (6), however, can be derived by a "reverse rule" from the segments generated by Rule (8). I think we may reasonably draw from this the inference that the Chipewyan development of PNEA *m, *n is independent of the others, and that moreover the Slave-DogribA rule is a retention of what was probably a rule of PNEA--at least comparative reconstruction permits us to say no more than that. I suppose, then, that at the time of the Chipewyan-NEA1 split there was some such rule as (6) in PNEA, that this rule persisted through NEA2 into contemporary

Slave, and that the failure of the general GLA innovation on Rule (6) to become fully established in Dogrib probably had something to do with contact between Dogrib and Slave. The irreversibility of Rule (7) certainly excludes the possibility that the innovation spread throughout Dogrib and that the more conservative pattern was subsequently restored. It would appear, then, that this innovation, the divergence of Dogrib from NEA3, and the hypothetical contact between Dogrib and Slave were roughly coincident. At least, such a hypothesis is consonant with the linguistic facts.

In Figure 4, I present the isoglosses determined by the combinatory patterns of the development of PNEA *m in stem-initial and prefix-initial positions. I shall not comment on these, except to point out that Mountain, which in other respects belongs with GLA, exhibits here an overall treatment of PNEA *m which is distinctly Slave, and points to a GLA-Slave contact along the lower MacKenzie comparable to a Dogrib-Slave contact further south. Since it appears that the Slaves were no further down the river than Ft. Simpson before 1800 (B. C. Gillespie, personal communication), it would seem that the Mountain-Slave contact dates from historic times.

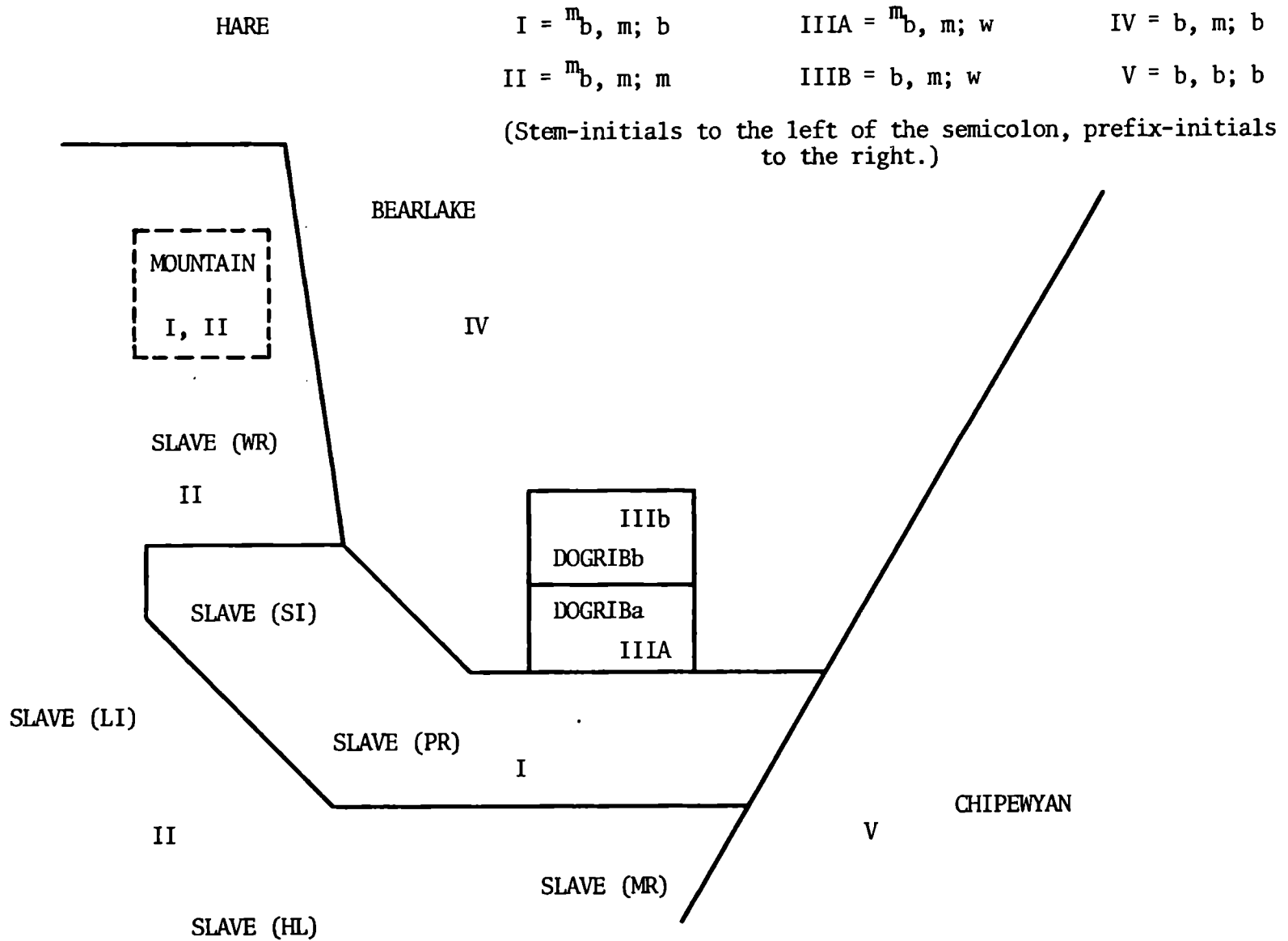


Figure 4. Combined distribution of *m in stems and prefixes.

A few Omissions

I list here a few potentially revealing isoglosses not discussed--some because of a lack of data, others because the discussion has already taxed the patience of the reader--but which should prove fruitful for historical purposes:

(a) The loss of stem-final consonants across the NEA group, and the possible relationship of this innovation to the Dogrib "tone-switch" (Dogrib tones seem in general to be mirror-images of the corresponding tones of other NEA dialects). Chipewyan has been the most conservative of the group in the preservation of final consonants, and Dogrib the most innovative.

(b) The exact extent of the loss of the distinction between the (numerically small) "nasal" class of possessed nouns and the large class without the nasal prefix: e.g., Dr wî-la "his hand," wî-γó "his nose," wî-zi "his name," beside Dr wé-k^wi "his head," etc. So far, my materials suggest that the distinction has been altogether lost in Liard Slave and in Mountain, retained irregularly in Providence and Hay Lake Slave, and consistently retained in the rest of NEA.

(c) The development of the PA (and PNEA?) optative. To various degrees, the optative seems to have been generalized as a future mode in NEA, except in Dogrib, where it is restricted, apparently, to such negative imperative constructions as déʔǫ́ wǐdǫ́ sq "Don't drink too much!" (cf. déʔǫ́ nédǫ́ le "You do not drink too much.") Its function seems to vary somewhat, however, between languages.

(d) The nature and extent of lexical differentiation within NEA. For example, two words for "moose" (cognate with Dr déⁿdí and Ha ɪc'é) appear throughout the group, frequently with one having a generic and the other a specific meaning in the same dialect. The same is true of the words cognate

with Dr ék^wq and Ha ede "caribou." A similar kind of semantic differentiation is seen in Dr wí γó "his nose" and wíćí "its snout." The latter appears in Chipewyan as the word for "a person's nose," but the former seems to have that meaning in Slave and GLA. An investigation of dialectal semantics, in short, would be an interesting and a profitable undertaking.

(e) Finally, syntax. One reason that potential syntactic differences have been ignored in the foregoing discussion is that adequate data on syntax are simply not available (my own fieldnotes, even though they contain a good deal more syntactic information than is available in many Athapaskan materials, are no exception). A good theory of historical and comparative syntax has yet to emerge.

Linguistic Facts and Extralinguistic Guesses

I have attempted in this paper a linguistic interpretation of a part of the available raw linguistic data on Chipewyan, Slave, Dogrib, Bearlake, Hare, and Mountain, with the purpose of demonstrating that at least these languages and dialects can be, and ought to be, derived from a single common predecessor, proto-Northeastern Athapaskan. I have been selective in the particular isoglosses I chose to examine--partly because these are more extensively attested in my materials than others, but what is more important, because they seem in my judgment to be more suggestive of the prehistory of NEA (as well as more interesting from the point of view of theoretical linguistics) than some others that might have been chosen.²⁶

²⁶I have not included any discussion of the interesting linguistic history of NEA3 (more particularly, of Hare) within the past hundred years, during which most of the dialectal differentiation within the NEA3 group of dialects has apparently occurred. The phonological history of Hare-Bearlake-Dogrib is discussed at some length in Howren 1970.

I will now conclude with a general statement of what seem to me to be the extralinguistic implications of the linguistic facts as I have interpreted them--or, if you prefer, with a general statement that is, at worst, not inconsistent with the linguistic facts.

There was at some prehistoric period a more or less homogeneous linguistic community which we may designate as proto-Northeastern Athapaskan, which had diverged from a still more remote and as yet undeterminable predecessor, to the accompaniment of a consonant-shift which turned all noncompact strident obstruents into nonstrident ones. At some subsequent time, the predecessors of the present-day Chipewyans (and the extinct Yellowknives) split off from the parent community, leaving a remnant which we designate NEA1. After the departure of the pre-Chipewyans, certain linguistic changes occurred in NEA1. Among these changes was one which took the first person singular prefix of certain verb forms from s- to h-. Another of these changes was the addition of a phonological rule to the grammar of NEA1 (Rule (5), above) which deleted a voiced l before another consonant and changed a voiceless l to h in the same environment. (Rules (1-4), above, had been passed on from PNEA, and had been carried away in the brains of the pre-Chipewyans when they left home.) Another phonological rule which had probably been handed down from PNEA was Rule (6), which made nasals into prenasalized stops before nonnasal vowels and left them unchanged before nasalized vowels. (The pre-Chipewyans had taken this rule away with them also, and subsequently turned the prenasalized labial stops and the labial nasals into plain labial stops, and the prenasalized alveolar stops into ordinary nasals.)

Eventually there came a time when the pre-Slaves grew restless and departed the Ur-Heimat, leaving behind the somewhat reduced community we have labelled NEA2. Rule (6) remained intact in the grammar of NEA2, but a rather drastic change took place in the series of dental obstruents handed down from NEA1. The series underwent a shift in the gravity feature, and became some kind of labialized class of consonants.

How far and in what direction the pre-Slaves went I must leave to the ethnohistorians to find out, but eventually they seem to have shown up around the western end of Great Slave Lake, where they came into contact with their erstwhile neighbors, the Dogribs, who had in the intervening period drifted away from the NEA2 community, leaving behind what I have designated NEA3. The pre-Dogribs had not been linguistically static during this period of divergence from the parent community. Their dialect had undergone the following changes: (1) it had changed the NEA2 bilabial nasal to w in prefix-initial position, (2) it had lost its possessive suffix on possessed nouns and thereby lost also the final consonants of stems, and (3) it had made, probably as an indirect consequence of losing all final consonants, some drastic changes in pitch-accent. Meanwhile, what was left of NEA2--namely, NEA3--had not remained linguistically inactive either. The old optative prefix was called into service as a general future-tense marker (Chipewyan and Slave, apparently independently of each other and of NEA3, had done the same thing). At some point after this liberalization of the optative, pre-Mountain split off from NEA3 and subsequently created its own variety of grave, noncompact obstruents, ending up with a series of labial stops and labiodental fricatives.

While all this was going on, the Slaves were moving north along the MacKenzie River, and eventually the migration came full circle as the Slaves and their cousins, the Mountain Indians, once again became neighbors in the same linguistic community.

REFERENCES

- CAIRNS, Charles E.
1969 Markedness, Neutralization, and Universal Redundancy Rules.
 Language 45:863-885.
- CHOMSKY, Noam and Morris HALLE
1968 *The Sound Pattern of English*. New York: Harper & Row.
- DESSY, Jean
1949 *Grammaire Esclave*. Fort Simpson, N.W.T. typescript.
- GILLESPIE, Beryl C.
1969 An Ethnohistory of the Yellowknives: A Northern Athapaskan
 Tribe. M.A. thesis, University of Iowa, Iowa City.
- HOIJER, Harry and others
1963 Studies in the Athapaskan Languages. *University of California*
 Publications in Linguistics.
- HOWREN, Robert
1968 Stem Phonology and Affix Phonology in Dogrib. In *Papers from*
 the Fourth Regional Meeting, Chicago Linguistic Society. B.J.
 Darden and others, Eds. pp. 120-129.
- 1970 A Century of Phonological Change in a Northern Athapaskan Dialect
 Group. Paper presented at the Ninth Conference on American
 Indian Languages, San Diego, California.
- in press a. A Formalization of the Athapaskan 'D-Effect'. To appear in
 International Journal of American Linguistics.
- in press b. The Phonology of Rae Dogrib. To appear in *Bulletin of the*
 National Museum of Canada.
- JAKOBSON, Roman, Gunnar FANT, and Morris HALLE
1963 *Preliminaries to Speech Analysis*. Cambridge: M.I.T. Press.
- KRAUSS, Michael
1964 Proto-Athapaskan-Eyak and the Problem of Na-Dene: The Phonology.
 International Journal of American Linguistics 30:118-131.
- 1965 Proto-Athapaskan-Eyak and the Problem of Na-Dene: Morphology.
 International Journal of American Linguistics 31:18-28.
- 1969 On the Classifiers in the Athapaskan, Eyak, and Tlingit Verb.
 Indiana University Publications in Anthropology and Linguistics.
 International Journal of American Linguistics Memoir 24.
- LI, Fang-Kuei
1933 Chipewyan Consonants. *Bulletin of the Institute of History and*
 Philology of the Academia Sinica, Supplementary Vol. I:Ts'ai
 Yuan P'ei Anniversary Volume. Peiping. pp. 429-467.

- 1946 Chipewyan. In *Linguistic Structures of Native America*.
Harry Hoijer and others, Eds. *Viking Fund Publications in
Anthropology* No. 6. pp. 398-423.
- OSGOOD, Cornelius B.
1931 The Ethnography of the Great Bear Lake Indians. *National
Museum of Canada Bulletin* 70. pp. 31-92.
- POSTAL, Paul
1968 *Aspects of Phonological Theory*. New York: Harper & Row.
- REICHARD, G.A.
1951 *Navaho Grammar*. New York: Publications of the American
Ethnological Society.
- RICHARDSON, Murray
1968 Chipewyan Grammar. Typescript.

SOME NOTES ON PLATEAU ATHAPASKAN

Clark Davis

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SOME NOTES ON PLATEAU ATHAPASKANS

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Résumé

Les notes sur la langue des Athapaskan des plateaux constituent une critique de l'analyse menée par J.P. Harrington sur le tsilcotene et le nicola. Or, selon Davis, les travaux de Harrington ne porteraient pas sur le tsilcotene, mais sur un dialecte des Porteurs du nord. Les listes de mots nicola établies par Harrington semblent être inexistantes, ce qui n'apporte aucun éclaircissement sur le lien que voyait l'auteur entre les Nicola et les autres tribus athapaskan. Au lieu de constituer une variation du tsilcotene comme le croyait Harrington, la langue étudiée s'apparentait peut-être davantage à la langue des Porteurs ou, comme le propose Boas, à un dialecte plus septentrional du groupe athapaskan du Pacifique.

Abstract

Notes on Plateau Athapaskan linguistics is a critique of J.P. Harrington's analysis of Chilcotin and Nicola. Davis concludes that Harrington's Chilcotin is not Chilcotin but is, in fact, a northern dialect of Carrier. Harrington's Nicola word lists appear to be nonexistent, thus his purported relationship of Nicola to the other Athapaskans is still enigmatic. It may not have been a variation of Chilcotin as he thought, and instead may have been related to Carrier or, perhaps as Boas suggested, a more northerly member of the Pacific Athapaskan group.

I would like to present here a few ideas regarding Plateau Athapaskan, partly in the hope that some members of the Conference with specialized knowledge of the topics concerned will be able to offer further suggestions.

Speculations on Harrington's Chilcotin

In studying the data presented in J.P. Harrington's paper, "Pacific Coast Athapaskan Discovered to be Chilcotin" (1943), it struck me that the forms listed as Chilcotin were very similar to Carrier. Further inspection, comparing Chilcotin (King n.d.), Southern or Ulgatcho Carrier (my field data),

Northern Carrier (Walker n.d.; Morice 1932), and Harrington's material, confirmed that his "Chilcotin" is almost certainly Carrier.

This is not to denigrate Harrington's work. It is, in fact, only because his transcriptions are so good that meaningful comparisons can be made. Of some sixty-two glosses listed by Harrington, many are identical in all three languages. For some of Harrington's forms, there are no equivalents available in either Chilcotin or Carrier. In a few cases, there are equivalents for either Chilcotin or Carrier, but not both.

There remains a residue of comparisons which I think demonstrates that Harrington's "Chilcotin" is in fact a dialect of Carrier (probably a northern dialect), rather than Chilcotin.

The list below presents the diagnostic sets of lexical items. The various orthographies have been normalized for purposes of these notes. The Northern Carrier is from Walker (n.d.), unless otherwise indicated by the abbreviation Mor., for Morice 1932. Tone is not indicated.

There are a few other items which make sense in none of the languages, and these I have swept under the rug since they appear not to affect the outcome in either direction.

From inspection of the twenty-two items in the list, it seems obvious that Harrington's "Chilcotin" is Carrier. Four of the glosses (7, 15, 16 and 20) further point to Northern Carrier. Numbers 16 and 20 are self-explanatory lexical items. Number 7 is perhaps diagnostic on phonetic grounds: Chilcotin has a phonemic *a-æ* distinction, whereas in Carrier these vowels are non-phonemic variants of /a/. Number 15 is also diagnostic in that Southern Carrier retains certain final consonants (as in *-zek* 'mouth') which do not occur in Northern Carrier.

	<u>Harrington</u>	<u>So. Carrier</u>	<u>No. Carrier</u>	<u>Chilcotin</u>
1. I, me	si	si	si	sit
2. eye	na	-na	-na	-naɣ
3. knee	gwət	-gwət	-gwət	-tsigwət
4. fire	kwən	kwən	kwən	kən
5. person	dəne	dəne	dəne	dəni
6. trail	-ti	-ti	ti 'path'	-tən
7. arrow	k'a	k'aza, k'a	k'a Mor.	k'æ
8. to be good	-zu	-zu	-zu	-zɔ
9. tooth	-ɣwu	-ɣwo, ɣu (fluctuation)	-ɣu	-ɣwo
10. large	-tšo	-tšo n., -tša v.	-tša v.	-tša v.
11. tail	-tše	-tše	-tše	-tši
12. firewood	tsəz	tsəz	tsəz	tə'əd
13. charcoal	t'es		t'es Mor.	t'is
14. dog	ɪ	ɪ	ɪ	ɪin
15. mouth	-de	-zek	-de	-de
16. bone	-tə'an	-ts'an	-tə'an	-gwət
17. roof	bən	bən	bən Mor.	bəntš'ət
18. pus	xəz	xəz	rhəz Mor.	xəd
19. black bear	səs	səs	səs	səs
20. grizzly	šaθ	šas	šaθ	nunitsɨ
21. snake	tl'əyəs	tl'əyəs	tl'əyəs Mor.	tl'oywasən
22. alder	k'əs	k'əs 'birch'	k'əs Mor.	no equivalent in stems available

Numbers 19 and 20 are diagnostic at least for the modern forms of these languages. The səs-^vsas (black bear and grizzly bear) distinction is maintained in Harrington's "Chilcotin" and in Carrier, but not in Chilcotin. Chilcotin nunitsj "grizzly" looks as if it is a verbal form, and might be a euphemism. In areas where grizzlies occur in British Columbia there are many euphemisms applied to them, both in white and Indian languages.

It is difficult to decide how Harrington may have confused the languages, or where he collected his "Chilcotin" material. No real clues are given in the paper itself. Margaret Blaker of the Smithsonian (personal communication, through the good offices of Roscoe Wilmeth and Waldo Wedel) provided copies of annual reports and correspondence that seemed to bear on the question of Harrington's field work in B. C. at that time. It is clear that Harrington did field work on Carrier at Ft. St. James in 1939/40, and many of his other movements are explained. But although he discusses Chilcotin in general, nowhere is there any evidence that he actually collected any Chilcotin material.

Where did his Chilcotin vocabulary come from? There was no Chilcotin material in print prior to his paper that would suggest a possible source. He could have, I suppose, been using the term "Chilcotin" in a generic sense, to include Carrier and Chilcotin, although elsewhere he distinguishes between the two.

Regarding the larger question raised by Harrington's paper, that is, whether Pacific Coast Athapaskan is indeed Chilcotin, it seems highly unlikely that PCA could be very closely related to Chilcotin, or at least no more so than to other Northern Athapaskan languages. In any case the question from Harrington's point of view is largely academic, if indeed his "Chilcotin" is not really Chilcotin.

Hoijer (1956) gives an approximate (glottochronological) date of 1300 B.P. for the Pacific Coast-Northern Athapaskan split, and approximately 1000 B.P. for the Southern-Northern Athapaskan separation. It seems to me much more reasonable that PCA diverged from the Northern stock at an earlier time, and bears no special relationship to Chilcotin.

A few glottochronological determinations that I have made fit in very well with those of Hoijer (1956) and Hymes (1957) [e.g., Navajo-Chilcotin 889 B.P., Navajo-Carrier 663, Carrier-Chilcotin 601, Navajo-Chipewyan 788]. Insofar as these dates have validity, it seems to me probable that languages like Navajo, Chipewyan, Chilcotin and Carrier are representatives of a divergence that took place approximately 1000 years ago, perhaps beginning around northern British Columbia, and that PCA languages resulted from an earlier split.

There were, of course, probably many local separations and recombinations of bands at various times in the past. The Navajo, for example, have strong traditions of small "dene" groups wandering into the Southwest over varying periods of time, and it may be that the Southern Athapaskans reflect northern splits and/or subsequent recombinations.

Speculations on Nicola

A somewhat related question has to do with Harrington's and others' speculations on the position of the extinct Nicola language within the greater Athapaskan family.

In his paper (1943:204), Harrington states that he did fieldwork on Nicola: "Working separately with eight different informants, I swept their memory clean of the former [Nicola] language and obtained a sizable and important list of vocables...."

That statement notwithstanding, there are no Nicola words given in the body of the paper, and the above-mentioned information supplied by the Smithsonian provides few clues as to Harrington's whereabouts. The fifty-seventh Annual Report of the B.A.E. (1939-40:3) has a paragraph on his field trip of that year: "The Carrier, Chicotin and Nicola dialects were reached in December. These are located on the upper Fraser River, especially about the great lakes at the head of this stream." His correspondence for December and January indicate that he did indeed do field work at Ft. St. James [Carrier] as mentioned above, but there is no mention of Chilcotin or Nicola, except to say that if the stage south to those areas were not available, he would take the steamer at Prince Rupert and go by sea to Vancouver, thence south to Washington.

The fifty-ninth Annual Report of the B.A.E. (1941-42:2-3) states that "Following the Aleutian work, Dr. Harrington proceeded to British Columbia, where he undertook studies of the relationship of the Navaho and Apache with the Athapascan stock of the northernmost Rocky Mountains.... In British Columbia Dr. Harrington recovered traditions that the Chilcotin language had formerly occupied the Nicola Valley, and was able to obtain a large number of Chilcotin words in that region, handed down in individual families." There is no correspondence applicable to this trip.

The plot thickens. The Annual Reports and correspondence would seem to indicate that Harrington worked only in northern B.C., far from the Chilcotin and Nicola areas. Another check with Margaret Blaker of the Smithsonian (personal communication) produced the information that so far as she knew there was no Harrington Nicola manuscript extant. In fact, she said, Michael Krauss had searched their archives some time before, without result.

In any case, it seems unlikely that Harrington could have collected Nicola material in the 1930's, since the language was apparently extinct some decades before.

Dave Wyatt (State University of New York, Potsdam, personal communication) confirms that there are probably no traces of the Nicola [Stuwix] left today; his archaeological investigations of the Nicola have produced little trace of them.

Unfortunately, then, it seems unlikely that new Nicola materials will come to light.

I have tried to compare the few lexical items given in Boas (1895 [from information supplied by Teit, McKay and Dawson]) with Chilcotin and Carrier. This Nicola list has been reprinted elsewhere (e.g., Boas 1924), but apparently with minor orthographical variations, some of which are significant, as in the shift from k'e to Qe "arrow." Of the thirty-nine Nicola items, somewhat less than half can be identified as Athapaskan. The remainder are presumed to be of Salish or other origin.

Regarding the Athapaskan residue, the phonetic transcriptions of Teit, Dawson and McKay are so much at variance with each other that it proves almost impossible to reconstruct hypothetical or "averaged-out" Nicola forms for comparison with other Athapaskan languages.

To use two examples already listed above, "snake" and "bear," compare the following:

	<u>Chilcotin</u>	<u>Carrier</u>	<u>Nicola</u>
1. snake	tl'oywasən	tl'əyəs	Tlohst-ho McKay klos-ho' Dawson stlosho' Teit "rattlesnake"

- | | | | | |
|----|------------|---------|-----|---------|
| 2. | black bear | səs | səs | sass M. |
| | | | | sus D. |
| | | | | sas T. |
| 3. | grizzly | nunitsj | šas | sas D. |

If Nicola "snake" is reconstructed or averaged out as *tlos-ho, then it does not bear much relationship to either Chilcotin or Carrier. Number 2, "black bear," presents similar confusion; is the form *səs, *sas, or *šas? Dawson makes a distinction between "black bear" sus, and "grizzly" sas, which may be the same as that made by Carrier, but in that case why would he not have written *shas, or some such, for "grizzly"?

I haven't really done my homework, but it seems to me impossible, based on the few vocabulary items available, to either support or deny the traditions that the Nicola are merely a band of Chilcotins who moved into the Nicola Valley toward the middle of the 18th century.

Wider ranging comparisons with other Athapaskan languages may solve the problem; even a negative result could point back to Chilcotin or another neighbor.

If Nicola is not Chilcotin, how then can the persistent traditions of Chilcotin origin be explained?

For one thing, the Chilcotin are the most southerly of the Northern Athapaskans, of course, and in one sense they were the closest Athapaskan neighbors of the Nicola, so a natural assumption may have grown up that the Nicola were Chilcotins. The whole plateau area west of Williams Lake is commonly called "The Chilcotin," and to people further south in British Columbia, "The Chilcotin" may only have indicated the nearest known Northern Athapaskan area.

Writing in 1892, Allison related a tradition that the Nicola had moved into the area one hundred and fifty years before. This would give a date of approximately 1742. At that time, the Chilcotin were much further west in the Chilcotin plateau than they are now. The west side of the Fraser River for a considerable distance inland was solidly occupied by Carriers and Shuswap, and the Chilcotin were bounded on the south by the Lilloet (Davis 1970; Lane 1953). Thus, the Carrier in many ways would have been the closest Athapaskans to the Nicola.

Boas (1895) doubted the theory of Chilcotin origin, and added "I do not doubt that they [Nicola] must be considered the most northern of the isolated bands of Tinneh origin which are found all along the Pacific Coast." Perhaps it will turn out that Harrington's paper should have been titled 'Pacific Coast Athapaskan Discovered to be Nicola.'

Nevertheless, one hopes that somewhere in some smoldering anthropological archive, a Harrington or other Nicola manuscript will turn up so that the ghost of these people can be laid. Any suggestions?

REFERENCES

- ALLISON, S.S.
1892 Account of the Similkameen Indians of British Columbia. *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 21:305-18.
- BOAS, F.
1895 The Tinneh Tribe of Nicola Valley. *Report of the British Association for the Advancement of Science* 65:524-551.
1924 Vocabulary of the Athapascan Tribe of Nicola Valley, British Columbia. *International Journal of American Linguistics* 3:36-38.
- BUREAU OF AMERICAN ETHNOLOGY
1939-40 57th Annual Report
1941-42 59th Annual Report
- DAVIS, C.
1970 The Identity of Netca'ut'in. *International Journal of American Linguistics* 36:59-60.
- HARRINGTON, John P.
1943 Pacific Coast Athapascan Discovered to be Chilcotin. *Journal of the Washington Academy of Sciences* 33:203-13.
- HOLJER, H.
1956 Chronology of the Athapaskan Languages. *International Journal of American Linguistics* 22(4):219-32.
- HYMES, D.H.
1957 A Note on Athapaskan Glottochronology. *International Journal of American Linguistics* 23:291-96.
- KING, Q.
n.d. Chilcotin Phonemics. National Museum of Man. Ottawa. (in press)
- LANE, Robert B.
1953 Cultural Relations of the Chilcotin Indians of West Central British Columbia. Ph.D. Dissertation, University of Washington, Seattle. (University Microfilms No. 5296)
- MORICE, A.C.
1932 The Carrier Language. *Anthropos, Linguistische Bibliothek* 9, Mödling bei Wien, St. Gabriel.
- WALKER, R.
n.d. Central Carrier Phonemics. Unpublished manuscript, National Museum of Man. Ottawa.

THE PLACE OF IPIUTAK-RELATED ASSEMBLAGES FROM
INTERIOR ALASKA IN WESTERN ATHAPASKAN AND
WESTERN ESKIMO PREHISTORY

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 WESTERN ESKIMO PREHISTORY

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Résumé

Les fouilles entreprises en 1971 par la Commission archéologique du Canada (Musée National de l'Homme) ont permis de dégager les sites de deux petits villages situés aux abords du lac Hahanudan, à proximité du village de Huslia, le long de la Rivière Koyukuk au centre-ouest de l'Alaska. Les outils retrouvés s'apparentent à ceux de la culture Ipiutak qui ont été découverts dans la région ethnographique esquimaude du Nord-Ouest de l'Alaska. Bien que les ethnographes considèrent généralement les Ipiutak comme des Esquimaux, les objets analysés présentement proviennent du territoire actuel des Indiens athapaskan koyukon.

Toutefois, même si les outils hahanudan semblent témoigner d'une occupation esquimaude dans le territoire Koyukuk, on sait que les technologies des cultures en contact exercent parfois l'une sur l'autre une influence considérable. Les Hahanudan ayant pu être esquimaux ou indiens, le problème de l'identification ethnique est envisagé en fonction des grands courants préhistoriques de la région. Une telle méthode ne permet pas de tirer de conclusion rigoureuse, mais les critères typologiques grâce auxquels un premier lien avait été établi avec les Ipiutak tendent à confirmer la théorie d'une occupation esquimaude antérieure du bassin moyen inférieur de la rivière Koyukuk.

Abstract

Two small housepit village sites located at Hahanudan Lake near the village of Huslia on the Koyukuk River of western interior Alaska were excavated by the National Museum of Man, Archaeological Survey of Canada, in 1971. Implements recovered are similar to ones belonging to Ipiutak culture found in the ethnographic Eskimo area of northwestern Alaska. Ipiutak people generally are accepted as having been Eskimo, whereas the material presently under consideration comes from contemporary Koyukon Athapaskan Indian territory.

Although the Hahanudan implements appear to indicate Eskimo occupation in the Koyukuk region, it is recognized that sometimes cultures in contact influence one another's technology to an overwhelming degree. Thus, it being the case that Hahanudan could be either Eskimo or Indian, the problem of ethnic identification is examined in the broader context of trends in the prehistory of the region. No firm conclusion is reached from this approach, but the typological grounds on which the assemblage first was identified as Ipiutak-related remain the basis for

supporting a proposed former Eskimo occupation of the lower-middle Koyukuk River drainage.

Introduction

During 1971 the National Museum of Man continued archaeological surveys within a region of recent ethnographic studies (A. Clark 1970a, 1970b and this volume) located in the vicinity of the Koyukuk obsidian source--Batza Téna--of west central Alaska (Fig. 1) (D. Clark 1972, 1973; Clark and Clark 1972). The last two weeks of the field season were spent excavating two groups of undisturbed house depressions located along the shores of Hahanudan Lake at approximately 155°32' W. longitude, 65°42' N. latitude. Initial probes had indicated that these houses would yield lithic material, particularly flaked obsidian, and thus their excavation would complement our own earlier Koyukuk house excavations, done in 1968 (A. Clark and D. Clark 1973), as well as those of de Laguna (1947) and Campbell (Morlan 1967), which had not penetrated beyond the early historic or protohistoric horizon and had not yielded any appreciable lithic assemblages.

As the excavation progressed the writer was struck by the absence of a persistent and familiar northern Athapaskan hallmark: the boulder flake hide working stone or its variant, the large tabular trimmed sheet of schist (so-called *toi-tho*). By the time we were finished it had become apparent that most of the distinctive artifacts had close counterparts in the Norton and Ipiutak Eskimo cultures. At this juncture it should be pointed out that we are dealing with a locality situated in the boreal forest approximately 160 miles inland, as measured from either Norton Sound or Kotzebue Sound, deep within present-day Koyukon Indian territory. Since this Eskimoid complexion had not been expected, although in northwestern Alaska Eskimos and Indians have many traits in common, I feel that the Hahanudan material singularly merits consideration of its probable significance and ethnic affinity.

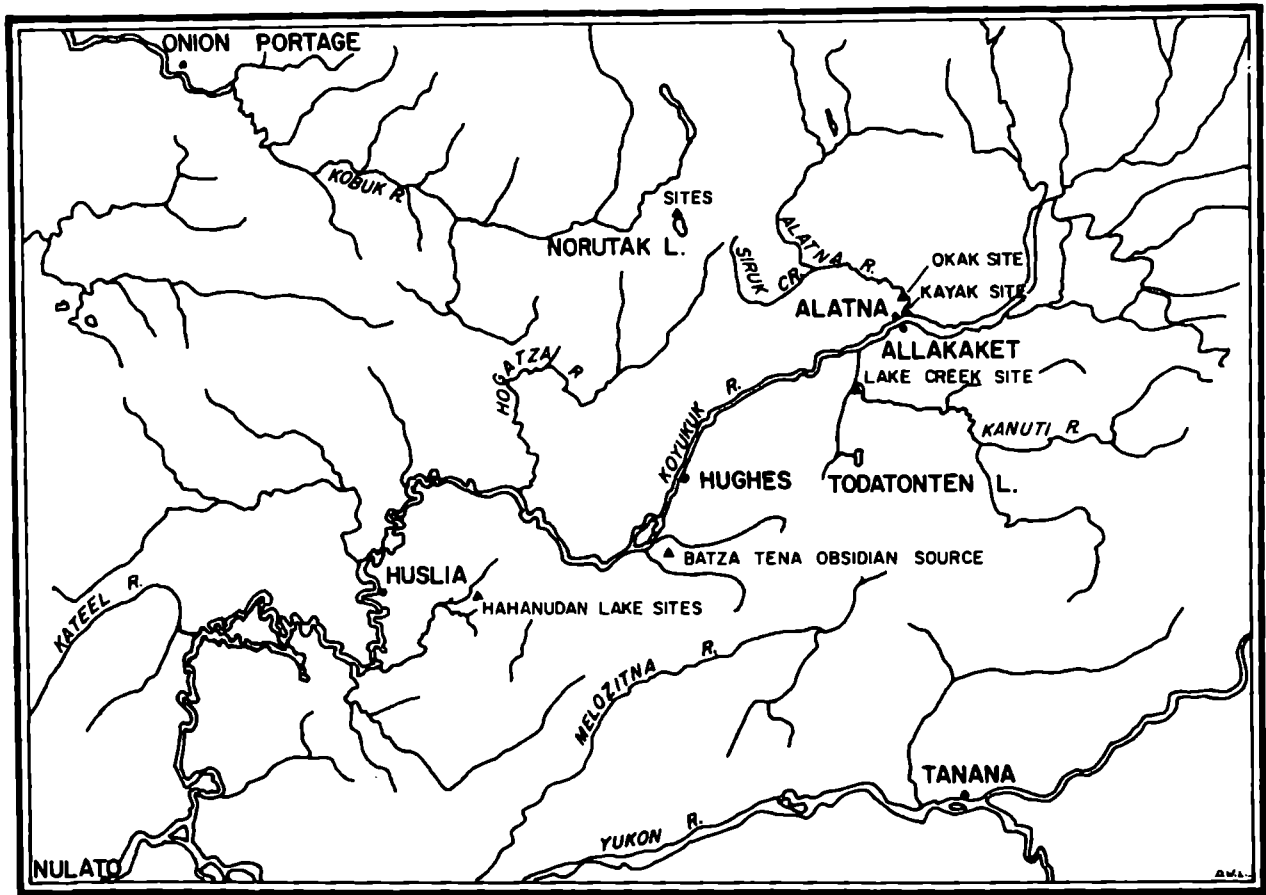


Figure 1. Map of the Koyukuk River area.

Inasmuch as the present article is primarily explicative, and a full descriptive report is in preparation, the sites, features, and collections will be described only briefly. The artifact classification in Table I is preliminary.

Description of Sites and Houses

One small village, RkIk-3 or the three-house site, consists of three house depressions as well as an additional feature depression. Two houses as well as three cache pits were present at the other, two house-site or RkIk-5. The cache pits are not necessarily associated with the houses since they are located several hundred feet distant and they did not yield sufficient artifacts for correlation. All five houses were completely excavated. In addition, a small cluster of artifacts was secured from a small open site, RkIk-4, situated one to one and one-half miles from the houses, that also was associated with a group of cache pits, one of which was excavated.

The two small village sites are located less than a mile apart along the lake on slightly elevated, well drained, sandy deposits which support a mixed forest, primarily aspen and spruce. There are no bedrock outcrops or gravel deposits in the vicinity of Hahanudan, an apparent thaw lake.

Although these sites have been spoken of as a settlement in the singular, some differences between them are observed and they may differ in age by two centuries (see dating below). There is no evidence to indicate that all the houses in each group were occupied simultaneously but each site shows internal consistency.

The houses varied in floor plan from square to sub-rectangular to slightly irregular, with or without an entrance passage. In the three cases where an entrance was recognized, including both houses at the two-house site, the entrance passage was short, at floor level, and faced away from the lake

principally in a southerly direction. The floors ranged from a maximum size of 12 by 13 feet to a minimum of 8½ by 9 feet, and were 2 to 3½ feet below ground surface. Generally, the simple hearths were centrally located, but in one small elongate house, and possibly in one other house, the hearth area was placed noticeably closer to one of the lateral walls. Darkened traces of skewer-stick holes were plainly visible around the periphery of two hearths, one in each site, but no post holes or wall footings were apparent in any of the structures. Considering the favorable context, a tan to red-brown sand deposit, it is unlikely that we would have missed all such structural traces if they were present. Other organic preservation, of bone artifacts for instance, was however nearly nil.

Floors were relatively well demarked variously by discontinuous traces of organic staining, red oxidized sandy layers in some houses, the hearths, and in one case by charcoal and small burned timbers, and when none of these were present they could be traced through the presence of flakes. Fragments of carbonized (not burned) birch bark were found in the floor layers of one house (RkIk-5 H2). Artifacts, including flakes, were not confined to a single floor smear but occurred through an interval of many centimeters terminating with the base of the floor. This interval was, however, overlain by sands which were largely, but not totally, sterile. Various lines of evidence point to a single occupation of each house pit, probably over a period of several seasons. Any evidence for the superstructure is conjectural and various construction options can be offered, although the effective inside living area apparently was limited to the floor as revealed in the excavations.

No midden or refuse areas were found, but difficulty in working within the heavily-rooted forested area discouraged extensive testing outside the houses. At one site a pit of undetermined function (RkIk-3 Feature pit) yielded several

flakes and artifacts in a matrix of oxidized sand. It is apparent from the recovery of incomplete artifacts that some material must have been reutilized or otherwise taken out of the houses and not recovered by us.

The incidence of flakes per square foot ranges from nil to approximately 60. Areas of low flake incidence are the hearth and the entry or probable entry areas. It appears that bone refuse, flakes, and artifacts were seldom, and perhaps never intentionally, thrown into the fire, a fact which is concordant with contemporary and protocontact Koyukon practice. In the larger structure at the two-house site the flake distribution approximately describes a horse-shoe with the hearth in the center and the greatest flake concentrations along the side and back walls. The other houses show a less regular distribution. To a degree, the artifact distribution follows that of the flakes.

Artifacts

The principal artifacts are noted briefly below. A more complete list is provided in Table I.

Most common are variously retouched and utilized flakes, including some scraper and flake knife forms which are straight-edged, concave, double-edged, or pointed. Most specimens are unifacially retouched; some double-edged pieces are retouched on alternate faces, but bifacial edge trimming also is known.

Next are bifaced scraper blades which are discoidal, sub-rectangular, or irregular in form. These frequently show smoothing of one or more edges, apparently from utilization. Conventional unifacial end scrapers are nearly totally absent and there are no large hide scrapers such as boulder flakes.

Projectile points and bifaced side blades are moderately represented. The points are lanceolate and leaf-shaped with indifferently to well-formed straight to rounded bases. One specimen displays a small area of face grinding. The

TABLE 1
COLLECTIONS: HAHANUDAN HOUSE SITES, ALASKA

	RkIk-3		RkIk-5	
	<u>No.</u>	<u>Percent*</u>	<u>No.</u>	<u>Percent*</u>
<i>Major Categories and Condensed Class List</i>				
Features	3 houses, 1 feature		2 houses	
Total, all stone and bone	205		165	
Flaked stone**	192	97.5	146	88.5
Other stone artifacts**	5	2.5	19	11.5
Flaked obsidian***	180	93.8	124	84.9
Flaked other stone***	12	6.2	22	15.1
Dark opaque obsidian	0	0	79	63.7
Various other obsidian	180	100	45	36.3
Bifaced scrapers	58	33.3	21	13.7
Bifaced side blades (large)	15	8.6	3	2.0
Points	8	4.6	12	7.8
Utilized & retouched flakes	67	38.5	61	39.9
Adzes and fragments	2	1.1	6	3.9
Abrasive stones, various	2	1.1	11	7.2

Artifact Classes and Sub-Classes

Bifaced Scrapers	(58)	(33.3)	(21)	(13.7)
Discoidal	9	5.1	3	2.0
Other forms	37	21.3	15	9.8
Small fragments	12	6.9	3	2.0
Bifaced side blades	(15)	(8.6)	(3)	(2.0)
Complete or near so	13	7.5	1	0.7
Fragment	2	1.1	2	1.3
Small lateral insert blade	0	0	1	0.7
Points, bifaced	(8)	(4.6)	(12)	(7.8)
Complete	6	3.4	4	2.6
Fragment	2	1.1	8	5.2
Large biface knife fragment	0	0	1	0.7
Drill bit	0	0	1	0.7
Hinged-out rough biface or core edge fragments	7	---	1	---
Flake with bifacial edge retouch	2	1.1	7	4.5
Bifaced pieces & fragments not obviously belonging to any of above categories	13	7.5	33	21.6

TABLE I--continued

Retouched or utilized flakes, unifacial	(67)	(38.5)	(61)	(39.9)
Slight retouch (unmodified utilized?)	38	21.8	33	21.6
Heavily retouched, elongate double edged	8	4.6	14	9.1
Heavily retouched, other	21	12.1	14	9.1
End scraper, unifacial	0	0	1?	0.7
Amorphous flaked pieces, worked but not implements	16	---	11	---
Not classified (all but 1 site 5 are flaked)	5	2.9	9	5.8
Adzes	(1)	(1.1 incl. chip)	(6)	(3.9)
Complete	1	0.6	2	1.3
Fragmentary	0	0	4	2.6
Ground chips	1	0.6 bit frag.	(40 not counted)	
Abrasive stones, various types	2	1.1	11	7.2
Hammerstone	1	0.6	0	0
Ground burin	0	0	1	0.7
Beaver incisors	4	---	0	---
Amorphous worked bone	3	---	0	---
Slender bone point, unbarbed	1	---	0	---
Iron chisel or burin bit	0		1	#

* Except when indicated otherwise, this is a percent of stone implements exclusive of amorphous worked pieces, hinged rough edge fragments, and cores; and is thus based on 174 of the 197 stone or total 205 specimens from RkIk-3 and 153 of the total 165 pieces from RkIk-5.

** Percentage based upon the 197 and 165 stone artifact totals.

*** Percentage based upon the 192 and 146 flaked stone totals.

Recovered from among the flakes after the preliminary analysis reported in this table was prepared. For this reason the iron artifact was not mentioned in Clark 1973 and Clark & Clark 1972.

side blades, not always distinguishable from points when fragmented, are asymmetrical and probably were set into the side of a knife handle or near the point of a lance. Only one fragment of a large biface was found.

Several abrasive stones, principally sandstone, of various types including a shaft smoother, flat tabular pieces, and fragments of five-sided bars were recovered.

Other artifacts include a probable chalcedony drill bit, thick ground adze bits, a small insert side blade for a projectile head, a small hammerstone with red ocher stains, a ground burin, unmodified beaver incisors, an iron chisel or burin bit, and a flint effigy or lancet tip.

Approximately 90 percent of the flaked artifacts were produced from obsidian which doubtless was obtained from the Batza Téna source. Only one small unmodified piece of raw material, an obsidian pebble, was found in the houses.

Intrasite and Intersite Variation and Dating

After allowing for due variation, it appears that the structures within each site show sufficient homogeneity to warrant their grouping. Also, between the two sites there is a certain sameness to the scope of the assemblages, several shared types, and many common negative attributes or trait absences. There are, however, several minor differences which may indicate that we are dealing with two different periods within the same culture. Particularly, the two-house site, when compared to the other site shows the only examples of certain rare types such as the ground burin, the chert side blade for a point inset, the chert effigy or lancet tip, the notched abrasive stone, and the probable chalcedony drill. In the two houses finely ground adzes appear to have been broken up and utilized for cores. This site also yielded a slightly different style of point and more of them when fragments are considered, more adzes and abrasive stones, but fewer bifaces and side blades. Also, the only

good examples of entrance passages are from this site. Probably the most startling difference between the sites is in the varieties of obsidian utilized. Nearly 64 percent of the obsidian (by artifact count) at the two-house site is of opaque black and opaque dark blue-gray varieties while not a single unequivocal specimen of dark opaque obsidian was recovered from the other site.

The opaque obsidian probably comes from the Batza Téna source, but, in the western area of the source, artifacts made from this material are uncommon. This particular obsidian appears only in one of the cultural complexes at Onion Portage on the Kobuk River, the Itkillik complex, although other obsidian, apparently also from the Batza Téna source, is found in several other layers there (Anderson 1970a; cf. also Giddings 1967).

House B at RkIk-3 is dated A.D. 485 ± 75 (S-658), and House C dates at A.D. 450 ± 90 (S-657). At the other site the two houses are dated at A.D. 590 ± 90 (S-655) for House 1, and A.D. 665 ± 75 (S-656) for House 2. This dating is compatible with the Ipiutak crossties noted below. Obsidian hydration measurements have been made on a collection of flakes from one dated house at each of the two sites. The means of the two sets of hydration data, when scaled in accordance with one radiocarbon date, provide an age difference which agrees in direction and magnitude with that of the other radiocarbon date. The hydration analysis is being undertaken in collaboration with Leslie B. Davis, Montana State University. The two-house site apparently is younger than the three-house site since both the radiocarbon and hydration data point in that direction.

Comparisons and the Question of Ethnic Identification

There are few artifacts in the Hahanudan implement inventory or attributes in the house construction that cannot be duplicated at the Point Hope Ipiutak site (Larsen and Rainey 1948). Traits not reported for Ipiutak such as beaver incisors and some styles of whetstones can be found in Norton (Giddings 1964).

Possibly the only Hahanudan artifact type that would look out of place in the Ipiutak sequence is a long, slender, thick point. A specialist familiar with the middle-range coastal cultures might recognize additional differences.

That the Hahanudan artifacts are similar to coastal or Ipiutak forms does not necessarily mean that the same culture is represented. How similar to all of Ipiutak is the Hahanudan collection; how does the latter compare with other coastal cultures; and how does it compare with the deep interior Indian sites? It is impossible to make a very detailed comparison between Ipiutak and the Hahanudan assemblages due to the small size and lack of bone preservation in the latter. If, however, comparison is limited to the more numerous classes of Ipiutak stone artifacts it is seen that the houses are completely lacking in the delicate, small lanceolate arrow end blades or points. Also, small inset side blades are under-represented. These are very significant absences inasmuch as the end blades, used on arrowheads for hunting caribou, are considered to be one of the hallmarks of the inland orientation of Ipiutak culture (Larsen and Rainey 1948; Larsen 1951). The Hahanudan points as a group represent only part of the Ipiutak typological range and are one of the weaker links in any relationship. Interestingly, the lack of the small non-ASTt technique end blade is made up for by a cache of these points that was found at the small open site (RkIk-4). Irving (1964) makes this terminological distinction to take into account end blades which in form but not in flaking technique are similar to Arctic Small Tool tradition specimens. The absence of unequivocal unifacial end scrapers appears to be an extreme situation, since even in Ipiutak culture there are end scrapers in addition to bifaced discoids.

Essentially the same remarks could be made in comparing Hahanudan and Norton culture -- particularly the published site on Norton Bay (Giddings 1964), although the writer sees a closer relationship to Ipiutak on a typological

basis, but this need not be given detailed consideration inasmuch as the relatively late dating of Hahanudan makes any direct relationship to Norton culture unlikely.

Later Eskimo sites, primarily postdating A.D. 1000, as represented by Nukleet (Giddings 1964) and by several sites on the Kobuk River (Giddings 1952), but also other sites not quite as late as presented in the Punuk phase (Collins 1937) and Birnirk phase (Ford 1959) are largely or entirely unlike Hahanudan. Essentially excluded from Hahanudan is everything distinctive of neo-Eskimo culture. The persistence of ground burins or groovers is, however, of interest.

It is necessary to range over the interior of Alaska and the Yukon to find suitable comparative material exclusive of inland Eskimo. Most published collections, including de Laguna's material from the lower Yukon River (1947), the Northern Archaic tradition of Onion Portage and its Tuktu phase at Anaktuvuk Pass (Anderson 1968; Campbell 1961), the Campus site (Rainey 1939), plus other sites of the Denali complex (Hadleigh-West 1967), are either too late or too early for the period of time that I would consider, suffice to say that the Hahanudan material shows no resemblance to any of these.

Among components to be considered are the Itkillik complex of Onion Portage which is dated, in part, to the fifth century A.D. (Anderson 1970a); the Birches site, located near the headwaters of the Kuskokwim River, with an early 14th century A.D. date (Hosley 1968); the Minchumina site, located in the same area with an early ninth century A.D. top level date (Holmes 1973); and the top levels at Healy Lake (Cook and McKennan 1970a, b; McKennan and Cook 1970). Presently most of these sites are only partially published. Other comparative data come from several sites in the Yukon Territory ranging from Chimi in the south to Klo-kut in the northern interior (Workman 1969; MacNeish 1964; Morlan 1973), although they are respectively primarily younger and older than Hahanudan.

All of these can be summarized as follows: the similarity to Hahanudan is so slight that the possibility of any significantly close relationship does not warrant serious consideration. Most of the later interior sites are characterized by boulder flake or chipped slab scrapers, by snub-nosed or unifacial end scrapers, and sometimes also by *pièces esquillées*, all of which are absent in the Hahanudan houses.

The relationship to Eskimo archaeology holds to the exclusion of any other possible relationship. It is seen in such artifacts as the discoidal and other bifaced scrapers, the ground burin, asymmetrical side blades, the small inset side blade, face grinding found on one point, and possibly the adzes as well as concordant trait absences (pottery, lamps, ground slate). The complex of house traits also has its local center in the same direction. This relationship is seen to precede the essentially modern or Western Thule-related Arctic Woodland Culture of the Kobuk River which dates from approximately A.D. 1000 or 1110 to historic times (Giddings 1952; Anderson 1968), and in general it falls before the development of Western Thule proper, which in the Bering Strait region was appearing as early as A.D. 700 (Collins 1964).

Earlier, the radiocarbon dates for the Hahanudan houses were given. For comparison it may be appropriate to note the dating of Ipiutak culture. Among Ipiutak radiocarbon dates published in various sources are the following -- Deering: A.D. 570±120 (K-532), A.D. 660±200 (K-537); Platinum Village: average A.D. 450±120 (K-109a, b); Point Hope: A.D. 331±210 (P-98) and other dates not accepted; Desparation Lake Site 4 (an inland location): A.D. 120±170 (GSC-883), and at Cape Krusenstern several houses are dated to the period A.D. 1 to A.D. 700. Most Norton culture dates are several centuries earlier, back to 400 B.C. (cf. Giddings 1964), but for the Ungalaqliq men's house reported by Lutz (1973) and considered by him to be of late Norton affiliation there are dates of A.D.

394±48 (P-1530), and A.D. 140±40 (P-1772). The last contained relatively significant amounts of obsidian.

In my estimation, by today's standards and knowledge of recent interface developments in western Alaska it still would be hazardous to make a facile judgment, on the basis of appearances and situational evidence, that Hahanudan is a form of Ipiutak culture, although variant.* The question of the ethnic assignment of archaeological material needs to be examined in greater depth.

A distance of 160 miles inland is not unusual for an Eskimo occupation and has been exceeded at several places elsewhere in Alaska and Canada. Furthermore, inland Norton/Ipiutak components are known from Anaktuvuk Pass (Campbell 1962, manuscript papers for Avingak site, and personal communications), from elsewhere in the Brooks Range (Irving 1964, see also comments to radiocarbon date GSC-883 in Lowden, Wilmeth, and Blake 1970), the Noatak River (Hall 1972), and at Onion Portage (Giddings 1966, 1967; Anderson 1968), but presently these components either are not fully reported or have been of necessity sorted from mixed contexts. Larsen has interpreted the evidence from coastal Ipiutak sites as indicating that the Ipiutak people were primarily inland Eskimos in their economic and technological orientation (Larsen and Rainey 1948; Larsen 1951) and thus he anticipated the discovery of inland sites. We may note that the Koyukuk region involved is appropriately inland from the Deering Ipiutak site, but I would not suggest that the Koyukuk settlement was a seasonal aspect of this or any other coastal settlement. We believe that the Koyukuk was occupied by an essentially permanently based inland group that, except for possible trading trips, did not practice seasonal movement to the coast. Thus it is not appropriate to expect Hahanudan

* This section was written in collaboration with A. McFadyen Clark.

to correspond exactly with any coastal Ipiutak assemblages, and it does not, although a closer fit might be seen with inland Ipiutak when further data become available.

Historically and traditionally the Koyukuk drainage has been occupied by a branch of the Koyukon Athapaskans. To this statement may be excepted the upper parts of several tributaries in the Brooks Range, and particularly much of the Alatna River, which rise in territory exploited by inland Eskimos and possibly at one time also by a few Kutchin speakers. The geographic situation of the Koyukuk is different from that of the Kobuk, Yukon, Kuskokwim and other river systems that the Eskimos may have followed from the coast, inasmuch as the Koyukuk is an interior system which only indirectly enters the Bering Sea. Any Eskimo-Indian interpenetration on the Koyukuk must have been down the tributaries from the Brooks Range or across the hills from either the Kobuk-Selawik region or Norton Bay. Ecologically, the Brooks Range habitat, home of the caribou hunting Nunamiut, and the Koyukuk mixed hunting and fishing habitat are distinct (McFadyen 1966; A. Clark 1970a), although the differences are relative rather than absolute. On the other hand, the Koyukuk and the Kobuk have essentially a common ecological base except that inhabitants of the latter (including Selawik) are in a position to act as middle men in the trade of products of the land and the sea.

It is in this direction that we find a very high level of communication in the ethnographic and historic record and even in present-day activities (McFadyen 1966; A. Clark 1970a; Burch and Correll 1972). This communication has involved trading, invitational feasts, shamanistic exchanges (shaman going to patient), adoptions, sometimes hostilities, shared hunting and trapping territories (not always without conflict), recognized interbreeding if not intermarriage, temporary residence in the other's villages, and, principally

at the time of the gold rush, a movement of Eskimos into the Indian villages or into areas previously exploited by the Indians. Today there is interarea visiting, largely of a recreational nature as well as for prestige, and trade via chartered aircraft or by snowmobile expeditions. Such visiting as well as strong personal ties existed also during the past century. In the realm of traditional culture, there is a very high incidence of shared material and technological traits. The Kobuk Eskimos and the Koyukuk Indians also possess many common traits of nonmaterial culture but nevertheless they have maintained their ethnic identity and a perceptible cultural distinctiveness.

Although the heightened and amicable interaction between the Koyukuk Indians and the Kobuk-Selawik Eskimos may in part be due to an outside stimulus -- e.g. indirect Euro-American and Siberian trade -- we need not regard it as only a recent development of the last couple centuries. The level of shared technological culture seen in the Hahanudan houses is not necessarily different from that observed ethnographically.

From ethnographic and historic analogy applicable to the present locality the Hahanudan assemblages could be viewed as products of an Indian population which had interacted intensively with inland-oriented Ipiutak Eskimos. While in the ethnographic case it is not possible to assign an origin to most shared traits, the traits involved in the Hahanudan case can be traced to the Eskimos. Seemingly, then, the Indians were dominated by Eskimo influence; however, if we were to have a sample of the industries in the perishable media, including bone, we might see elements of a two-way situation. In fact, at Point Hope and Deering, Ipiutak has many traits that are suggestive of Indian interaction or influence -- built-up sleds, snowshoes, birch bark containers, and open kayaks (later Kobuk Eskimo examples are covered with birch bark) -- although the possible Indian origin of these traits may be ultimate, through the earlier

Norton and Choris cultures, rather than directly from contemporary Indians.

The hypothesis that Hahanudan is Indian is a little more convincing than the counter position asserting that it is Eskimo, but both bear further consideration in diachronic and synchronic contexts.

Synchronic Parameters and Comparisons: Further Considerations

In the ensuing paragraphs I will examine the significance or limiting parameters imposed by contemporary archaeological cultures in western Alaska. There is, however, little point in repeating our earlier discussion and conclusions. For the inland Ipiutak sites noted previously it suffices to say that stations of this culture have been found north and northwest of Hahanudan Lake but not within the Koyukuk River drainage.

At Lake Minchumina the Minchumina site has, as of this writing, seen only one season of preliminary exploration (Holmes 1973). The assemblage appears to be linked to the Northwest Microblade tradition or equivalents and we would expect it to be older than Hahanudan. The radiocarbon date of A.D. 810±120 (GX-2828) indicates however that a late period, and perhaps more than one period considering the typology, is involved. The late period should be more or less contemporary or slightly later than Hahanudan. Presently the two show few traits in common. Minchumina relationships are inland or with plausibly earlier material but not in the direction of Hahanudan or the coast. This fact is of particular interest since Hahanudan and Minchumina both are located within historic Koyukon Indian territory.

Any interaction between the Koyukuk and areas beyond its western and northern peripheries, occupied by Eskimos throughout much of the past four millennia, should involve the Kobuk River region where the Onion Portage site occupies a pivotal position. Ethnographic contacts between the Kobuk Eskimos and the

Koyukuk River Athapaskans support this expectation. We would expect to find an Ipiutak/Hahanudan-like occupation at Onion Portage. Ipiutak-related material has in fact been found there in layers immediately below the Itkillik complex (Anderson 1968; Giddings 1966, 1967), but the latter complex draws our immediate consideration because its dating at A.D. 462±113 (GX-1502) is contemporary with Hahanudan. The Itkillik complex is considered to be an intrusive Indian complex (Anderson 1968, 1970a; Giddings 1966), particularly inasmuch as it is preceded and followed at Onion Portage by demonstrable Eskimo components. It is logical to look upon Itkillik as an extension of the Indian occupation of the interior, presumably Athapaskan, and most likely from the Koyukuk region. Nevertheless, Itkillik exhibits only a moderate relationship to Hahanudan, principally in certain point styles and in the use of an uncommon opaque dark obsidian. There are a few additional traits in common like whetstones, but I would characterize the two complexes as representing two different cultures.

Thus, when the Kobuk is expected to be Eskimo in order to account for Eskimo relationships found farther in the interior, we find the reverse.

As Anderson has indicated (1970a), Itkillik is not known from the Koyukuk or other interior areas of Alaska-Yukon. We would not expect it to exist as an isolated pocket or culture on the Kobuk, yet the documented Ipiutak occupation of the coastal regions, for the same time range, and also possibly of the Brooks Range, tends to limit any possible major extension of the Itkillik complex to the Koyukuk region. Therefore, as Anderson has done, we anticipate an as yet undiscovered Itkillik occupation on the Koyukuk. It follows from the close dating of Hahanudan and Itkillik that any sequence involving the two in the same geographic context must be regarded as a case of population succession. Apparently then, Itkillik and Hahanudan as well as Batza Téna complex 324, to be discussed next, are parts of a complex prehistoric mosaic. With the limiting parameters

imposed by Itkillik, it becomes likely that the middle-range Eskimo complexion of the Koyukuk interior was established at a slightly earlier time, prior to A.D. 450, or else that it was established through a southern route of communication, Norton Sound-Huslia for instance, not involving the Kobuk drainage.

We remain puzzled, however, by the fact that obsidian, the predominant lithic material at Hahanudan and a favored material in Itkillik, is rare in most coastal Norton and Ipiutak sites. At Unalakleet one structure, dated to about A.D. 200-300, did provide a relatively substantial number of obsidian artifacts--about fifty percent of lithics--while most other, somewhat older, houses there yielded only the occasional obsidian implement (collections kindly shown to us at the University of Wisconsin, April 1972, by Dr. Bruce Lutz, see Lutz 1973). The probably Norton-related Avingak site, located near Anaktuvuk Pass, also has, among lithic material, approximately 25 percent obsidian, which is unusually high for a Brooks Range site (J.M. Campbell, field notes and personal communication December 1972).

Three or four prehistoric cultures are envisioned in the Koyukuk and adjacent regions of western Alaska at approximately A.D. 500. These are: (1) Itkillik (2) Ipiutak or Norton derivative Eskimo (3) Hahanudan which may be a branch of No. 2, and (4) other Indian culture(s?) found east and south of the Koyukuk.

Diachronic Sequence, Parameters, and Discussion

If Hahanudan is Indian it can be taken as evidence for an early prehistoric basis for the high level of Eskimo-Athapaskan interaction seen in the recent ethnographic past of western Alaska. We then also would expect a certain degree of parallelism in other Indian and Eskimo archaeological cultures from the time of the Hahanudan Lake occupation onward, and, too, possibly during antecedent periods. We will assess the position of Hahanudan by considering first material related to the Tuktu complex and the Northern Archaic tradition. Locally they

may be as old as 4500 B.C. and span two millenia to about 2300 B.C., probably persisting in some places until more recent times.

An approximation of the Tuktu complex (Campbell 1961) comes from two adjacent Batza Téna sites. At RkIh-36 an apparent camping area is indicated by the distribution of fire-altered pebbles and cobbles and by more than 40 end scrapers. This living area is located within a much larger flaking area and thus some implements recovered may be derived from a significantly different occupation. Microblades are rare and only two microcores, not Tuktu cores but similar to some other northern interior cores, were recovered. Other artifacts include side-notched points and leaf-shaped points, neither of which are common; numerous bifaces, many of them unfinished; a retouched hide scraping stone; a notched pebble axe, notched and roughened pebble sinkers or weights, and pebble hammerstones; semi-amorphous platform cores for ridged flakes which sometimes are very much like prismatic blades; a copper awl, seemingly out of place, and the occasional retouched flake. Batza Téna Tuktu varies from Tuktu proper at Anaktuvuk Pass in its relatively low frequency of side-notched points or implements, of leaf-shaped points, and very low incidence of microblades and cores (cf. Campbell 1961). The last, however, is a point of conformity with the related Palisades complex of the Northern Archaic tradition at Onion Portage (Anderson 1968). Other Tuktu crossties include the high incidence of end scrapers, high incidence of bifaces, notched pebble sinkers, notched pebble axes or choppers, and retouched hide scraping stones. On the basis of radio-carbon dating at Anaktuvuk Pass and at Onion Portage, Batza Téna Tuktu is estimated to be between 5500 and 6000 years old. It may be noted that most of the traits indicated here are characteristic also of a widespread interior entity called the Northwest Microblade tradition (MacNeish 1964).

There are also at Batza Téna assemblages characterized by microblades and microcores which probably are generally related to Tuktu or to the Denali complex. These may belong within the time span of the Northern Archaic tradition or be more recent, but none are dated. At Onion Portage, which is the type locality, the Northern Archaic tradition lacks microblades and microcores even, although on the basis of other traits, it is seen to be related to microblade sites of the deeper interior.

At the time level of approximately 5000-6500 years ago there does not appear to be a sharp differentiation between cultures of the inland Eskimo zone (Kobuk River, Brooks Range) and the deep interior, or even between the coast and the interior. However, there are instances when microblades were not used on or near the coast (the edge of the sea probably was not completely at its modern position) or on the Kobuk River while they were being used farther into the interior. In this respect the Koyukuk either is aligned with the interior or it occupies an intermediate position. For the full range of Northern Archaic-related material from the Koyukuk, however, it is not as yet possible to offer a definitive statement.

No Eskimo or proto-Eskimo material has been defined for this period, thus it is unnecessary to question the Indian identity of the material under consideration. Yet, linguistically and biologically differentiated proto-Eskimos and Indians probably were present in western Alaska by this time. Anderson (1968) proposes that the relatively early (9500/8000-year-old) Akmak and Kobuk complexes of the American Paleo-Arctic tradition may relate ultimately to Eskimo prehistory, while the somewhat later Northern Archaic tradition represents influence, presumably Indian, from the interior. No demonstrable Eskimo or proto-Eskimo material from Alaska (exclusive of paleo-Aleut) precedes the Denbigh Flint complex -- a local form of the Arctic Small Tool tradition -- which at Onion Portage abruptly

succeeds the Northern Archaic tradition at about 2200 B.C., but presumably earlier roots of Eskimo prehistory eventually will be delineated. The fact that material related to the Northern Archaic tradition persists much later in interior Alaska reinforces the interpretation of it as Indian, but this generalization tends to overlook the regional differentiation present between the Kobuk River and the deep interior.

Little evidence for the proto-Eskimo Arctic Small Tool tradition has been recovered from the Koyukuk drainage, although it is found in almost the entire northern and western region historically occupied by Eskimos bordering the Koyukuk. Possible Denbigh artifacts have been found on the Koyukuk (Holmes 1971, 1972; Cook 1971), but no discrete or substantial assemblage has been recovered and other interpretations are possible for this material. It is difficult to derive the Denbigh Flint complex, even through its less developed or Proto-Denbigh aspect (Anderson 1970b), from the immediately antecedent Northern Archaic tradition. Still, as Cook (1971:462) suggests, some proto-Denbigh traits may have a remoter interior origin in the Koyukuk region. Considering the insubstantial expression of Denbigh Flint traits, it is doubtful if the Koyukuk was to any notable degree part of any formative area. Yet, since the Koyukuk has had a close and common border with the Denbigh complex area -- proto, classic, and late -- some evidence for interaction or cross influence is expectable. While this evidence has not been forthcoming from the implement assemblages, it exists for trade in the form of obsidian which we safely can presume was derived from the Koyukuk source at Batza Téna. No other source is known for interior and northwestern Alaska. Some Denbigh Flint complex obsidian, particularly from the Onion Portage site, gives element proportions indicative of a probable Koyukuk origin (Griffin *et al.* 1969 interpreted in view of Patton and Miller 1970; and personal communications from W. Patton). Obsidian is common in Denbigh Flint complex sites where it

often was used for microblades (Giddings 1964; Irving 1964). That no Denbigh site has been found near Batza Téna may indicate that during the period of approximately 2300 to 1400 B.C. Denbigh Flint complex obsidian was obtained by trade from a non-Denbigh indigeneous Koyukuk River group; less likely this situation may be an artifact of presently inadequate exploration of the source region.

To reiterate, there appears to have been no persuasive influence over the Koyukuk region by Denbigh Flint people. The inverse also probably holds, although these statements are based largely upon the lack of positive evidence. That is, very few Koyukuk sites are dated, and none definitely are known to belong to the period of the Denbigh (ASTt) horizon or to post-Denbigh time, when Choris and Norton people occupied the coast and adjacent interior, up to the time of the Hahanudan occupation. Some undated assemblages probably do belong to this period.

The question of the interior relationships of Choris and Norton culture, particularly the former, merit further consideration, but I am in a position to contribute very little on the basis of the Koyukuk data. Inland Choris is reported at Onion Portage (Anderson 1968) and Choris or Norton is found farther east at Norutak Lake on the Kobuk-Koyukuk divide (Campbell 1964; D. Clark n.d.) as well as apparently in the Brooks Range, but on the whole these cultures have a very sketchy and poorly documented inland representation.

Another Hahanudan Lake assemblage (RkIk-4), associated perhaps fortuitously with three relatively recent-appearing storage pits, has yielded an apparent cache of ten small, thin, non-ASTt lanceolate end blades, some with angled bases; calcined fragments of tiny slender unbarbed points each with two or four sharply-cut longitudinal grooves; and a few sherds of thin (5-5½ mm) plain ceramics. This material appears to relate to Norton, or less likely

to Ipiutak, considering that it differs in several respects from the house assemblages; but its interpretation is complicated by the presence in the same area, only a few meters square, of a probable Tuktuk side-notched point, a leaf-shaped biface knife, thick (9-13 mm) plain rough ceramics, and an end scraper, and, not far away on the surface, a metal pan. The assemblage is pitifully small and the least that we can say is that certain distinctive artifacts in this group have close or identical counterparts in Norton culture (also Ipiutak) and may differ in age from the houses by being as much as several centuries earlier.

The end blades are so specific that their manufacture can reasonably be ascribed to Norton or related people. Interestingly, they are made of materials not recognized by the writer in other Koyukuk assemblages. Thus they appear to be intrusive in terms of both form and material. These specimens were found closely spaced near the slender calcined points. The point groups, but not the other specimens at this site, could have originated from a single trove. Two explanations, with permutations, are possible: (1) The end blades were made elsewhere but were brought to Hahanudan Lake by Norton-related hunters who included that area as part of their territory of exploitation, or (2) these implements were put in the hands of the local inhabitants by Norton traders. The other artifacts may be present at the site due to multiple use of the spot or they may be a proper part of the assemblage. The thin ceramics readily could be ascribed to Norton people, the other pieces less conveniently so.

The main point to be drawn from this small collection is that probably around A.D. 1 the Hahanudan area either was influenced by Norton culture to the extent that the inhabitants obtained stone points and possibly other implements from these Eskimos, or the area actually was occupied by Eskimos. This is basically the same conclusion that was drawn from the more substantial house

assemblages *vis-a-vis* Ipiutak culture. The problem of ethnic identification remains, but with this interpretation of RkIk-4 we can see a pattern spanning several or more centuries post-dating the Denbigh Flint complex.

Attention is now directed to post-Hahanudan archaeology. We experience some difficulty in dealing with the Koyukuk sites due to the lack of any positively identified later components short of a series of protohistoric or early historic houses. One of the living areas excavated at Batza Téna in 1971 may by elimination belong to this period inasmuch as it does not appear to fit the expectations for any other period.

The Lake 324 complex is designated by the elevation of the unnamed lake where the site which produced the single assemblage of this complex is located. The camp site is situated within a large obsidian flaking station not all parts of which belong to the complex found in the living area. Thus the inclusion of certain specimens could be questioned. Fortunately the obsidian work, comprising nearly 100 implements, has a distinctive style that serves as a test for homogeneity. Nevertheless, artifacts upon which a post-Hahanudan temporal placement is based are not of obsidian but consist of a longitudinally grooved stone pestle and four retouched stone slab and boulder flake scraping stones. These occurred as a localized group possibly due to functional factors although this does not guarantee the validity of their association with the obsidian implements.

Large flakes, usually thin and elongate, have been extensively retouched into bifaces or retouched along the edges into scrapers, points, and knives. The end scrapers, which are of a relatively large size -- for instance, 61 by 42 mm, often are totally flaked on the dorsal side to form keeled and turtle-backed scrapers. Most of the rough points made on flat elongate flakes were found in a single cluster where they apparently had been left. There also are three points, one of them short and pentagonal, and some bifaces made according

to the more usual bifacial techniques. Microblades, burins, and pottery are absent.

No other material, Indian, interior, or Eskimo, closely comparable to the Lake 324 complex has come to my notice, and no significant relationship is seen with the Itkillik complex of Onion Portage, although Hahanudan and Itkillik do have some specific traits in common. Thus for the originators of this complex we can rule out both the Indian-Eskimo relationship and the Eskimo identification which are being considered in the case of Hahanudan. This is not to say, however, that Lake 324 people did not interact at all with their probable Eskimo neighbors.

Complex 324 should be interpreted in a multiple hypothesis framework, inasmuch as while I suggest that it postdates Hahanudan as a single component it may shortly antedate it or may represent two components and occupy either or both temporal positions. By postdating Hahanudan, Complex 324 would indicate for the Koyukuk a break in the historic tradition represented by Hahanudan. On the other hand, by it predating Hahanudan (including RkIk-4), which could be by but a short interval, it would indicate that the Indian-Eskimo relationship or Eskimo identity proposed for Hahanudan did not occur appreciably before the time of the Hahanudan occupations.*

On the Koyukuk River this leaves an archaeologic record that fails to conjoin with the protohistoric period; however, there may be as much as a millenium left to arrive at this juncture. We may find a prehistoric Koyukon Athapaskan phase with arrows tipped with small, pointed-stem Kavik points (Campbell 1968), or with somewhat similar square stemmed points, suggested by oral tradition, since the Koyukuk is ringed by late Indian and Eskimo sites containing these. A few

*A radiocarbon date on calcined bone was received after this paper was in press. The date, A.D. 1065±80 or 885 B.P. (S-920) agrees with the foregoing interpretation.

individual specimens, but no recognized assemblages, appear to date to this intervening period. These include a large grinding slab, a variant stemmed Kavik point, and a stone slab scraper recovered from a single site, as well as one occurrence of potsherds, and, in a private collection, a grooved adze. It is anticipated that more complete late prehistoric assemblages will resemble the late prehistoric or early historic archaeology along the Yukon River.

North of the Alaska Range prehistoric sites of the last millenium have been tested on the Yukon River (de Laguna 1947), near Lake Telida (LeFebre 1956) and at Lake Minchumina (Hosley 1968) located at and near the headwaters of the Kuskokwim River, as well as farther east in Alaska and the Yukon Territory. These are exclusive of inland Eskimo sites, but the Kavik complex of Anaktuvuk Pass (Campbell 1968) should be noted inasmuch as it has been proposed as an Athapaskan occupation within the present Eskimo area.

The Yukon River collections (de Laguna 1947) come from a large number of not particularly rich sites which usually are characterized by housepits. They appear to date to the contact period or to the centuries immediately preceding contact, and they can be attributed to progenitors of the present Ingalik and Koyukon inhabitants of the region. Among the distinctive elements in western Alaska is ceramics -- cooking pots and also lamps -- which, on the basis of decorative elements would be designated largely as Yukon line-dot ware (de Laguna 1947:226 ff.; LeFebre 1956:273; Oswalt 1955:37). This type of pottery also is common in western Eskimo sites where it may not date any earlier than A.D. 1600. Also found along the Yukon River are wood, bone, antler, and rough stone artifacts similar to those from historic sites there and on the Koyukuk River and found essentially throughout Alaska. Ground slate was used on the Yukon and also at Telida on the upper Kuskokwim River

for semilunar knives and projectile end blades apparently more so than elsewhere in Alaska except in Tanaina and Eskimo sites where it is common. The heavy grooved splitting adze is found throughout Alaska and the Yukon Territory, and a related double-ended pick-like form (de Laguna 1947: Plate X, Fig. 9) is distinctive of the Yukon drainage. Very few flaked artifacts in the conventional sense were recovered on the Yukon, although a stemmed obsidian point was found in one house. Most of these implements have close stylistic counterparts in adjacent Eskimo areas, particularly for the second millenium A.D.

The Telida assemblage (LeFebre 1956) is in many aspects similar to the lower Yukon collections. The site apparently was a fishing and hunting camp, now an open area, lacking house depressions. Multiple occupations, into the contact period, probably are represented.

Eight house pits, five of them excavated, located farther to the east on Lake Minchumina have produced an assemblage of a complexion very different from the contact and late prehistoric sites discussed up to this point. The Birches site, dated to the beginning of the fourteenth century (A.D. 1310±95 (I-2617), Hosley 1968:546) represents a significant departure from the familiar pattern of recent-appearing houses being relatively barren of indigeneous artifacts. In the preliminary report Hosley (1968) notes several hundred artifacts, predominantly flaked from obsidian and chert and including lanceolate to diamond-shaped points, side blades for knives, smaller asymmetrical side blades for points, side scrapers and numerous delicately or lightly retouched flakes, end scrapers, whetstones, grooved abraders, red paint stone, and a few additional implements but no pottery.

Occupation of the Klo-kut site in the Porcupine River drainage, the only eastern interior site to be discussed here inasmuch as reporting of others is

in progress, continued more or less intermittently from A.D. 950, according to C-14 assays, into the twentieth century when the Vunta Kutchin camped there (Morlan 1973, and Morlan, this volume).

Artifacts exclusive of objects of Euro-Canadian origin include various types of end and side scrapers, rough bifaces, drills, biface knives, probable burins and *pièces esquillées*, Kavik and tear-drop-shaped arrow tips, shaped and unshaped boulder flake and stone slab hide scrapers (*tei-thos*), beamers, choppers, hammerstones, pestles, pecked and ground heavy adzes, barbed bone points, fish-hook components, pointed bone implements including awls and unbarbed points, rodent incisor implements, a fish effigy lure, and birch bark trays. Two pre-historic periods, plus the historic occupation, are recognized but for present purposes the composite inventory given above suffices.

Before attempting to summarize the late prehistoric archaeology it may be worthwhile to follow through with the protohistoric and early contact period. The Yukon River sites already described are in part protohistoric, and historic continuity is indicated at Klo-kut. Here only the Koyukuk system is dealt with.

The final archaeological phase is documented by several groups of houses. Those excavated by the National Museum of Man personnel in the vicinity of Allakaket date approximately between 1870 and 1890. The downriver houses at Kateel partially excavated by de Laguna (1947) probably are several decades earlier inasmuch as they yielded predominately aboriginal material even though at Kateel direct contact was earlier, by 1842, than it was up-river which was in 1884 and 1885. The Siruk house on the Alatna River, excavated by Campbell and Morlan, may be of an intermediate age (Morlan 1967).

Artifacts from the houses can be classified into three groups: indigenous aboriginal, indigenous manufactured from imported material, and imported Euro-American implements and goods. In the first category, from the houses excavated

by the National Museum of Man team there are trimmed slab and boulder flake hide scraping stones, a snowshoe netting needle with central hole, red paint stone, and a natural mortar or mixing basin for red paint. The houses proper also are one of the most significant artifacts. In addition, from the Kateel houses excavated by de Laguna (1947:51), there are whetstones, large sandstone grinding slabs, stone pottery smoothers, ceramic vessel fragments, an antler wedge, an antler comb, a bluntly pointed bone piece, a slender barbed arrow for beaver, and a slender unbarbed arrowhead. Many additional implements of stone and bone are reported ethnographically and eventually may be recovered from archaeological contexts. These include 14-inch-long bone spear heads, two styles of bunt point, barbed fish spear heads, bone seine weights, rib knives of crooked and straight forms, obsidian flake tools, bone and obsidian chisels, bow drill with bone and stone bits, sewing awl tip, a small ulu or back-hafted knife with flaked blade, bone blade for ice chisel, stone splitting wedge for marrow extraction, split leg bone beamer, end of the bone flesher, a skinning tool of similar format, and beaver-tooth carving implements.

A second group of indigenous artifacts is manufactured from imported material. Usually these are copies of earlier forms, for example a powder can that is cut and folded into a pan like a small birch bark basket. Also noteworthy in this category are crooked knives made from files, thin ulu-shaped scrapers made from sheet metal, end scraper blades variously made from pieces of metal, and blunt or toy arrowheads made by slipping a cartridge case over the end of a shaft.

Comparative parameters considered earlier for the Hahanudan complex also need to be taken into consideration here: e.g., how does the late Koyukuk material stand in relation to its local context, to the rest of the interior, and to the coast or Eskimo area; and how does the interior as a whole at this time relate to the coast.

In the first instance, my impression of ethnographically augmented proto-historic and reconstructed late-prehistoric Koyukuk Athapaskan is that it is quite different from any of the earlier described cultures on the Koyukuk. For interior Alaska and the Yukon most of the late Koyukuk traits, including implements manufactured from post-contact imported material, have, in the terms in which they are reported, a relatively wide late distribution. It is difficult to make close comparisons, however, because of the eclectic nature of the Koyukuk inventory presented, which may not realistically approximate any single actual archaeologic context, and because of the problem of identifying some ethnographic types with archaeologic types. Although the late assemblages tend to have the same complexion, some regional differences are present. Among them are the use of native copper in eastern Alaska (Rainey 1939), slate grinding in western Alaska but apparently exclusive of the Koyukuk, the limitation of pottery to western and parts of central Alaska including weakly the Koyukuk, bone net weights essentially limited to the west, and localization of semi-subterranean houses in areas exclusive of eastern interior Alaska and the Yukon, although exceptions could be noted.

For the same reasons given above it also is difficult to present a definitive comparison between the Koyukuk and the west Alaskan Eskimo area. This discussion, because of its generalized nature, will deal both with the Koyukuk in particular and the western interior in general. A wealth of data is available for Eskimo sites on the coast and in the adjacent interior zone. Most of this data has become available subsequent to de Laguna's comparison of Tena (or lower Koyukon and Ingalik) ethnography and archaeology with that of their Eskimo neighbors, but today her conclusions would not be altered to any significant degree.

.... it will by this time be quite evident that the Tena have been very strongly influenced by their Eskimo neighbors. The fact that some of the Eskimo elements in Tena culture are themselves old Eskimo traits, while others are quite new, would

indicate that the borrowing has been going on for a long time, and that consequently the Tena have probably been living on the Yukon in contact with the Eskimo for a considerable period. (de Laguna 1947:268).

To follow up on my earlier specific remarks regarding regional diversity, ground slate, ceramics, bone net weights, and semisubterranean houses have very strong expression among the Eskimos of western Alaska and probably originated from that source. Koyukuk winter houses are particularly similar to archaeological Kobuk River houses although they differ in a few attributes. The Yukon branch Koyukon and Ingalik houses differ from the Koyukuk house but nevertheless appear to be derived from the Eskimo, in this case from a Bering Sea house type that differs from the Kobuk house. Interestingly, farther south the Tanaina Indians and the Pacific Eskimo share a set of house attributes not found in the north. While the Eskimos may have contributed these traits to the neighboring Athapaskans -- a few may be co-developments, the inverse holds for other elements, the grooved splitting adze, for instance.

Although Eskimo influence on Athapaskan culture, and counter involvement, is localized primarily in western Alaska, it also is found in the archaeologic culture at Klo-kut (Morlan 1972, 1973). In this case many of the correspondences are generalized or are known to have a considerable time depth and thus there has been opportunity for the elements to become widely diffused and reassembled. The same process also is operative in western Alaska but does not sufficiently explain the situation found there. On the ethnographic horizon there is similarly a high degree of shared material culture between Indians and Eskimos of western Alaska, and much if not all of this, it can be assumed, dates back to the period of the archaeologic horizons considered here. In the Kobuk Eskimo case, the Kobuks became known to their Eskimo neighbors as "almost Indian" or "like Indians" (*itkillermiut*) (A. Clark 1970a). In a statistical consideration of some shared

elements in Kobuk and Koyukuk material culture McFadyen (1966) found that it was not possible to assign definitely an origin for the majority of the elements involved. Trade, along with many concomittant activities, is proposed as the principal process through which this tendency for interethnic uniformity arose (McFadyen 1966; A. Clark 1970a; Clark and Clark 1973). It is inviting to interpret the archaeological record for evidence of time depth in these processes, but, keeping to the topic of the Hahanudan houses, it is necessary to settle the question of the Hahanudan people; were they Eskimos or Indians?

Conclusion

Through ethnographic analogy Hahanudan reasonably can be interpreted as Indian, influenced by Ipiutak Eskimo culture. However, there is evidence that the recent Indian-Eskimo interface situation did not prevail uniformly in the past. Evidence for interaction and influence across the interface during different periods varies from considerable to nil. Northwestern Alaska, including the adjacent interior, has had a very complex prehistory. Thus the question raised here cannot be answered simply through plugging the data into an identified trend. During most times the Koyukuk drainage relates well to the rest of interior Alaska, and this is even true for the ethnographic period when the Kobuk and Koyukuk people -- Eskimos and Indians -- have so much in common. That it does not so relate in the case of Hahanudan is evidence for identifying Hahanudan as Eskimo.

By the standards of comparison generally used by archaeologists most Hahanudan artifacts would, without equivocation, be identified as Eskimo, particularly Norton or Ipiutak. Yet, to retrace ground covered earlier, in many ways Hahanudan is not Ipiutak as it is known from the coast. This situation indicates that we do not know the whole story about Hahanudan. It apparently is Eskimo, but does

it represent a unique penetration into the Koyukuk drainage or a general occupation? The latter is more likely, for at least part of the drainage, considering the temporal spread between the two Hahamudan villages. Did this Eskimo group have a unique position within the Indian community which may have partially enveloped it? Were these people ancient *itkillermiut*? How many generations earlier had they left their coastal heritage behind? What role did they play in the development of the subsequent Koyukuk Indians who know of no migrations and, in their belief, have always lived in their present lands?

REFERENCES

- ANDERSON, Douglas D.
 1968 A Stone Age Campsite at the Gateway to America. *Scientific American* 218(16):24-33.
- 1970a Athapaskans in the Kobuk Arctic Woodlands, Alaska? *Canadian Archaeological Association Bulletin* 2:3-12.
- 1970b Microblade Traditions in Northwestern Alaska. *Arctic Anthropology* 7(2):2-16.
- BURCH, Ernest and T.C. CORRELL
 1972 Alliance and Conflict: Inter-Regional Relations in North Alaska. In Alliance in Eskimo Society, *Proceedings of the American Ethnological Society*, 1971, Supplement.
- CAMPBELL, John M.
 1961 The Tuktu Complex of Anaktuvuk Pass. *Anthropological Papers of the University of Alaska* 9(2):61-80.
- 1962 Cultural Succession at Anaktuvuk Pass, Arctic Alaska. In Prehistoric Cultural Relations between the Arctic and Temperate Zones of North America. John M. Campbell, Ed. *Arctic Institute of North America Technical Paper* No. 11.
- 1964 "Arctic", Current Research, *American Antiquity* 29(4):532-539.
- 1968 The Kavik Site of Anaktuvuk Pass, Central Brooks Range. *Anthropological Papers of the University of Alaska* 14(1):33-42.
- CLARK, Annette McFadyen and Donald W. CLARK
 1970a The Athabaskan-Eskimo Interface. *Canadian Archaeological Association Bulletin* 2:13-23.
- 1970b Koyukon Athabaskan Ceremonialism. *Western Canadian Journal of Anthropology* 2(1):80-88.
- 1972 Koyukuk Indian-Kobuk Eskimo Interaction. Paper presented at symposium "The Late Prehistoric/Historic Eskimos of Interior North Alaska". 37th Annual Meeting of the Society for American Archaeology, Bal Harbor, Florida, May 4-6, 1972.
- 1973 Koyukuk Athapaskan Houses as seen through the Eyes of Informants and through Archaeology. National Museum of Man, Ottawa. Typescript.
- CLARK, Donald W.
 1972 Archaeology of the Batza Tena Obsidian Source, West-Central Alaska. *Anthropological Papers of the University of Alaska* 15(2):1-21.

- 1973 Filaments of Prehistory on the Koyukuk River, Northwestern Interior Alaska. Revised from paper of same title presented at International Conference on the Prehistory and Paleoecology of the Western Arctic and Sub-Arctic, November 23-26, 1972, University of Calgary, and submitted for publication in the proceedings of the Conference.
- n.d. Archaeological Collections from Norutak Lake on the Kobuk-Alatna River Portage, Northwestern Alaska. Submitted for publication, National Museum of Man Mercury Series, Archaeological Survey of Canada.
- COLLINS, Henry B.
- 1937 Archaeology of St. Lawrence Island, Alaska. *Smithsonian Miscellaneous Collections* 96(1). Washington.
- 1964 The Arctic and Subarctic. In *Prehistoric Man in the New World*. J. Jennings and Norbeck, Eds. Chicago and London: University of Chicago Press. pp. 85-114.
- COOK, John P.
- 1971 Summary. In *Final Report of the Archaeological Survey and Excavations along the Alyeska Pipeline Service Company Pipeline Route*. Fairbanks: Department of Anthropology, University of Alaska. pp. 457-465.
- COOK, John P. and Robert A. MCKENNAN
- 1970a The Village site at Healy Lake, Alaska: An Interim Report. Paper presented at 35th Annual Meeting of the Society for American Archaeology, Mexico City, April 30, May 1-2, 1970.
- 1970b The Athapaskan Tradition: A View from Healy Lake in the Yukon-Tanana Upland. Paper read by R.A. McKennan at the 10th Annual Meeting of the Northeastern Anthropological Association, Ottawa, May 7-9, 1970.
- DE LAGUNA, Frederica
- 1947 The Prehistory of Northern North America as seen from the Yukon. *Society for American Archaeology Memoir* No. 3.
- FORD, James A.
- 1959 Eskimo Prehistory in the Vicinity of Point Barrow, Alaska. *Anthropological Papers of the American Museum of Natural History* 47(1).
- GIDDINGS, James L.
- 1952 *The Arctic Woodland Culture of the Kobuk River*. Philadelphia: University Museum.
- 1964 *The Archaeology of Cape Denbigh*. Providence: Brown University Press.
- 1966 Cross-Dating the Archaeology of Northwestern Alaska. *Science* 153 (No. 3732):127-135.
- 1967 *Ancient Men of the Arctic*. New York: Knopf.

- GRIFFIN, James B., G.A. WRIGHT, and A.A. GORDUS
 1969 Preliminary Report on Obsidian Samples from Archaeological Sites
 in Northwestern Alaska. *Arctic* 22(2):152-156.
- HADLEIGH-WEST, Frederick
 1967 The Donnelly Ridge Site and the Definition of an Early Core and
 Blade Complex in Central Alaska. *American Antiquity* 32(3):360-382.
- HALL, Edwin S., Jr.
 1972 Excavations at Feniak Lake. In Edwin S. Hall, *Archaeological
 Investigations in Northern Alaska: Summer 1972*. Department of
 Anthropology, SUNY, Brockport. Typescript.
- HOLMES, C.E.
 1971 The Prehistory of the Upper Koyukuk River Region in North-Central
 Alaska. In Final Report of the Archaeological Survey and Excavations
 along the Alyeska Pipeline Service Company Pipeline Route. Fairbanks:
 Department of Anthropology, University of Alaska. pp. 326-400.
- 1972 Archaeological Materials from the Upper Koyukuk River Region Alaska.
 Paper presented at the 37th Annual Meeting of the Society for
 American Archaeology, Bal Harbor, Florida, May 1972.
- 1973 Preliminary Testing of a Microblade Site at Lake Minchumina, Alaska.
 Paper presented at International Conference on the Prehistory and
 Paleocology of the Western North American Arctic and Sub-Arctic,
 Calgary, November 23-26, 1972, revised for publication in the
 Proceedings of the Conference.
- HOSLEY, Edward H.
 1968 Grant No. 4083 - The McGrath Ingalik Indians, Central Alaska. In
American Philosophical Society Year Book 1967. pp. 544-547.
 [The Birches Site]
- IRVING, William N.
 1964 Punyik Point and the Arctic Small Tool Tradition. Ph.D. dissertation,
 Madison, University of Wisconsin.
- LARSEN, Helge
 1951 De dansk-amerikanske Alaska-ekspeditioner 1949-50. *Geografisk
 Tidsskrift* 51:63-93. Copenhagen.
- LARSEN, Helge and Froelich RAINEY
 1948 Ipiutak and the Arctic Whale Hunting Culture. *Anthropological
 Papers of the American Museum of Natural History* 42,
- LE FEBRE, Charlene Craft
 1956 A Contribution to the Archaeology of the Upper Kuskokwim. *American
 Antiquity* 21(3):268-274.

- LOWDON, J.A., R. WILMETH, and W. BLAKE, Jr.
 1970 Geological Survey of Canada Radiocarbon Dates X. *Geological Survey of Canada Paper 70-2 Part B* (Second report). [Reprinted from *Radiocarbon* 12(2):472-485, 1970.]
- LUTZ, Bruce J.
 1973 An Archaeological Karigi at the Site of Ungalaqliq, Western Alaska. *Arctic Anthropology* 10(1):111-118.
- MACNEISH, Richard S.
 1964 Investigations in Southwest Yukon: Archaeological Excavations, Comparisons, and Speculations. *Papers of the R.S. Peabody Foundation for Archaeology* 6(2). Andover: Phillips Academy.
- MCFADYEN, Annette M. (A. CLARK)
 1966 Koyukuk River Culture of the Arctic Woodlands. Unpublished M.A. thesis, George Washington University, Washington, D.C.
- MCKENNAN, Robert A. and John P. COOK
 1970 Prehistory of Healy Lake, Alaska. VIIIth Congress of Anthropological and Ethnological Sciences, 1968, *Proceedings* 3:182-184. Tokyo.
- MORLAN, Richard E.
 1967 Siruk House 1, Alatna River, Alaska: the mammalian fauna. 34 pp. Manuscript.
 1972 Some Archaeological Problems Bearing Upon the Origins of Historic Brooks Range Cultures. Paper presented at the 37th Annual Meeting of the Society for American Archaeology, Bal Harbor, Florida, May 4-6, 1972. Typescript.
 1973 The Later Prehistory of the Middle Porcupine Drainage, Northern Yukon Territory. *Mercury Series Archaeological Survey of Canada Paper No. 11*, National Museum of Man.
- OSWALT, Wendell
 1955 Alaskan Pottery: A Classification and Historical Reconstruction. *American Antiquity* 21(1):32-43.
- PATTON, William W., Jr. and Thomas P. MILLER
 1970 A Possible Bedrock Source for Obsidian Found in Archaeological Sites in Northwestern Alaska. *Science* 169:760-761.
- RAINEY, Froelich G.
 1939 Archaeology in Central Alaska. *Anthropological Papers of the American Museum of Natural History* 36(4).
- WORKMAN, William B.
 1969 Archaeological Investigations in the Upper Aishihik Valley. Typescript (preliminary report). 32 pp. On file National Museum of Man, Archaeological Survey of Canada.

KUTCHIN PREHISTORY, AS SEEN FROM THE MIDDLE PORCUPINEDRAINAGE, NORTHERN YUKON TERRITORY

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KUTCHIN PREHISTORY, AS SEEN FROM THE
MIDDLE PORCUPINE DRAINAGE,
NORTHERN YUKON TERRITORY*

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Résumé

Ces cinq dernières années, des études et des fouilles archéologiques faites dans le bassin de la rivière Porcupine moyenne, au nord du Territoire du Yukon, ont abouti à la découverte d'un important site stratifié et d'un certain nombre d'emplacements de moindre importance. Dans leur ensemble, ces sites donnent un aperçu de la préhistoire récente de la région, mais c'est le site de Klo-kut qui a fourni la plus grande partie dans renseignements de base.

Klo-kut est un grand site stratifié revêtu de sédiments fins, dont la couche supérieure de quatre pieds de profondeur contient les vestiges d'occupations par l'homme durant les 1,000 ou 1,500 dernières années. A l'aide de renseignements ethnohistoriques, on peut attribuer les dernières occupations, à l'époque historique, aux ancêtres des habitants actuels du village d'Old Crow. On croit également que tous les occupants précédents étaient des ancêtres des Indiens de langue Kutchine qui occupent encore aujourd'hui le nord du Territoire du Yukon. En dépit de certains changements marqués dans les collections d'objets façonnés, on considère que le site de Klo-kut révèle une grande continuité.

Cette continuité se retrouve tant dans les paramètres technologiques des collections d'objets façonnés que dans l'économie de subsistance révélée par les restes de gibier. Parmi les changements majeurs, on remarque l'apparition de techniques de travail de la pierre sur les deux faces, l'utilisation moins grande de l'écorce de bouleau, et la baisse générale de la qualité d'exécution

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des objets en os et en bois de cervidés; ces changements marquent la limite entre la période préhistorique ancienne, environ 1,200-600 avant ce jour, et la période préhistorique récente, vers 600-100 avant ce jour. La période historique qui a suivi, et qui couvre les 100 dernières années, marque l'abandon du site de Klo-kut, l'établissement de postes de traite tant à l'est qu'à l'ouest du bassin de la rivière Porcupine moyenne et la fondation, en 1912, du village actuel d'Old Crow.

L'économie de subsistance a très peu évolué pendant les périodes préhistoriques et à Klo-kut, elle était surtout axée sur la chasse aux caribous au moment de leur migration vers le nord à la fin du printemps et au début de l'été. L'emplacement de Klo-kut servait à des activités précises et à une période de l'année en particulier; il faut donc le considérer comme représentant un seul aspect du cycle annuel de ses occupants; mais, en tant que village important, il est sans doute caractéristique de cette partie de la culture matérielle, du mode de peuplement et de la subsistance des Kutchin. Il faut considérer avant tout les Vunta Kutchin comme des chasseurs de caribou; ce n'est que pendant l'été qu'ils s'adonnaient vraiment à la pêche.

Les rapprochements entre les objets retrouvés à Klo-kut et l'outillage découvert dans d'autres régions du nord-ouest de l'Amérique du Nord ne peuvent être qu'hypothétiques à l'heure actuelle, étant donné surtout qu'il existe encore de vastes régions qui n'ont pas encore été fouillées par les archéologues, et qu'une bonne partie des données archéologiques recueillies ces cinq dernières années ne sont pas encore publiées et sont, par conséquent, difficiles à utiliser pour des fins d'analyse comparative. Les liens les plus étroits semblent se trouver du côté de l'ouest le long de la chaîne de Brooks. Ces liens s'étendent même jusqu'à la rivière Kobuk, avec des liens intermédiaires qui s'entrecroisent pour aller rejoindre quelques sites le long de la rivière Yukon, dans le col d'Anaktuvuk ainsi que dans la vallée de la Sagavanirktok. D'après la perspective que nous assure notre familiarité avec des objets esquimaux de l'époque préhistorique récente, les vestiges de l'industrie de l'os et du bois de cervidés découverts à Klo-kut ont, sans contredit, un aspect "esquimoïde". On croit que ce phénomène découlerait d'une tradition technologique largement répandue axée sur la chasse aux caribous et, dans une moindre mesure, sur la pêche, concentrée le long du versant sud de la chaîne de Brooks, adaptée aux limites septentrionales de la forêt boréale, et enjambant les frontières traditionnelles entre territoires esquimaux et indiens dans le nord de l'Alaska et du Yukon. On ne sait pas encore à quelle époque remonte cette "tradition", mais des occupations précédentes de la rivière Kobuk, qu'on attribue à des Indiens, vont très peu de pair avec les éléments de la culture Thulé de l'Ouest, qui, avec Klo-kut, représentent une partie de cette "culture des forêts de l'Arctique".

Les fouilles de Klo-kut ont révélé tout un ensemble caractéristique de traits technologiques des Kutchin, de la préhistoire récente, ce qui devrait permettre de retracer la préhistoire des Kutchin dans d'autres domaines. Cependant, le caractère particulier de cet ensemble réside surtout dans l'interaction entre la technologie et les techniques de subsistance qu'on peut considérer comme une adaptation générale aux ressources saisonnières. C'est au cycle annuel complet qu'on peut rattacher l'étiquette d'"Esquimau" ou d'"Indien", de "Kutchin" ou de "Koyukon", de "Vuntan Kutchin" ou de "Kutchin", et les recherches doivent dorénavant se concentrer tant sur les objets façonnés que sur les restes de gibier si nous voulons en arriver à des définitions plus précises de groupes sociaux ayant une importance historique.

Abstract

Archaeological surveys and excavations during the past five years in the middle Porcupine drainage, northern Yukon Territory, have resulted in the discovery of one major stratified site and a number of lesser localities. Taken together these sites provide a glimpse of the later prehistory of the region, but the Klo-kut site has yielded most of the basic information.

Klo-kut is a large stratified site with a fine sediment matrix, the upper four feet of which contain the remains of human occupations spanning the last 1000 or 1500 years. On the basis of ethnohistorical information the final occupations, during the Historic period, are attributed to the ancestors of the present residents of the village of Old Crow. Likewise all previous occupants are thought to have been ancestors of the Kutchin speaking Indians who still occupy northern Yukon Territory. In spite of certain significant changes in the artifact inventories there is thought to be strong continuity throughout the Klo-kut profile.

This continuity characterizes both the technological parameters of the artifact collections and the subsistence economy as revealed by faunal remains. The major changes consist of the introduction of bifacial stone working techniques, a decline in the use of birch bark, and a general decline in the quality of bone and antler workmanship; these changes mark the boundary between the Early Prehistoric period, *ca.* 1200-600 B.P., and the Late Prehistoric period, *ca.* 600-100 B.P. The ensuing Historic Period, *ca.* 100 B.P. to the present, includes the abandonment of Klo-kut, the establishment of trading posts both east and west of the middle Porcupine area, and the formation in 1912 of the modern village of Old Crow.

The subsistence economy changed very little throughout the prehistoric periods, and at Klo-kut it centered primarily upon the interception of the northbound caribou migration in late spring and early summer. Klo-kut is activity-specific and season-specific and therefore cannot be taken to represent more than one aspect of the annual cycle of its occupants. But as a major village site it probably typifies that portion of Kutchin material culture, settlement pattern, and subsistence. The Vumta Kutchin should be regarded primarily as caribou hunters; only during the summer is a large part of their energy devoted to fishing.

Relationships between the Klo-kut materials and assemblages recovered from other areas of northwestern North America can be identified only tentatively at the present time. This is due mainly to the large geographical areas not yet examined by archaeologists, and much of the evidence obtained during the last five years is not yet in print and is correspondingly difficult to use in a comparative analysis. The strongest ties appear to lie to the west along the Brooks Range. These links reach as far as the Kobuk River with intervening cross-ties in a few sites along the Yukon River, in Anaktuvuk Pass, and in the Sagavanirktok Valley. The bone and antler industry recovered from Klo-kut has a decidedly "Eskimoid" appearance from the perspective provided by our prior familiarity with late prehistoric Eskimo materials. This is thought to be due to a widespread technological tradition situated along the southern slopes of the Brooks Range, adapted to the northern limits of the boreal forest, based upon caribou hunting and a lesser amount of fishing, and spanning the traditional borders between Eskimo and Indian in northern Alaska and the Yukon. The time depth of this "tradition" is not yet known, but earlier occupations of the Kobuk,

attributed to Indians, bear little resemblance to the Western Thule components which, along with Klo-kut, represent a part of this "Arctic Woodland culture."

Excavations at Klo-kut have revealed a distinctive complex of late prehistoric Kutchin technological traits by means of which Kutchin prehistory should be traceable in other areas. Much of the distinctiveness of this complex, however, resides in the interaction of technology and subsistence techniques which can be seen to form an overall adjustment to seasonally available resources. It is the resulting annual cycle which bears the characteristic stamp of "Eskimo" or "Indian", "Kutchin" or "Koyukon", "Vunta Kutchin" or "Kutcha Kutchin", and further research must include attention both to artifacts and to faunal remains if we are to generate refined definitions of historically significant social groups.

Introduction

As a result of nearly fifteen years of relatively intensive research in the northern boreal forest, archaeologists working in the interior of northwestern North America have begun to seek definitions of prehistoric Athapaskan cultures. This search has entailed several methodological and epistemological questions:

1. Can prehistoric Athapaskan sites be identified by means of ethnohistory, locally based ethnographic analogy, process of elimination, or a combination of approaches?
2. Are there archaeological traits or trait complexes which are diagnostic of Athapaskan prehistory?
3. What is the time depth of a given prehistoric Athapaskan culture and what distinguishes it from other cultures?
4. Can archaeological sites in northwestern North America provide a basis for reconstructing settlement patterns, subsistence economy, and a sort of "life style" distinctive of Athapaskans? Can changes in these be traced through historic sites?
5. Are there any broadly based and widely shared adaptations to the northern boreal forest which typify Athapaskans or Athapaskans and their neighbours?

In a symposium on northern Athapaskan prehistory convened during the Third Annual Meeting of the Canadian Archaeological Association, in March 1970, the participants addressed themselves to questions such as these. As an overall conclusion the discussion indicated that there is no unitary "Athapaskan prehistory" but rather a series of regional prehistoric patterns which were antecedent to the various brands of Athapaskans identifiable on linguistic grounds in the historic period. In this paper I shall attempt to describe our first glimpse of one of these regional patterns. I shall try to show how this pattern is related to others in neighbouring areas in the hope that some general conclusions concerning the culture history of northwestern North America will emerge.

Klo-kut

Archaeological surveys and excavations during the past five years in the middle Porcupine drainage, northern Yukon Territory, have resulted in the discovery of one major stratified site and a number of lesser localities. Taken together these sites provide a glimpse of the later prehistory of the region, but the Klo-kut site (MjV1-1) has yielded most of the basic information.

Klo-kut is a large stratified site located on the right bank of the Porcupine River, about six river miles above the village of Old Crow, at $67^{\circ}34' N \times 139^{\circ}41' W$. The site is clearly visible from the river as well as from the air, because it is marked by a grassy clearing which is remembered by the Vunta Kutchin Indians of Old Crow as the location of a major village of their ancestors. The matrix of the site consists of ten feet of layered fine sediments which have accumulated on the basal gravel as a result of successive floods during the last 2000 years. Each flood deposited a layer of alluvial sediment of variable texture on surfaces which had stabilized long enough for vegetation to become established. These stabilized surfaces are now represented in the profile as buried soils, each of which was occupied by man in one or more areas of the site. In general terms the

stratigraphic profile can be described as three major zones: (A) the surface soil, underlain by a well developed buried soil and from one to four less well developed buried soils; (B) a sandy loam unit capping stratified silt loam which is underlain by a silty sand; and (C) a series of at least eight buried soils separated by silty clay loams and clay loams to a depth of about ten feet. These three zones can be identified quite readily throughout the 1500 foot length of the site, and this basic outline serves as a framework for more refined correlations of individual buried soils.

A suite of fifteen radiocarbon dates on charcoal and bone collagen indicates that Zone A developed during the last 600 years. Zone B represents a brief interval of unusually heavy flooding during which a foot and a half of sediment accumulated very rapidly. Zone C consists of more highly developed soils and must have accumulated over a period as long as a millennium and a half, but only the period since about 1000 B.P. has produced evidence of human occupation. Thus Klo-kut was first occupied by man about one millennium ago and contains a relatively continuous archaeological record thereafter.

Artifact Analysis

Preservation of bone is excellent at Klo-kut, so the site has yielded a large collection of faunal remains as well as a substantial artifact inventory. Both fauna and artifacts have been described in detail elsewhere (Morlan 1971a), and the conclusions will be merely summarized here. The Klo-kut collection is comprised of 7256 artifacts, including waste flakes, which were described in 80 classes. I attempted to present the artifacts in purely descriptive terms in order to facilitate later comparative studies. Furthermore, names with functional connotations seemed inappropriate since we have no detailed information on local artifact manufacture and use among the Vunta Kutchin.

Before proceeding with an analytical discussion I wish to provide brief descriptions for two of the five point types from Klo-kut:

Type 1a

Stemmed point with triangular or ovate blade and poorly defined, contracting stem. Stem defined by a change in the direction of the blade margins. All six examples in the Klo-kut collection have biconvex cross sections, and the facial flaking includes both expanding and lamellar scars. Mean length, width and thickness measurements are 25.9, 16.0, and 5.6 mm, respectively.

Type 1b

Stemmed point with triangular blade and well defined, contracting stem; one example has a parallel-ovate blade. Stem defined by shoulders at the base of the blade, some of which are associated with a slight tendency toward barbing. Of the nine examples in the Klo-kut sample, seven have biconvex cross sections, and two are plano-convex in section. Both expanding and lamellar scars are characteristic. Mean length, width, and thickness measurements are 34.9, 15.9, and 4.9 mm, respectively.

Vertical Distribution

The 80 descriptive classes and their vertical distributions within the site are shown in Tables 1-8 and Figs. 1-5. A preliminary analysis of these distributions (Morlan 1970a) led to a distinction between an Early Prehistoric period and a Late Prehistoric period. The Historic period was separated from the latter because of the occurrence of Euro-Canadian trade goods.

It can be seen in Tables 1-2 and Fig. 1 that the high incidence of unretouched flakes (class 6, 65-80%) masks the variations among the other, potentially more significant categories. This "mask" has been removed in Table 3 and Fig. 2, and the relative divergences of the three periods are reflected more clearly. The significance of these divergences has been tested with Kolmogorov-Smirnov test

TABLE 1

DISTRIBUTION OF THIRTY STONE ARTIFACT CLASSES FROM MjV1-1,
ARRANGED BY PERIOD.

	Hist.	L.P.	E.P.	Totals
1. Waterworn Pebbles	5	11	30	46
2. Broken Pebbles	6	23	12	41
3. Core Fragments	36	77	61	174
4. Cores with Platforms	7	13	18	38
5. Exhausted Cores	6	5	3	14
6. Unretouched Flakes	526	2569	1067	4162
7. Microscopically Retouched Flakes	35	115	47	197
8. Thinned Flakes		14	14	28
9. Nicked Flakes	12	34	70	116
10. Blunted Flakes	39	128	119	286
11. Rough Shaped Flakes	2	1	2	5
12. Poorly Shaped Flakes	2	15	12	29
13. Well Shaped Flakes	4	15	35	54
14. Scrapers		13	22	35
15. Burinated Flakes	17	53	17	87
16. Burin Spalls		2	5	7
17. Burins	1	2	4	7
18. Wedges	14	35	41	90
19. Rough Bifaces	1	3		4
20. Finished Bifaces	4	16		20
21. Artifact Fragments	4	16	7	27
22. Unshaped Boulder Spalls	8	19	25	52
23. Shaped Boulder Spalls			2	2
24. Boulder Spall Fragments	5	10		15
25. Unshaped <i>tei-de-tho</i>	3	6	14	23
26. Shaped <i>tei-de-tho</i>			4	4
27. Cleavers and Choppers	1	5	1	7
28. Pestles and Hammerstones	1	3	8	12
29. Adzes		2	2	4
30. Polished Fragments	8	27	13	48
Totals	747	3232	1655	5634

TABLE 2

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR TWELVE CLUSTERS OF STONE ARTIFACT CLASSES FROM MjV1-1, SHOWING THE PROBABILITY FOR ALL POSSIBLE PAIRS THAT TWO PERIOD SAMPLES WERE DRAWN FROM THE SAME POPULATION.

	<u>Historic</u>			<u>Late Prehistoric</u>			<u>Early Prehistoric</u>			<u>Totals</u>
	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	
1-5	60	0.080	0.080	129	0.040	0.040	124	0.075	0.075	313
6	526	0.704	0.784	2569	0.795	0.835	1067	0.645	0.720	4162
7-10	86	0.115	0.899	291	0.090	0.925	250	0.151	0.871	627
11-14	8	0.011	0.910	44	0.014	0.939	71	0.043	0.914	123
15-17	18	0.024	0.934	57	0.018	0.957	26	0.016	0.930	101
18	14	0.019	0.953	35	0.011	0.968	41	0.025	0.955	90
19-20	5	0.007	0.960	19	0.006	0.974			0.955	24
21	4	0.005	0.965	16	0.005	0.979	7	0.004	0.959	27
22-24	13	0.017	0.982	29	0.009	0.988	27	0.016	0.975	69
25-26	3	0.004	0.986	6	0.002	0.990	18	0.011	0.986	27
27-29	2	0.003	0.989	10	0.004	0.994	11	0.007	0.993	23
30	8	0.011	1.000	27	0.008	1.002	13	0.008	1.001	48
Totals	747			3232			1655			5634
Kolmogorov-Smirnov:				<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>			
Historic/Late Prehistoric				747	3232	0.053	0.10 > 0.05			
Late Prehistoric/Early Prehistoric				3232	1655	0.159	< 0.001			
Historic/Early Prehistoric				747	1655	0.084	0.005 > 0.001			

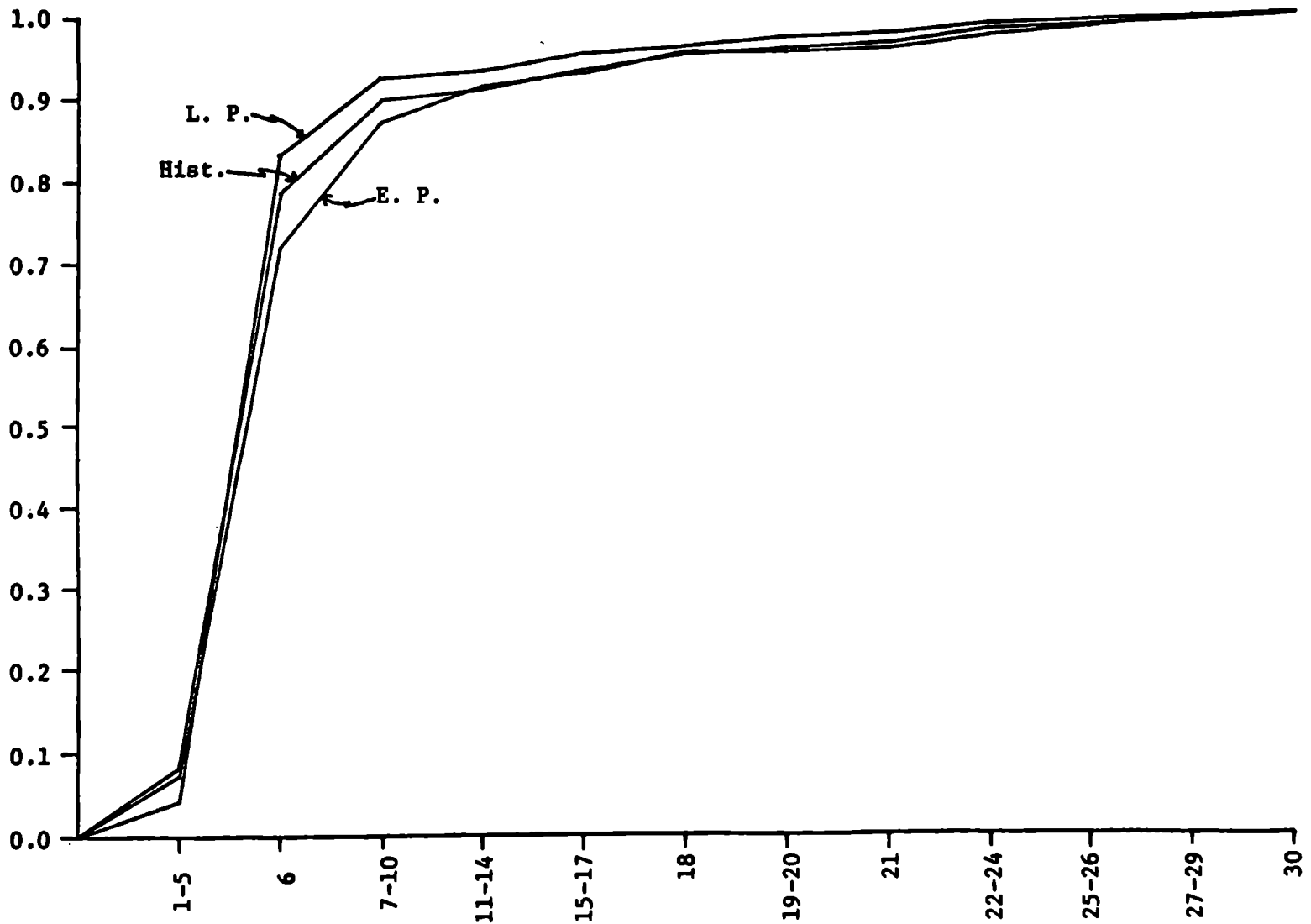


Figure 1. Cumulative percentage distributions for twelve clusters of stone artifact classes from MjV1-1, grouped by period.

TABLE 3

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR ELEVEN CLUSTERS OF STONE ARTIFACT CLASSES FROM Mjv1-1,
SHOWING THE PROBABILITY FOR ALL POSSIBLE PAIRS THAT TWO PERIOD SAMPLES WERE DRAWN FROM
THE SAME POPULATION

	<u>Historic</u>			<u>Late Prehistoric</u>			<u>Early Prehistoric</u>			<u>Totals</u>
	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	
1-5	60	0.271	0.271	129	0.195	0.195	124	0.210	0.210	313
7-10	86	0.389	0.660	291	0.439	0.634	250	0.425	0.635	627
11-14	8	0.036	0.696	44	0.066	0.700	71	0.121	0.756	123
15-17	18	0.081	0.777	57	0.086	0.786	26	0.044	0.800	101
18	14	0.063	0.840	35	0.053	0.839	41	0.070	0.870	90
19-20	5	0.023	0.863	19	0.029	0.868			0.870	24
21	4	0.018	0.881	16	0.024	0.892	7	0.012	0.882	27
22-24	13	0.059	0.940	29	0.044	0.936	27	0.046	0.928	69
25-26	3	0.014	0.954	6	0.009	0.945	18	0.031	0.959	27
27-29	2	0.009	0.963	10	0.015	0.960	11	0.019	0.978	23
30	8	0.036	0.999	27	0.041	1.001	13	0.022	1.000	48
Totals	221			663			588			1472

Kolmogorov-Smirnov:

	<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>
Historic/Late Prehistoric	221	663	0.106	0.05 > 0.025
Late Prehistoric/Early Prehistoric	663	588	0.116	< 0.001
Historic/Early Prehistoric	221	588	0.154	< 0.001

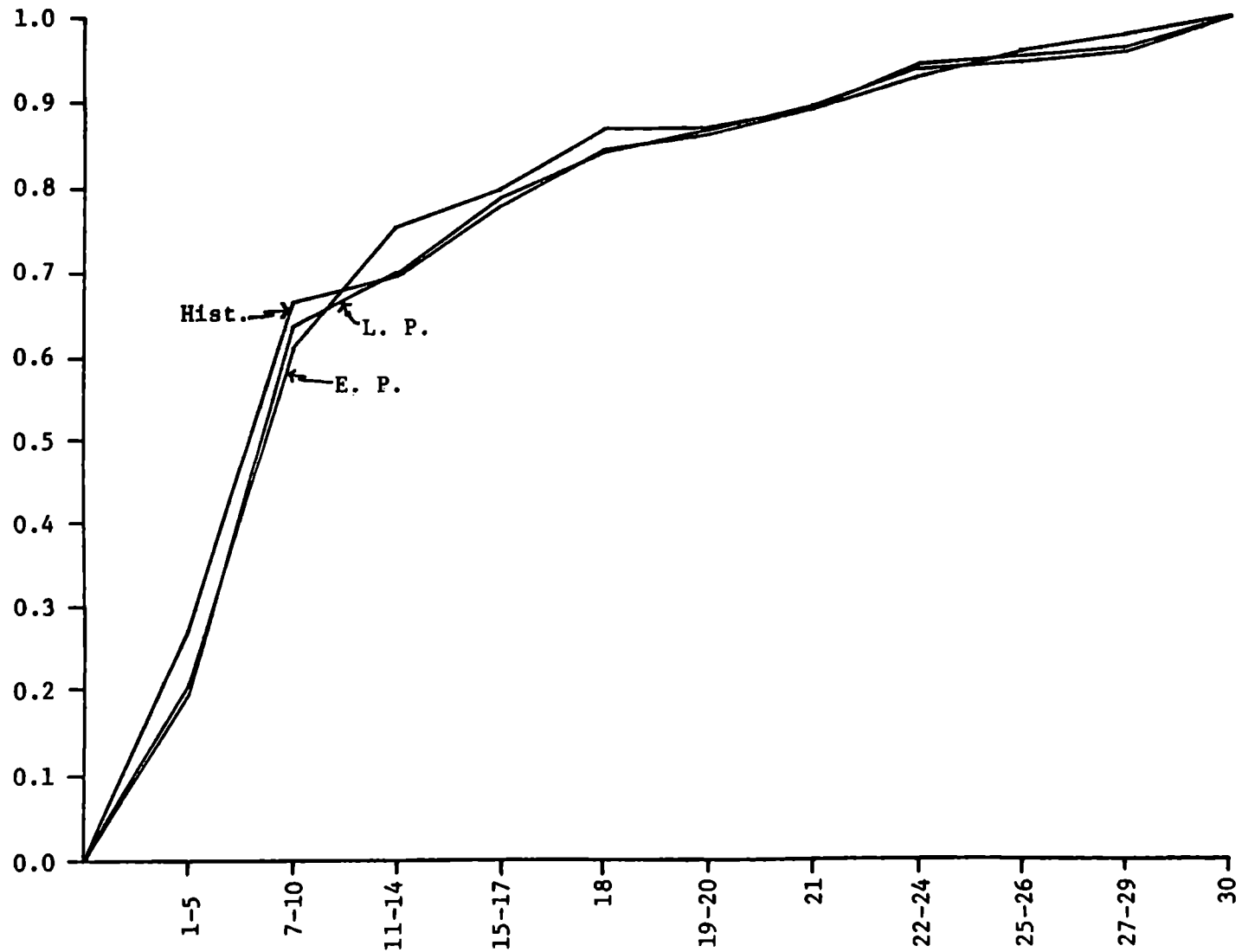


Figure 2. Cumulative percentage distributions for eleven clusters of stone artifact classes from MjVI-1, grouped by period.

(see Siegel 1956), which provides a level of confidence in the null hypothesis that two independent samples were drawn from the same population. In Table 3 it is noteworthy that the divergence between the two prehistoric periods is highly significant ($P < 0.001$) whereas that between the Late Prehistoric and Historic periods is of only moderate or low significance ($0.005 > P > 0.025$). Over one-fourth of the divergence between the prehistoric periods is attributable to the biface categories (classes 19 and 20) which are absent in the Early Prehistoric period. The appearance of bifacial stone working techniques in the Late Prehistoric period was also reflected in Table 2 by the increase from 65% to 80% in the frequency of unretouched flakes, many Late Prehistoric examples of which appear to be trimming flakes from bifacial blanks.

Other noteworthy differences between these two periods include the higher frequencies of tabular *tei-de-tho* and shaped flakes in the Early Prehistoric period and the higher frequencies of burinated flakes and polished fragments in the Late Prehistoric period. By way of contrast there are no categorical changes and very few major cardinal changes from the Late Prehistoric period to the Historic period. Obviously there is continuity in the lithic technology throughout this sequence, and the introduction of historic trade goods and the beginnings of the fur trade had had little effect on tool making by the time of the historic occupations at Klo-kut. On the other hand, the introduction of bifacial stone working techniques in the Late Prehistoric period seems to be of profound significance and will be further discussed below.

The distributions of 40 categories of bone artifacts are shown by period in Table 4. These categories have been regrouped into eleven clusters in Table 5 where they are shown with their cumulative percentage distributions (see also Fig. 3). Unfortunately the Kolmogorov-Smirnov tests are not sufficiently powerful to discriminate certain divergences which I thought might

be significant; all the test results indicate highly significant divergence among the three periods. If all stone and bone categories of questionable importance are eliminated, however, the tests provide revealing results. Table 6 shows the cumulative percentage distributions of thirteen clusters of potentially diagnostic artifact classes, and the divergence between the two prehistoric periods is in marked contrast to the lack of significant divergence between the Late Prehistoric period and the Historic period. These distributions are graphed in Fig. 4.

The important changes from the Early Prehistoric and Late Prehistoric periods can be summarized as follows:

1. a decrease in the frequency of shaped flakes (classes 11-14), particularly of scrapers (class 14), associated with
2. an increase in the frequency of bone beamers and associated classes (39-43) which is partially masked in Table 6 by the frequencies of split metapodials; Table 4 indicates twice as many beamers in the Late Prehistoric period as in the Early Prehistoric, and the sample totals are of nearly equal size;
3. the appearance of bifacial stone artifacts (classes 19-20), associated with a marked increase in unretouched flakes (class 6, Table 2), as well as with
4. a decrease in the frequency of bone and antler projectiles (classes 31-38);
5. a marked increase in the frequency of burinated flakes (classes 15-17);
6. an increase in the frequency of polished fragments (class 30), and
7. a marked decrease in the frequency of awls.

The differences between the Late Prehistoric period and the Historic period must be evaluated more conservatively, because of the smaller sample size of the

TABLE 4

DISTRIBUTION OF FORTY BONE ARTIFACT CLASSES FROM MjV1-1,
ARRANGED BY PERIOD.

	Hist.	L. P.	E. P.	Totals
31. Bilaterally Barbed Points		1		1
32. Unilaterally Barbed Points	2	6	11	19
33. Unbarbed Points	1	5	21	27
34. Points with Knobbed Stems		1	4	5
35. Blunt Arrowhead			1	1
36. Unbarbed Bedded Points			2	2
37. Leister Barb			1	1
38. Thick Antler Points		1	1	2
39. Ornamented Bone Beamers		1	2	3
40. Unornamented Bone Beamers	4	10	5	19
41. End of the Bone Scraper			1	1
42. Coronally Split Metapodials	1	3	5	9
43. Quartered Metapodials		5	2	7
44. Splinters with One Grooved Margin	1	19	15	35
45. Awl, Type I	1	4	2	7
46. Awl, Type II	2		7	9
47. Awl, Type III	3	4	5	12
48. Awl, Type IV	1	1	5	7
49. Awl, Type V			3	3
50. Creaser, Type I	1		5	6
51. Creaser, Type II	1	4	4	9
52. Needles	1	5	4	10
53. Splinters with Two Grooved Margins	1	12	6	19
54. Splinters with Central Grooves	4	7	7	18
55. Miscellaneous Polished Splinters	3	6	10	19
56. Compound Fish Hooks	1	1		2
57. Fish Lures		3		3
58. Gaming Pieces		2	2	4
59. Barking Tools			3	3
60. End-notched Antler Beams	3			3
61. Grooved and Split Antler Fragments	6	14	3	23
62. Grooved, Split and Sawn Antler Frags.	1	3	11	15
63. Sawn and Chopped Antler Fragments	15	5	3	23
64. Crushed Antler Tines	1	2	1	4
65. Cranium with Cut Antler	2		1	3
66. Worked Incisors		1	2	3
67. Cut Loon Beaks		1	4	5
68. Miscellaneous Cut and Polished Bones	19	24	13	56
69. Pitted Bones	30	60	29	119
70. Butchered Bones	23	32	22	77
Totals	128	243	223	594

TABLE 5

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR ELEVEN CLUSTERS OF BONE ARTIFACT CLASSES FROM MjVI-1,
SHOWING THE PROBABILITY FOR ALL POSSIBLE PAIRS THAT TWO PERIOD SAMPLES WERE DRAWN FROM THE
SAME POPULATION

	<u>Historic</u>			<u>Late Prehistoric</u>			<u>Early Prehistoric</u>			<u>Totals</u>
	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	
31-38	3	0.023	0.023	14	0.058	0.058	41	0.184	0.184	58
39-43	5	0.039	0.062	19	0.078	0.136	15	0.067	0.251	39
44	1	0.008	0.070	19	0.078	0.214	15	0.067	0.318	35
45-49	7	0.055	0.125	9	0.037	0.251	22	0.099	0.417	38
50-52	3	0.023	0.148	9	0.037	0.288	13	0.058	0.475	25
53-55	8	0.063	0.211	25	0.103	0.391	23	0.103	0.578	56
56-57	1	0.008	0.219	4	0.016	0.407			0.578	5
58-65	28	0.219	0.438	26	0.107	0.514	24	0.108	0.686	78
66-68	19	0.148	0.586	26	0.107	0.621	19	0.085	0.771	64
69	30	0.234	0.820	60	0.247	0.868	29	0.130	0.901	119
70	23	0.180	1.000	32	0.132	1.000	22	0.099	1.000	77
<u>Totals</u>	<u>128</u>			<u>243</u>			<u>223</u>			<u>594</u>

<u>Kolmogorov-Smirnov:</u>	<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>
Historic/Late Prehistoric	128	243	0.219	< 0.001
Late Prehistoric/Early Prehistoric	243	223	0.210	< 0.001
Historic/Early Prehistoric	128	223	0.367	< 0.001

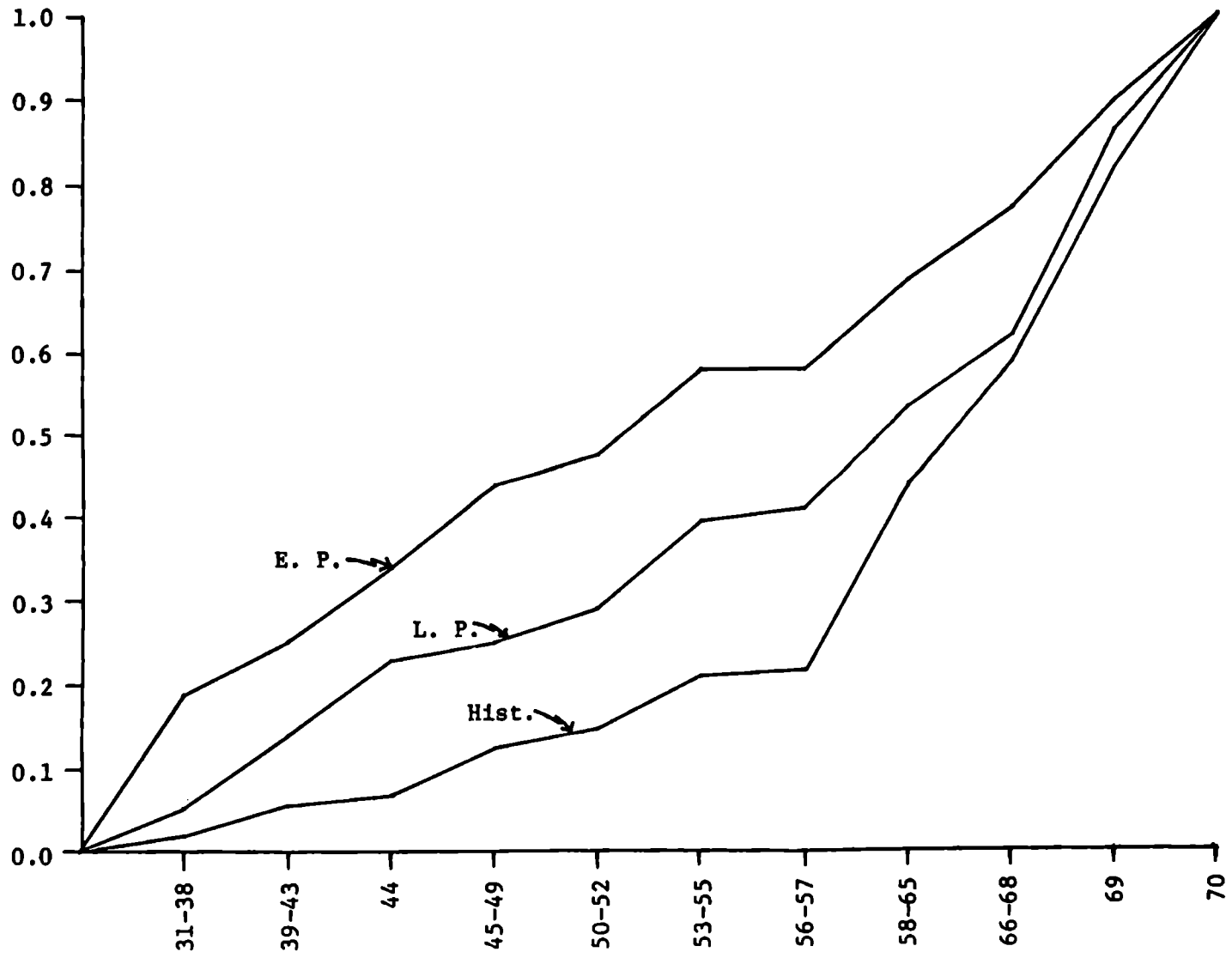


Figure 3. Cumulative percentage distributions for eleven clusters of bone artifact classes from MjVI-1, grouped by period.

TABLE 6

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR THIRTEEN CLUSTERS OF POTENTIALLY DIAGNOSTIC STONE AND BONE ARTIFACT CLASSES FROM MjVI-1, SHOWING THE PROBABILITY FOR ALL POSSIBLE PAIRS THAT TWO PERIOD SAMPLES WERE DRAWN FROM THE SAME POPULATION.

	Historic			Late Prehistoric			Early Prehistoric			Totals
	No.	Percent	Cumulative Percent	No.	Percent	Cumulative Percent	No.	Percent	Cumulative Percent	
11-14	8	0.089	0.089	44	0.156	0.156	71	0.238	0.238	123
15-17	18	0.200	0.289	57	0.202	0.358	26	0.087	0.325	101
18	14	0.156	0.445	35	0.124	0.482	41	0.138	0.463	90
19-20	5	0.056	0.501	19	0.067	0.549			0.463	24
22-24	13	0.144	0.645	29	0.103	0.652	27	0.091	0.554	69
25-26	3	0.033	0.678	6	0.021	0.673	18	0.060	0.614	27
27-29	2	0.022	0.700	10	0.035	0.708	11	0.034	0.648	23
30	8	0.089	0.789	27	0.096	0.804	13	0.044	0.692	48
31-38	3	0.033	0.822	14	0.050	0.854	41	0.138	0.830	58
39-43	5	0.056	0.878	19	0.067	0.921	15	0.050	0.880	39
45-49	7	0.078	0.956	9	0.032	0.953	22	0.074	0.954	38
50-52	3	0.033	0.989	9	0.032	0.985	13	0.044	0.998	25
56-57	1	0.011	1.000	4	0.014	0.999			0.998	5
Totals	90			282			298			670

Kolmogorov-Smirnov:

	<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>
Historic/Late Prehistoric	90	282	0.142	> 0.10
Late Prehistoric/Early Prehistoric	282	298	0.278	< 0.001
Historic/Early Prehistoric	90	298	0.306	< 0.001

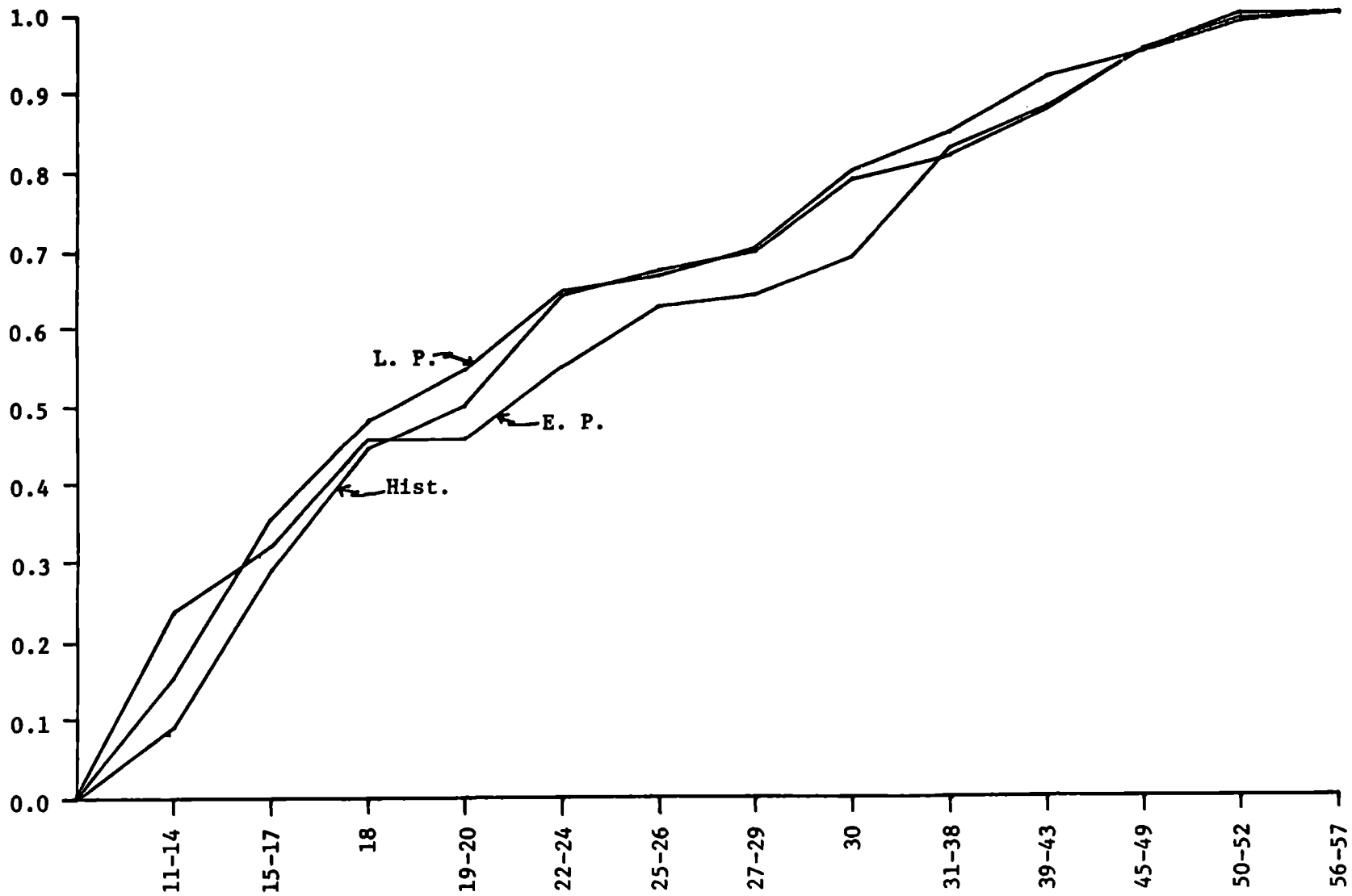


Figure 4. Cumulative percentage distributions for thirteen clusters of potentially diagnostic stone and bone artifact classes from MjV1-1, grouped by period.

latter, but the only major change appears to be a further decline in the frequency of shaped flakes which, for whatever reason, is associated with an increase in the frequency of core fragments (class 3) and unshaped retouched flakes (classes 7-10). In some artifact classes, notably the bone beamers and stone scrapers, there appears to be a general decline in the quality of workmanship from the Late Prehistoric period to the Historic period, and the increases in core fragments and unshaped flakes may also be a reflection of this trend.

Five categories of bark and wood artifacts (Table 7) are plotted with their cumulative percentage distributions in Table 8 and Fig. 5, and the Kolmogorov-Smirnov tests for these samples yielded the same results as those for the diagnostic artifact classes. It should be noted, however, that the small sample sizes for the Late Prehistoric and Historic periods may have contributed to the low significance of their relative divergence.

Also in Table 8 and Fig. 5 are tests of the divergence among the periods for all 80 classes of artifacts sorted on the basis of raw material. The uniformly significant results of these tests is, once again, an indication of masking by the highly variable byproduct classes; the many fluctuations which make up the divergences merely reinforce one another so that any grouping of such diverse materials would yield results of high significance.

I attempted to run a number of Kolmogorov-Smirnov tests on the distribution of stone types among the three periods, but sampling problems made the results unreliable. Tests on the unretouched flakes indicated highly significant divergence ($P < 0.001$) among all three periods, suggesting that certain stone types may have been more readily available during some than during others. The Historic period is characterized by a relatively high frequency of microcrystalline and layered stone types and a low frequency of black cherts. The only categorical variations are the absence or near absence of quartz and quartz crystal in the

TABLE 7

DISTRIBUTION OF TEN BARK, MINERAL, METAL, AND GLASS
ARTIFACT CLASSES FROM Mjv1-1, ARRANGED BY PERIOD.

	Hist.	L. P.	E. P.	Totals
71. Bark Trays	2		6	8
72. Bark Slabs	5	18	149	172
73. Bark Rolls	18	25	153	196
74. Bark Strips	8	12	480	500
75. Wood Artifacts	4	6	2	12
Totals	37	61	790	888
76. Hematite (lots)	21	35	6	62
77. Limonite (lots)	7	9	1	17
Totals	28	44	7	79
78. Metal Artifacts	13	3	1	17
79. Glass Beads	38	1		39
80. Miscellaneous Trade Goods	4	1		5
Totals	55	5	1	61

TABLE 8

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR FIVE CLASSES OF BARK AND WOOD ARTIFACTS AND FOR FIVE CATEGORIES OF RAW MATERIAL FROM Mjv1-1, SHOWING THE PROBABILITY FOR ALL POSSIBLE PAIRS THAT TWO PERIOD SAMPLES WERE DRAWN FROM THE SAME POPULATION.

	<u>Historic</u>			<u>Late Prehistoric</u>			<u>Early Prehistoric</u>			<u>Totals</u>
	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative Percent</u>	
71	2	0.054	0.054				6	0.008	0.008	8
72	5	0.135	0.189	18	0.295	0.295	149	0.189	0.197	172
73	18	0.486	0.675	25	0.410	0.705	153	0.194	0.391	196
74	8	0.216	0.891	12	0.197	0.902	480	0.608	0.999	500
75	4	0.108	0.999	6	0.098	1.000	2	0.002	1.001	12
Totals	37			61			790			888
Kolmogorov-Smirnov:				<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>			
Historic/Late Prehistoric				37	61	0.159	> 0.10			
Late Prehistoric/Early Prehistoric				61	790	0.418	< 0.001			
Historic/Early Prehistoric				37	790	0.444	< 0.001			
1-30	747	0.751	0.751	3232	0.902	0.902	1655	0.618	0.618	5634
31-70	128	0.129	0.880	243	0.068	0.970	223	0.083	0.701	594
71-75	37	0.037	0.917	61	0.017	0.987	790	0.295	0.996	888
76-77	28	0.028	0.945	44	0.012	0.999	7	0.003	0.999	79
78-80	55	0.055	1.000	5	0.001	1.000	1	0.001	1.000	61
Totals	995			3585			2676			7256
Kolmogorov-Smirnov:				<u>n1</u>	<u>n2</u>	<u>D</u>	<u>Probability</u>			
Historic/Late Prehistoric				995	3585	0.151	< 0.001			
Late Prehistoric/Early Prehistoric				3585	2676	0.293	< 0.001			
Historic/Early Prehistoric				995	2676	0.258	< 0.001			

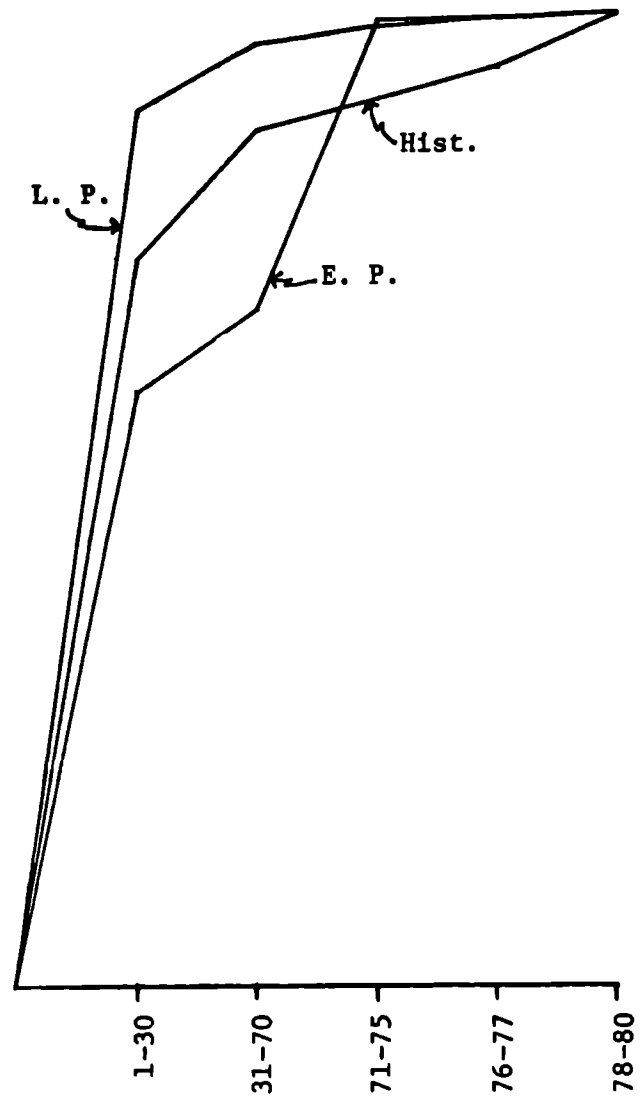
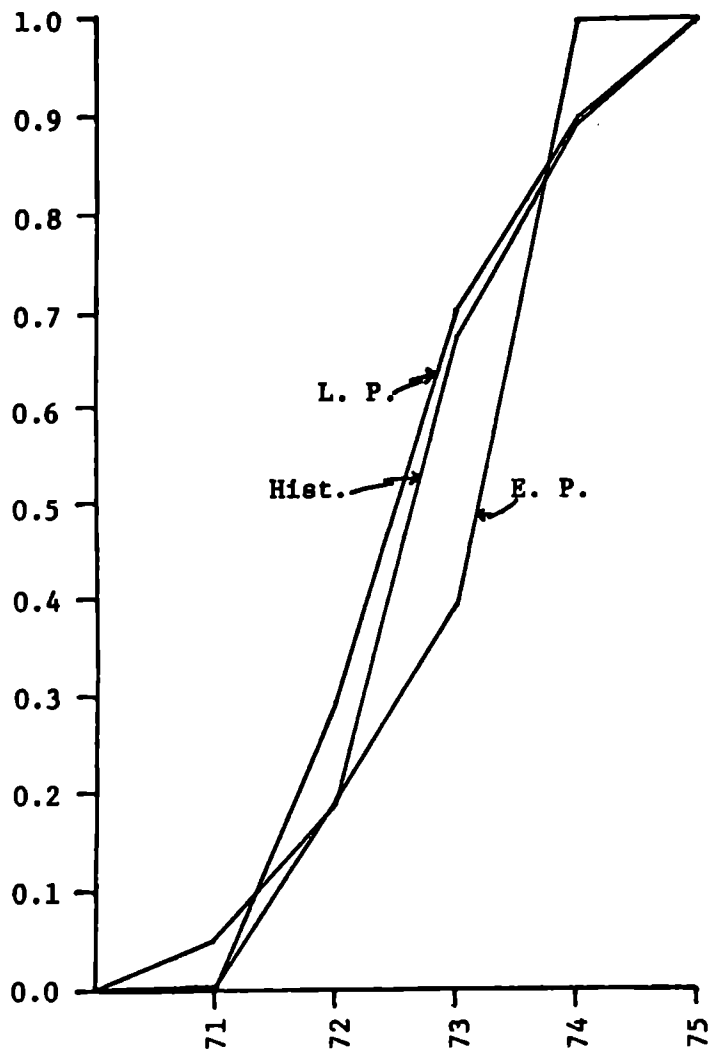


Figure 5. Cumulative percentage distributions for five classes of bark and wood artifacts and for five categories of raw material from MjVI-1, grouped by period.

Historic period. If these divergences in the stone types of unretouched flakes reflected preferences in the stone use habits of the knappers at Klo-kut one would expect them to be repeated in the retouched flake categories. Unfortunately only one category, blunted flakes (class 10), provides suitable samples for tests among the three periods, and these tests indicate divergences of low or moderate significance for the stone types of blunted flakes among the three periods. This suggests that availability rather than preference is responsible for the divergences among the unretouched flakes but that this factor was overcome by careful selection of suitable stone types for the manufacture of finished artifacts. Similar results for other artifact types were made questionable by the small sample sizes for any given period. If either sample size decreases to 40 or less the two samples must be of equal size for the use of a one-tailed Kolmogorov-Smirnov test, and these requirements cannot be met by the Klo-kut data.

Horizontal Distribution

Ideally an analysis of horizontal distribution would include delineations of house structures and other features related to the activities and community patterns which characterized the site. Unfortunately the excavations to date were not designed for this purpose, because it has seemed more important to sample as many areas of the site as possible; working with small crews in short excavation seasons this has meant the use of long, narrow trenches in each of which we exposed as much of the profile as permafrost and water table would allow. The present sample was obtained from a series of such trenches, and the horizontal distribution provided by any one trench is not broad enough to indicate significant activity areas or to reveal the former presence of surface structures.

Kolmogorov-Smirnov tests between paired trench samples within each period were hampered by small sample sizes and failed to indicate patterns on which to

base an interpretation concerning activity specificity or some other meaningful variable (Morlan 1971a:441-457). On the other hand the tests showed clearly that the differences between the Early and Late Prehistoric periods are much greater than those within the Late Prehistoric period.

Summary

Each of the three periods is distinctive in certain ways and bears a peculiar relation to the adjacent period. These characteristics can be summarized as follows.

Early prehistoric. This initial period of human occupancy at Klo-kut began approximately 1000 years ago, and the occupations continued intermittently for about 400 years. At least some evidence of man is present for this time range in every area of the site yet sampled, but in most areas the density of artifacts is quite low. Only the east end of the site (Area 1A) seems to have been occupied intensively, and its sample can be regarded as the best available representative of the period. The technology of the Early Prehistoric period is characterized by a lack of bifacial stone working techniques, a reliance upon bone and antler as raw material for hunting weapons, a high incidence of stone scrapers, a tendency toward the application of decorative elements on beamers and awls, a generally excellent quality of workmanship in bone and stone, extensive use of bark, very little use of mineral pigments, and the appearance of native copper presumably obtained through aboriginal trade networks.

Late prehistoric. During this period, between 600 years ago and about 100 years ago, the entire site was more or less uniformly occupied by intermittent seasonal (see below) camps which left a denser concentration of artifacts throughout the site. It would appear that a much larger area of the site had become fully suitable for human occupation following a brief period of major flooding which must have cleared the area for a more or less complete replacement

of vegetation communities. The technology of the Late Prehistoric period is characterized by the appearance of bifacial stone working techniques, a committent decline in the quality of workmanship particularly of bone and antler, a marked reduction in the use of bark, and an increase in the use of mineral pigments; aboriginal trade is represented by one large blue bead.

Historic. This period is represented in only one major area of the site, viz., the grassy clearing which comprises the most conspicuous feature of the locality today. The western end of this clearing seems to have been occupied intensively during two or more seasons about 100 years ago, but the full extent of the historic occupation may not have been realized by the excavations to date. Both the density and the distribution of the artifacts are quite similar to those of the Late Prehistoric period. There is clear continuity between the latter and the Historic period with respect to the overall composition of the technology, and the major change is the appearance of metal, glass, and other trade goods which serve arbitrarily to define the Historic period. The frequency of bone artifacts increased in the Historic period, but this increase consists of an abundance of bone and antler byproducts which must have resulted from experimentation with the newly available metal cutting tools. Bifacial stone working techniques continue to provide part of the hunting weaponry in spite of the appearance of firearms; the use of bark shows no significant change, but mineral pigments are used even more heavily than in the Late Prehistoric period.

In general I would conclude that there is technological continuity throughout the Klo-kut sequence. No major changes such as population replacement seem to have occurred there, but the appearance of bifacial stone working techniques begs explanation.

Faunal Remains

Since the faunal remains from Klo-kut comprise a much larger sample than the artifact collection, the former can be subjected to a somewhat more refined analysis than the latter. The analysis has been completed, however, for only five of the seven trenches excavated in 1967 and 1968. Furthermore there were several aspects of the analysis which did not yield meaningful results because of sampling problems which have been described in detail elsewhere (Morlan 1971a: 486-522).

In this discussion we shall confine the presentation to the several approaches which have produced useful conclusions, viz., the vertical distributions, individual estimates, and seasonality.

Vertical Distribution

The faunal remains were discussed in terms of smaller analytical units than those used for the artifacts. Whereas a three-period scheme was used for the artifacts, the faunal remains were subdivided according to seven layers. These layers represent groupings of the basic excavation levels used in the field, and their correlation and synthesis have been described in detail elsewhere (Morlan 1971a:Chapter V). The Early Prehistoric period is represented throughout the site by Layers V-VII; the Late Prehistoric period is represented by Layers I-IV except for the area in the grassy clearing where Layers I-II represent the Historic period.

In a preliminary analysis of vertical distributions of the faunal remains (Morlan 1970b) I found that a major change in the cumulative percentages took place within the latter part of the Early Prehistoric period at the boundary between Layers V and VI. Table 9 shows the distribution by layer of all classified and identified bones in the site along with the cumulative percentage distributions for these data. The latter distributions have been graphed in

TABLE 9

CUMULATIVE PERCENTAGE DISTRIBUTION OF CLASSIFIED AND IDENTIFIED BONES FROM MjVI-1, ARRANGED BY LAYERS AND PERIODS.

	<u>I-II*</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>Totals</u>	<u>Hist.</u>	<u>L. P.</u>	<u>E. P.</u>
Caribou	6022	6598	748	805	2560	1238	21578	3607	13368	4603
Muskrat	164	233	28	66	127	14	819	187	425	207
Rabbit	3	8	2	4	27	14	300	242	13	45
Other Mammals	29	51	10	12	50	16	280	112	90	78
Birds	35	28	5	7	20	0	132	37	68	27
Fishes	110	91	15	16	194	144	1554	984	216	354
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Totals	6363	7009	808	910	2978	1426	24663	5169	14180	5314
Caribou	.947	.942	.926	.885	.860	.868	.875	.698	.943	.866
Muskrat	.025	.033	.035	.072	.042	.010	.033	.036	.030	.039
Rabbit	.001	.001	.002	.005	.009	.010	.012	.047	.001	.009
Other Mammals	.004	.007	.012	.013	.017	.011	.012	.022	.006	.014
Birds	.006	.004	.006	.007	.007	.000	.005	.007	.005	.005
Fishes	.017	.013	.019	.018	.065	.101	.063	.190	.015	.067
Caribou	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Muskrat	.053	.058	.074	.115	.140	.132	.125	.302	.057	.134
Rabbit	.028	.025	.039	.043	.098	.122	.092	.266	.027	.095
Other Mammals	.027	.024	.037	.038	.089	.112	.080	.219	.026	.086
Birds	.023	.017	.025	.025	.072	.101	.068	.197	.020	.072
Fishes	.017	.013	.019	.018	.065	.101	.063	.190	.015	.067

*minus Historic (W100) period.

Fig. 6, and the results of Kolmogorov-Smirnov tests of the divergences are displayed as a matrix in Table 10. The values in the matrix refer to the order of magnitude of the probability that a given pair of samples was drawn from the same population. A "2" in Table 10 indicates a low level of significance, or a probability greater than 0.10 that the two samples were drawn from the same population; a "1" indicates moderate significance, or $0.10 > P > 0.01$ and a "0" indicates a highly significant divergence, or $P < 0.01$. The lower left half of the matrix contains the actual test results, and the upper right half contains hypothetical results which describe maximum sorting of the three periods. The actual results approach the model quite closely, and the only departures concern Layer V which is more similar to the Late Prehistoric period than to the other layers of the Early Prehistoric period. To some extent there is gradual change throughout the prehistoric sequence, and this is in marked contrast to the abrupt change associated with the Historic period.

The Early Prehistoric period is characterized by 86-89% caribou bones and high frequencies of fish in Layers VI and VII but not in Layer V. In the Late Prehistoric period the caribou frequencies increase to 93-95% with a decrease in muskrat, rabbit and fish. The Historic period brings a reversal of these trends as caribou drops to 70% while muskrat, rabbit, other small mammals, and fish reach their highest frequencies. The changes in abundance of fish may have resulted from changes in the suitability of the Klo-kut area for fishing. Most of the fishing techniques of the prehistoric period required clear water, and there is no evidence of the use of traps or weirs at Klo-kut. The Early Prehistoric period probably included the use of leisters (artifact class nos. 36-37), and the Late Prehistoric period may have brought a switch to hooks and lures (artifact class nos. 56-57); unfortunately the sample of fishing implements is much too small to be certain of this apparent change. If, however, clear

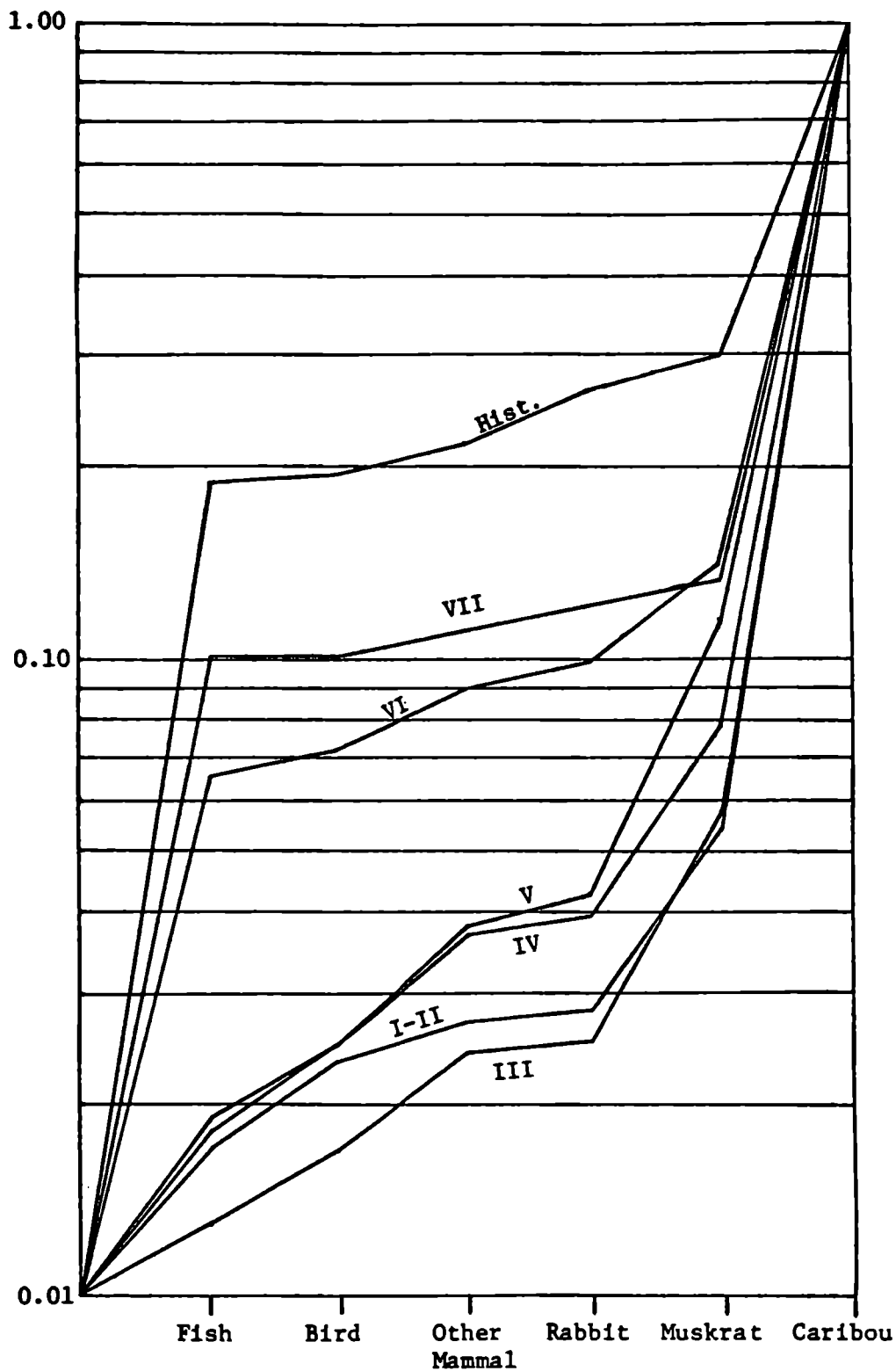


Figure 6. Cumulative percentage distributions for six classes of bone in MjVI-1, grouped by layer on a 2-cycle logarithmic scale.

TABLE 10

MATRIX ILLUSTRATION OF THE PROBABILITIES THAT PAIRED LAYER SAMPLES WERE DRAWN FROM THE SAME POPULATION. LOWER LEFT HALF CONTAINS ACTUAL TEST RESULTS; UPPER RIGHT HALF CONTAINS HYPOTHETICAL RESULTS BASED ON A MODEL OF MAXIMUM SORTING AMONG THREE PERIODS.

		<u>Hist.</u>	<u>Late Prehistoric</u>			<u>Early Prehistoric</u>		
			<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>
<u>Hist.</u>			0	0	0	0	0	0
<u>L. P.</u>	<u>I-II</u>	0		2	2	0	0	0
	<u>III</u>	0	2		2	0	0	0
	<u>IV</u>	0	2	2		0	0	0
<u>E. P.</u>	<u>V</u>	0	0	1	2		2	2
	<u>VI</u>	0	0	0	0	1		2
	<u>VII</u>	0	0	0	0	0	2	

water conditions were reduced by the large floods of Layers V and IV, fishing activities at the site might have been hampered.

None of the small mammal, bird, or fish resources accounts for more than 5% of the bones in Layer V and the Late Prehistoric period. Muskrat is second only to caribou in these layers and probably represents hunting and snaring at small lakes near the site. The increase of fish in the Historic period is accompanied by the highest percentage of rabbit bone and the lowest frequency of caribou. Of 300 rabbit bones in the analysis, 242 occurred in the Historic layers and may represent the beginning of snaring for the fur trade. The increase of fish could also reflect a general decline of hunting in favor of more time on the traplines.

Individual Estimates

Ideally an analysis and interpretation of faunal remains is based almost entirely upon the number of individuals represented rather than the number of bones. There are several biases in the Klo-kut data which preclude this approach at the present time. To some extent there seems to be a tendency for the cultural and natural agencies at any given site to reduce the bones to a more or less uniform size, and any such tendency more seriously affects the remains of large mammals than those of smaller animals. The bones of muskrat, rabbit, and bird, for example, are only slightly damaged and are often intact while those of caribou and moose are broken into many unidentifiable fragments. Estimates of the minimum number of individuals represented in the Klo-kut sample are more accurate for the small mammals and birds than for larger mammals. One bone can be said to represent one individual, but several hundred bones and fragments may also indicate only one individual.

The nature of the excavations poses problems for this aspect of the analysis as well. Since the excavation trenches sliced through but did not properly expose the living floors on which carcasses were butchered and distributed, there

is very little basis for generalizing from the samples of bones to the population of bones in a given layer of the site. Variations in density are difficult to evaluate without more extensive excavations. Furthermore, each layer undoubtedly represents more than one occupation in each major area of the site, so the bones obtained from a given layer actually comprise a sample drawn from several populations. In the face of all these biases it would be quite misleading to use the individual estimates for further inferences concerning the amount of usable meat available in each layer or the number of people involved in a given occupation.

The individual estimates have been tabulated in Tables 11-13, and their cumulative percentage distributions are shown in Fig. 7. It is not surprising that there is little in the way of a coherent pattern in these data since they represent average values which hide the biases described above. A comparison of Figs. 6 and 7 reveals a general turnover in the positions of the various layers, and this is due to the failure of the high frequencies of caribou bones in the Late Prehistoric layers to indicate comparably high frequencies of individual caribou in those layers.

The estimates given in Tables 11-13 are minimum numbers, and they are based upon inspection of the bone counts (Morlan 1971a:Appendix B); the largest value for an axial element or half the largest value for a paired element provides the estimates for most species and provenience units. Care must be taken to exclude from the count all bone fragments which might represent the same animal as a fragment already counted within a given provenience lot, and the counts can be refined and increased by distinguishing between age groupings and gross or proportionate size within a given species (Bokonyi 1970). Only for caribou, however, is the sample large enough to make worthwhile an explicit subdivision by age group, and the estimates for age group are provided in Table 11. Immature

TABLE 11

DISTRIBUTION OF CARIBOU AGE GROUPS IN THE LAYERS, PERIODS, AND TRENCHES AT MjVI-1, SHOWING THE PROBABILITY THAT THE TWO PREHISTORIC PERIOD SAMPLES WERE DRAWN FROM THE SAME POPULATION.

	<u>Hist.</u>	<u>Late Prehistoric</u>			<u>Early Prehistoric</u>			<u>Totals</u>	<u>L. P.</u>	<u>E. P.</u>
		<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>			
Adult	18	28	23	8	7	12	9	105	59	28
Immature	3	14	13	4	2	8	2	46	31	12
Fetal	5	7	8	2	5	7	6	40	17	18
<u>Totals</u>	<u>26</u>	<u>49</u>	<u>44</u>	<u>14</u>	<u>14</u>	<u>27</u>	<u>17</u>	<u>191</u>	<u>107</u>	<u>58</u>

		<u>W700</u>	<u>W600</u>	<u>W400</u>	<u>W300</u>	<u>W100</u>	<u>Totals</u>	<u>%</u>
L. P.	Adult	13	13	12	12	9	59	.551
	Immature	9	9	4	5	4	31	.290
	Fetal	3	5	3	5	1	17	.159
	<u>Totals</u>	<u>25</u>	<u>27</u>	<u>19</u>	<u>22</u>	<u>14</u>	<u>107</u>	<u>1.000</u>
E. P.	Adult	7	4	6	6	5	28	.483
	Immature	1	3	2	1	5	12	.207
	Fetal	3	3	4	2	6	18	.310
	<u>Totals</u>	<u>11</u>	<u>10</u>	<u>12</u>	<u>9</u>	<u>16</u>	<u>58</u>	<u>1.000</u>

Late Prehistoric/Early Prehistoric: $D = 0.151$; $P > 0.10$

TABLE 12

DISTRIBUTION OF MINIMUM NUMBERS OF INDIVIDUALS OF IDENTIFIED SPECIES FROM Mjv1-1, ARRANGED BY LAYERS AND PERIODS.

	<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>Totals</u>	<u>Hist.</u>	<u>L. P.</u>	<u>E. P.</u>
Caribou	49	44	14	14	27	17	191	26	107	58
Muskrat	19	12	6	7	13	2	68	9	37	22
Rabbit	2	4	1	1	5	1	22	8	7	7
Moose	1	4		2	2		9		5	4
Beaver	1	2		3	2	1	10	1	3	6
Red Squirrel					1		1			1
Collared Lemming		1	1		1		3		2	1
Brown Lemming		1			1		2		1	1
Vole	2	1	1		1	1	8	2	4	2
Dog					1	1	2			2
Pine Marten (male)	1				1		2		1	1
Bear					1		1			1
Unidentified mammal	5	9	2	5	11	3	38	3	16	19
Totals	80	78	25	32	67	26	357	49	183	125

TABLE 12--continued.

	<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>Totals</u>	<u>Hist.</u>	<u>L. P.</u>	<u>E. P.</u>
Loon	2	3	1	2	3		15	4	6	5
Grebe					2		2			2
Canada Goose	1	1					3	1	2	
Pintail	1	1					3	1	2	
Green-winged Teal	1						1		1	
American Widgeon		1	1				3	1	2	
Scaup	1	1		1			3		2	1
Oldsquaw	2	2	1				6	1	5	
White-winged Scoter	1	2			1		4		3	1
Red-breasted Merganser							1	1		
Hawk		1					1		1	
Ptarmigan		1					1		1	
Sandhill Crane					1		1			1
Owl		1					1		1	
Passerine				1			1			1
Unidentified Bird	10	13	3	4	7		46	9	26	11
<hr/>										
Totals	19	27	6	8	14		92	18	52	22
Northern Pike	1						1		1	
Unidentified Fish	6	8	5	4	5	3	44	12	19	12
<hr/>										
Grand Totals	106	113	36	44	86	29	493	79	255	159

TABLE 13

CUMULATIVE PERCENTAGE DISTRIBUTIONS FOR SIX MAJOR CATEGORIES OF MINIMUM INDIVIDUAL ESTIMATES
FROM Mjv1-1, ARRANGED BY LAYERS AND PERIODS.

	<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>Totals</u>	<u>Hist.</u>	<u>L. P.</u>	<u>E. P.</u>
Caribou	49	44	14	14	27	17	191	26	107	58
Muskrat	19	12	6	7	13	2	68	9	37	22
Rabbit	2	4	1	1	5	1	22	8	7	7
Other Mammals	10	18	4	10	22	6	76	6	32	38
Birds	19	27	6	8	14		92	18	52	22
Fishes	7	8	5	4	5	3	44	12	20	12
<hr/>										
Totals	106	113	36	44	86	29	493	79	255	159
Caribou	.462	.389	.389	.318	.314	.586	.387	.329	.420	.365
Muskrat	.179	.106	.167	.159	.151	.069	.138	.114	.145	.138
Rabbit	.019	.035	.028	.023	.058	.034	.045	.101	.027	.044
Other Mammals	.094	.159	.111	.227	.256	.207	.154	.076	.125	.239
Birds	.179	.239	.167	.182	.163		.187	.228	.204	.138
Fishes	.066	.071	.139	.091	.058	.103	.089	.152	.078	.075
Caribou	.999	.999	1.001	1.000	1.000	.999	1.000	1.000	.999	.999
Muskrat	.537	.610	.612	.682	.686	.413	.613	.671	.579	.634
Rabbit	.358	.504	.445	.523	.535	.344	.475	.557	.434	.496
Other Mammals	.339	.469	.417	.500	.477	.310	.430	.456	.407	.452
Birds	.245	.310	.306	.273	.221	.103	.276	.380	.282	.213
Fishes	.066	.071	.139	.091	.058	.103	.089	.152	.078	.075

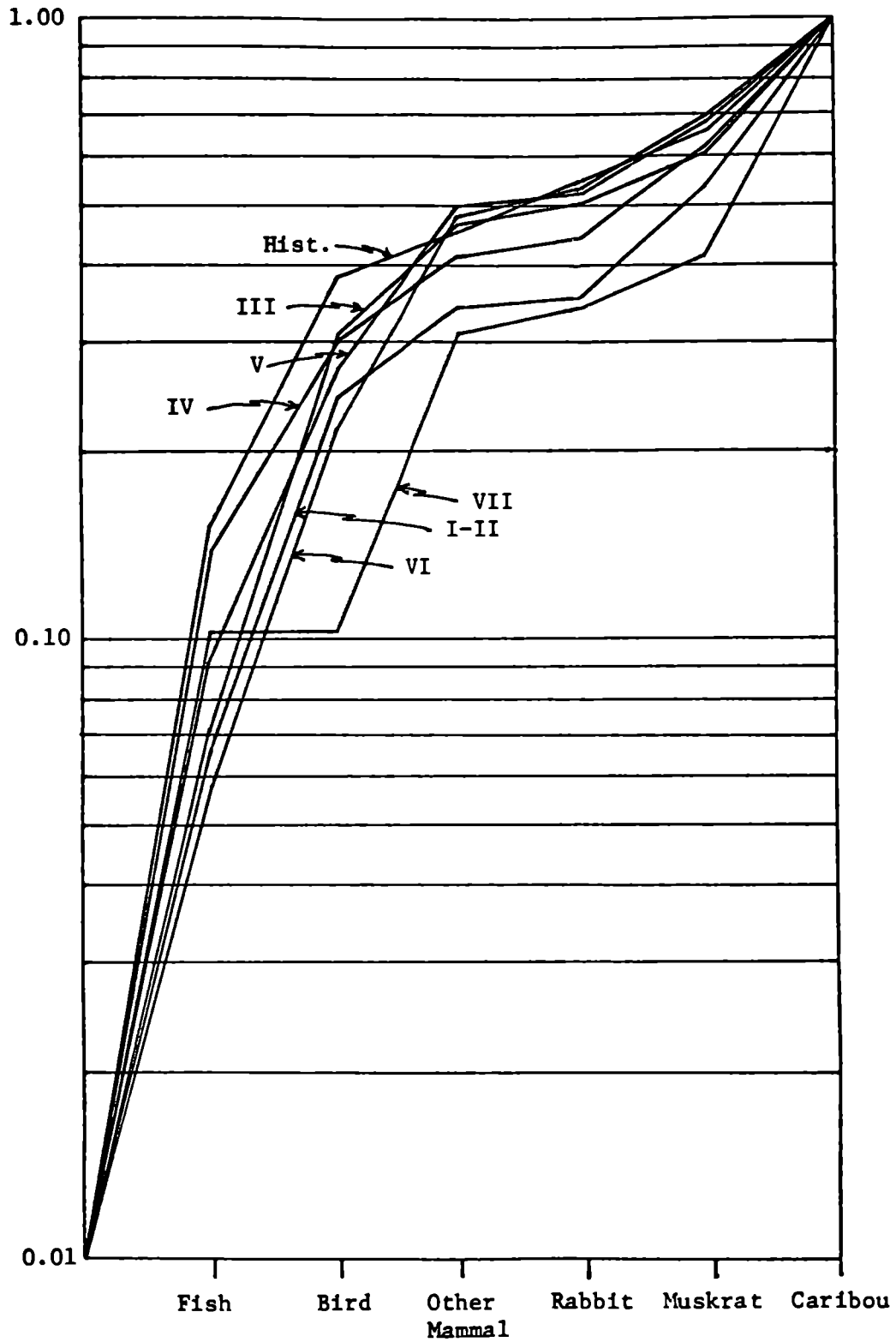


Figure 7. Cumulative percentage distributions for six classes of individual estimates at MjV1-1, grouped by layer on a 2-cycle logarithmic scale.

individuals were recognized by the lack of epiphyseal closure on the long bones; in many cases an overall value for adults and immatures was obtained from the proximal metapodial fragments with immatures being subtracted from this value on the basis of other elements. Fetal specimens are easily recognizable in the Klo-kut sample since they are not entirely ossified and therefore possess distinctive color and texture. I am not certain how many years of growth are required in order for the long bone epiphyses to close in caribou, and I have not attempted to refine the aging of the bones by means of a detailed analysis of tooth wear. "Skull growth continues to approximately four years of age (particularly among the males)" (Banfield 1961:16-17), and this levelling off of the growth rate may be reflected in epiphyseal closure as well. Most techniques for aging on the basis of tooth wear (Banfield 1954, 1961) require relatively well preserved tooth rows, and the fragmentary remains from Klo-kut are not particularly suited for this technique. It is interesting to note that, on the basis of the very general age groupings presented here, the two prehistoric periods do not differ significantly from one another with respect to the distribution of animals by age group (Table 11, Kolmogorov-Smirnov test: $P > 0.10$).

All identified species are enumerated in Table 12 along with minimum individual estimates for each trench and period. Twelve species of mammals and fifteen species or genera of birds have been recognized thus far, and this list probably will not increase significantly as the analysis continues. On the other hand I have identified only one fish bone, the very distinctive mandible of a Northern Pike, and my efforts to identify other fish remains have been thwarted by a lack of comparative material; I have begun to correct this deficiency with specimens from my summer soup pots.

Some of the species in Table 12 have no relevance to the subsistence economy and owe their presence in the site to their own activities. This includes the

lemmings, the voles, the passerine, and possibly the red squirrel; the squirrel bones were stained differently than others in the vicinity suggesting that the animal may have crawled into a burrow or crack to die. The few bones of some of the other species were likely brought to the site for non-commensal purposes. The bear, for example, is represented by one unworked canine tooth which might have been collected for use as a pendant. Dogs are said to be the only animals "considered strictly taboo" as food among the Vunta Kutchin (Osgood 1936:34), but I am somewhat surprised that they are represented only in the Early Prehistoric period; dog carcasses may often have been thrown into the river. Many of the pitted bones (artifact class no. 69) may be our only remaining evidence of the presence of dogs in the Late Prehistoric and Historic periods at Klo-kut. The hawk is represented by two bones from a wing which might have supplied feathers for decorative purposes, and the owl is represented by a few phalanges which could have come from a talon desired for decorative or ceremonial reasons.

All the other animals in the site probably contributed to the diet, but the beginnings of significant involvement in the fur trade may be apparent in these data. The highly significant divergence of the Historic period (Table 10) is due primarily to the relative increase in rabbit and fish. This implies increased rabbit snaring, possibly to obtain the skins, and increased fishing, possibly to supply food to the larger teams of dogs used on the traplines.

Even the cumulative percentage distributions for minimum individual estimates reflect this change to some extent. The distributions shown in Table 13 indicate no important absolute increase in rabbits and fish in the Historic period, but the relative increase is still apparent and is responsible for the moderately significant divergence of the Historic period in Table 14. Unfortu-

TABLE 14

MATRIX ILLUSTRATION OF THE PROBABILITIES THAT
 PAIRED LAYER AND PERIOD SAMPLES WERE DRAWN FROM THE
 SAME POPULATION WITH RESPECT TO MINIMUM INDIVI-
 DUAL ESTIMATES

	<u>Hist.</u>	<u>I-II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>L.P.</u>
I-II	2						
III	2	2					
IV	2	2	2				
V	2	2	2	2			
VI	2	1	2	2	2		
L. P.	1	2	2	2	2	1	
E. P.	1	1	2	2	2	2	1

nately the relatively small sample sizes reduce the strength of the Kolmogorov-Smirnov tests; moderate significance was achieved only with the largest samples, and yet the large Layer III sample does not diverge significantly from any other in the series. I regard this as further evidence of general continuity and gradual change throughout the Klo-kut sequence with the only major break coming between the Late Prehistoric and Historic periods when the fur trade may have already begun to transform the economy.

Seasonality

The best seasonal indicator in the Klo-kut faunal sample appears to be fetal caribou. Pregnant does cross the Porcupine River in May and reach their calving grounds by early June. Fetal caribou bones have been recognized in every layer and every trench yet analyzed (Table 11), and this distribution suggests that Klo-kut was invariably occupied primarily for the purpose of a spring caribou hunt. Nothing else in the faunal data contradicts this interpretation. The absence of large numbers of ptarmigan implies a late spring occupation since by the end of April both willow and rock ptarmigan seek environments either latitudinally or altitudinally above treeline (L. Irving 1960:185-190). Waterfowl arrive in Old Crow during the month of May and may settle on the ice if breakup has not yet occurred (L. Irving 1960:157-180). Though the fish remains have not yet been identified I feel confident that there are no salmon bones among them and that they represent resident non-migratory species which could be taken through the ice as well as in open water.

Summary

I have little or nothing to add to the published descriptions of butchering practices, hunting techniques, sharing of meat, or observance of taboos among the Kutchin (Leechman 1954; McKennan 1959, 1965; Osgood 1936; Balikci 1963).

Most lines of evidence bearing upon such problems could be obtained only from properly exposed living floors, and the absence of house structures at Klo-kut further complicates the delineation of commensal units. Archaeological evidence of the observance of taboos would be largely negative since ritual disposal techniques would tend to remove certain bones from the site. McKennan (1965:84) reports that caribou and moose bones should not be thrown into a fire, but nearly every hearth in the site yielded burned caribou bones. There is also abundant evidence for the use of boiling stones, the cracking of bones for marrow, and the rendering of bone grease.

The conclusions drawn from the present faunal sample are admittedly quite limited, but one of the limitations is the almost total absence of other bodies of comparable data against which the Klo-kut sample could be contrasted. A recent analysis by Hall (1971) for an Eskimo site on the Noatak River is a major step in the right direction, but I cannot yet use the Klo-kut faunal remains for the kinds of calculations he so ably performed with his Kangiguksuk data.

Meanwhile I think it is clear that Klo-kut was a major caribou hunting village occupied in the spring season for the purpose of intercepting the northbound caribou migration. This evidence for specifically spring season occupations at Klo-kut is in accord with ethnographic evidence concerning the annual cycle, and further archaeological efforts concerning the subsistence economy should contribute many important details to our understanding of the dynamic aspects of the annual cycle.

Artifact Comparisons

For a number of reasons I think it premature to embark upon an intensive comparison of the Klo-kut collection with others in northwestern North America.

In the first place, in spite of nearly forty years of archaeological work in the North, the interior is still very poorly known and has received intensive examination only during the last ten years. Secondly much of the large scale excavation has been carried out only in the last five years and is still unpublished and only superficially discussed; this applies to most of the work of Cook and McKennan at Healy Lake, Workman and Cook in Southwest Yukon, Irving and Morlan in northern Yukon, and Anderson at Onion Portage. Thirdly, while each of these efforts as well as many others has the potential to produce an excellent understanding of a particular region of Alaska and the Yukon, they are so far apart and separated by so many intervening physiographic and environmental changes that any attempt to link them at the present time involves a sort of connect-the-dots approach to culture history which could scarcely be expected to stand the test of time. One might say that we have reached a sort of "cocktail party" understanding of the prehistory of interior northwestern North America. The field work of the past five years has added new dimensions and insights, and we think we are asking some of the right questions; but there have not yet been time or resources to support the kind of intensive collaborative effort required to bring together the new information in an overall view of Alaska-Yukon prehistory.

For these reasons I shall summarize a few relevant comparisons which point the way toward further research requirements, but I shall not presume to synthesize the later prehistory of northwestern North America. This summary will focus upon the following major areas: Southwest Yukon, Central Alaska, Southwestern Alaska, Western Alaska, the Brooks Range, and other more distant areas.

Southwest Yukon

A number of ubiquitous artifact types widely identified with Athapaskan Indians were reported by Johnson and Raup (1964:165-169) from the Lake Creek

cabins fifty miles northwest of Burwash Landing. These cabins contained historic trade goods, such as glass beads and two iron skin scrapers (cf. MjVl-1:143), as well as *toi-de-tho* fragments (cf. MjVl-1, class no. 25) and a bone beamer (cf. MjVl-1, class no. 40). Beamers and chi-thos are also reported for a number of other localities in the area (Johnson and Raup 1964:Fig. 48). It is quite interesting, however, that none of the ethnological specimens illustrated by Johnson and Raup (1964) in Fig. 54 bears close resemblance to a Klo-kut type; the barbed bone points are made quite differently from those at Klo-kut, and only the beamers collected by Johnson and Raup (1964:Fig. 48) resemble closely their northern Yukon counterparts.

MacNeish's (1964) work in Southwest Yukon resulted in a definition of two synthetic units which should be compared with Klo-kut. One of these, the Bennett Lake phase, appears to be an amalgamation of every site or find which produced historic trade goods, so the integrity of the phase should be questioned until a substantial excavated sample can be used to test it. The other, the Aishihik complex, was so poorly represented in MacNeish's collections that he declined to call it a "phase." This complex will be further clarified by the analysis of the Chimi site, currently being undertaken by W. B. Workman (1968, 1969). A number of artifacts comparable to the Klo-kut types can be found in the various components of Bennett Lake and Aishihik. The most noteworthy of these is the Stott point type some examples of which resemble some of the points from Klo-kut. Unfortunately, from my point of view, MacNeish (1964:406) elected to describe the Stott type as "corner-notched" and, perhaps as a result, included both stemmed (MacNeish 1964:Fig. 88, nos. 1, 6) and notched (MacNeish 1964:Fig. 88, nos. 12, 13) points in this type. The stemmed examples are quite similar to Klo-kut type 1b as well as to some of the points from the Kavik site in Anaktuvuk Pass (v. Campbell 1968). The Stott specimens which I would call notched

are unlike any of the points from Klo-kut. The Morhiss type, as defined by MacNeish (1964:400), is also quite variable and apparently is regarded as somewhat earlier than the Aishihik complex; one illustrated example, however, resembles Klo-kut Type 1a (v. MacNeish 1964:Fig. 88, no. 7). A number of MacNeish's (1964:428-438, Table 17, Fig. 90) scraper types are similar to Klo-kut examples, but most of them are nearly ubiquitous in his series of phases and traditions and cannot be used at the moment as diagnostic artifacts. The same problem obtains with the "chi-tho" (MacNeish 1964:Table 17, Fig. 91) and most of the other forms of heavy artifacts, but the three-quarter grooved adze characterizes both Bennett Lake and Aishihik as well as Taye Lake (a single specimen; MacNeish 1964:456-458, Table 23, Fig. 95). The single illustrated specimen, however, is thicker than wide and therefore might be called a splitting adze as opposed to the broad flat planing type of adze present at Klo-kut; the Southwest Yukon examples also include double-grooved forms which have not been found at Klo-kut.

Bone preservation in the Southwest Yukon is nowhere as excellent as at Klo-kut, so comparisons of bone technology are hampered. A variety of awls in MacNeish's (1964:424-425, Table 16, Fig. 89) collections characterize most of his phases, but the one recognizable type, called a "fibula awl" though it is made on a splint bone, represents the much earlier Champagne and Taye Lake phases in MacNeish's work whereas at Klo-kut it is found exclusively in the Late Prehistoric and Historic periods (MjV1-1, Type 1, cat. nos. 514, 1521, 1800). In general the Bennett Lake and Aishihik materials appear to bear a number of important resemblances to the Klo-kut collection, but we must await further excavations before firm conclusions can be drawn. Even the recent work at Chimi may not provide the sort of comparative material we need for Klo-kut since the post-ash horizon yielded very few artifacts not all of which were diagnostic (Workman 1969).

Central Alaska

One of the first archaeological inroads into Central Alaska was made by Rainey in the 1930's (Rainey 1939, 1940) when the Dixthada site was first reported. Of all the sites yet discovered in Alaska and the Yukon, Dixthada comes closest to providing an overall assemblage comparable to Klo-kut. I have not had an opportunity to examine the collection, but some of the scanty illustrations are quite convincing, and the list of artifact types is encouraging. The stone points are described as stemmed (Rainey 1939:371, Fig. 5, nos. 1-4; 1940:301, Fig. 14, no. 9), though some of them are somewhat broader than the Klo-kut Type 1b counterparts. The bone points appear to have been made in a manner similar to those at Klo-kut, and both the points and scrapers of copper at Dixthada could be regarded as typological counterparts of bone examples from Klo-kut (MjV1-1A:96, 262, 261). The bone knife illustrated by Rainey (1940) as Fig. 14, no. 1, might have been described as a creaser in my Klo-kut sample. A "bone day tally" (Rainey 1939:Fig. 3, no. 6) might correspond to the Klo-kut gaming piece. The usual "tci-tho," stone scrapers, bone awls, cut bark, and burned stones are present at Dixthada, and the major point of difference is the presence of the controversial "polyhedral cores and small prismatic flakes struck from these cores" (Rainey 1940:301). Furthermore the copper artifact described as an ear ornament (Rainey 1940:Fig. 14, no. 5), is probably in fact a knife handle such as those pictured by Murray (1910:86, 91) in specifically "Kootcha-Kootchin" settings. Dixthada is probably an early historic Tanana or Nabesna encampment which might be expected to yield an assemblage similar to that from a Kutchin settlement of comparable age.

Recent work around Healy Lake has produced several sites which appear to span a long time period and which are thought by their excavators to represent a long sequence of cultural development leading to historic Athapaskan-speakers

(Cook and McKennan 1968, 1970a, 1970b; McKennan and Cook 1968). Unfortunately there is no overall resemblance of complex between the Healy Lake sites and Klo-kut; indeed the cores and microblades which represent a problem in a Dixthada/Klo-kut comparison form an important part of the link postulated between Healy Lake and Dixthada. There are many artifact types not shared at all between Klo-kut and the Healy Lake sites, but the stemmed point forms of the uppermost horizons of the Village site drew the attention of Cook and McKennan (1968:10) to a possible relationship with Klo-kut and Kavik. More recently they have remarked that "The Kavik, Klo-kut and Little Arm sites would seem to represent a relatively widespread Athabaskan horizon, late pre-historic in time, which would fill the gap in the Healy Lake sequence from about A.D. 1200 to the historic period" (Cook and McKennan 1970b:4).

A work long hailed as a major pioneer effort in interior Alaska is the Yukon River survey conducted in 1935 by de Laguna (1947). A large series of small sites as well as several major ones were located and tested on this survey, and many of them on the lower Yukon were identified as Eskimo whereas further upriver the occupations were attributed to Athapaskan Indians. Three major problems characterize the 1947 monograph as viewed from our perspective today: (1) the character of early historic and prehistoric Indian culture was viewed primarily vis-a-vis the much better understood Eskimo manifestations already known in Alaska; (2) the conclusions were oriented toward a definition of cultural origins with a theoretical point of view derived from Birket-Smith's concept of cultural stratification (de Laguna 1947:268); and (3) all but a few of the sites were either too small or too slightly tested to yield a coherent picture of the technological tradition(s) represented in the Yukon valley. In my opinion this work will gradually become more significant as intensive survey and excavation begin to provide a framework in which the many important

but isolated finds can be placed in perspective. Thus, while I do not wish to belittle or to misuse de Laguna's scholarly Yukon monograph, I shall decline detailed analysis of the trait lists and site distributions. None of her sites has produced a complex with compelling overall similarity to Klo-kut. Suffice it to say that many of the types found in her "Tena" sites are represented at Klo-kut: stemmed stone arrowheads, a variety of stone scrapers, 'ulo-shaped scrapers' (*tei-de-tho*), whetstones, adzes, hammerstones, unbarbed bone arrowheads, barbed bone arrowheads, blunt arrowheads, bone awls, bone fish hook barbs and shanks, cut bark, mineral pigments, and many others. Not a few of these, of course, also occurred in the Eskimo sites, and the technological differences are often a matter of slight degree rather than of kind; it is my impression that this is particularly true of the bone industry, a point to which I shall return below.

Southwestern Alaska

Throughout southwestern Alaska the slender barbed points (Clark 1968; de Laguna 1934, 1956; Heizer 1956) bear many specific resemblances to the unilaterally barbed bone points from Klo-kut, but a detailed attribute analysis would be required before any conclusions could be drawn. In addition there are a number of other nearly ubiquitous artifact types which may be interrelated over a broad geographical area but which have been kept apart because of our semantic classifications; these require further study. Two more specific types deserve special mention: stemmed arrowheads and unbarbed socketed points. Throughout most of southwestern Alaska the stone technology either is predominantly based upon grinding and polishing techniques or lacks any sort of stemmed point which might be comparable to those from Klo-kut. There are, however, in a number of sites a few isolated stemmed points which bear close resemblance to the Klo-kut examples and which stand out in assemblages characterized primarily by ground stone.

Examples include the Rolling Bay site on Kodiak Island (Clark 1968:220, Plate 17K), the Lower levels of the Uyak site, also on Kodiak Island (Heizer 1956:48, Plate 36), and the Yukon Island II material from Kachemak Bay (de Laguna 1934:69, Plate 30). The Rolling Bay specimen was unique, the five examples from Uyak were so unusual that they were regarded as possibly having been "introduced into the site by accident through recovery from the bodies of dead sea mammals in whose flesh they were imbedded" (Heizer 1956:48), and the Yukon Island specimens were interpreted as counterparts of the polished slate points (de Laguna 1934:69). Though they seem somewhat out of place in some of the contexts in which they have occurred in southwestern Alaska, these chipped stone points bear striking similarities to some of the Klo-kut examples. Even more striking, however, is the range of variation in the stemmed points from the Brooks River Falls phase and the Smelt Creek phase on the Alaskan Peninsula (Cressman and Dumond 1962:Plates I and II); in each case the range of point forms overlaps the range of Klo-kut examples in every discernible respect. I am presently at a loss to explain these similarities, because the distribution of such stemmed points is by no means continuous between northern Yukon and southwestern Alaska. I am inclined to regard these two regional occurrences as a result of formal and technological convergence resulting from separate lines of development of stemmed point forms.

The unbarbed socketed points are even more compelling because of the detailed similarities between those from Uyak (Heizer 1956:64, Fig. 42, Plate 59) and the unbarbed bedded points from Klo-kut (MjV1-1, class no. 36). Another possible example occurred in the Rolling Bay site but lacked a sharp point (Clark 1968:484, Plate 20CC). I have not encountered such identical bedded or socketed, collared, sharp bone points anywhere else in Alaska or the Yukon, and, while I would not conclude that there is any functional simi-

larity between the northern Yukon and Kodiak examples, the technological similarities between these two distant manifestations must eventually be explained.

Western Alaska

Many sites in Western Alaska have yielded a wide range of artifacts which resemble Klo-kut materials quite closely, but most of the comparisons are with sites attributed to late prehistoric and historic Eskimo occupations. This is partially due to the relative scarcity of substantial Indian sites excavated to date, but the recent work at the Onion Portage site indicates that this seeming paradox may persist in spite of further research in the interior. Anderson (1970) now classifies the Band 1 material from Onion Portage as Western Thule Eskimo, and the upper zone of Band 2 is thought to represent a Northern Indian occupation. I have examined some of this material on several occasions and on that basis, as well as on the basis of unpublished illustrations, I regard the Western Thule series as much more similar to Klo-kut than the Band 2 collections. The similarities with Western Thule are found primarily in the bone industry and include specific techniques of barb formation on the points, the mode of using groove and splinter techniques on bone and antler, and even more specialized traits such as an elaborate fish lure with inlaid ivory eyes which is nearly indistinguishable from one of the Klo-kut specimens. Certain characteristics separate even the comparable artifacts: the shoulders are more abrupt on the barbed points, the beamers are more often made by splitting in the coronal rather than the sagittal plane, and there are more bilaterally barbed points than in Klo-kut (which has produced only one). In general, however, the character of the Klo-kut bone industry could be matched in detail with collections from many late prehistoric Eskimo components, including most of the phases of the Arctic Woodland culture sequence on the Kobuk, particularly Ekseavik (Giddings 1952), the Nukleet collection from Iyatayet (Giddings 1964),

and even portions of the assemblages from Birnirk and Nunagiak (Ford 1959) and the Nunamiut sites around Anaktuvuk Pass (Campbell 1962). The major differences in comparable types are stylistic; the basic technological procedures and results are very similar. On the other hand, Klo-kut obviously lacks an enormous range of artifact types quite prevalent on Eskimo sites such as the equipment associated with sea mammal hunting and with certain forms of fishing as well as most of the gadgetry that characterizes many Eskimo assemblages. Thus I would regard the historical relationship between Klo-kut and the Eskimo continuum as a matter of sharing certain basic technological procedures.

It is particularly interesting to contrast the bone industry similarities with the dissimilarities found in the lithic inventories. Late prehistoric Eskimo sites have yielded enormous numbers of stemmed points, but, with the possible exception of Ekseavik, they are flaked differently from the Klo-kut points, the blades are relatively much longer, the stems are not thinned and do not contract, and many of them were designed for insertion in a bone point or foreshaft. Similarly the scrapers approach the Klo-kut forms in a few instances but more often have a standardized hafting element and a peculiar flaring outline which are absent at Klo-kut. The most important difference, however, is the polished slate debitage which forms the dominant feature of most Eskimo stone assemblages. As mentioned earlier the polishing is unlike that at Klo-kut in being designed to produce a sharp cutting edge rather than a flat abrading surface; when one travels north of the Barn and Buckland Mountains, north of Old Crow Flats, it is immediately apparent that the sites are late prehistoric Eskimo by the quantity of polished slate never matched or even approached to the south.

The Brooks Range

Similarities between portions of the Nunamiut Eskimo bone industry and that at Klo-kut were already mentioned, but one site in Anaktuvuk Pass requires special mention for several reasons. The Kavik site (Campbell 1962:48-49; 1968) is the only locality yet discovered in Alaska or the Yukon in which nearly every artifact has a close counterpart at Klo-kut. A series of eight contracting stemmed stone points so completely overlaps the series from Klo-kut with respect to form, flaking techniques, and size that the specimens from Klo-kut (class no. 20) described as Type 1b can fairly be called Kavik type points (Plate 6f-n). In addition there are two unilaterally barbed antler points, which Campbell (1968:37, Plate II, no. 7) calls leister prongs, which share with some of the Klo-kut points (class no. 32) their size, cross section, slightly shouldered conical tangs, method of barb formation, and presence of barb lines; no other site has yielded points so similar to the Klo-kut specimens, particularly to those which characterize the Late Prehistoric period. Other similarities include the methods of grooving and splintering antler, a ladder-like decorative element seen at Kavik on an antler comb (Campbell 1968:Plate II, no. 4) and at Klo-kut on two ornamented bone beamers, a long unbarbed antler point (Campbell 1968:Plate II, no. 8), and a series of rectangular antler objects which I have called gaming pieces (class no. 58). On the basis of these similarities Campbell (1968) now regards Kavik as a possible representative of a pre-Nunamiut, Athapaskan occupation of Anaktuvuk Pass, but it is interesting to note that his conclusions concerning Kavik/Ekseavik similarities (Campbell 1962:49; 1968:34, 41) and my awareness of Klo-kut/Ekseavik similarities were arrived at independently; he too seems impressed by the generally Eskimo character of the bone and antler industry though I find the Kavik stone points rather different from their Eskimo counterparts.

West of Anaktuvuk, in the Noatak drainage, the Kangiguksuk site has yielded some bone points, fish lures, blunt arrowheads, awls, two-handed scrapers, and gaming pieces similar to Klo-kut specimens, but the stone arrowheads do not closely resemble the Klo-kut types with the possible exception of Hall's Type 2 (Hall 1971:Plate 2, nos. 16-17). Compelling similarities can be seen between the decorated ulu handle from Kangiguksuk and one of the ornamented bone beamers from Klo-kut (Hall 1971:Plate 8, no. 13).

Further east in the Brooks Range and much closer to Old Crow, a crew working along the Alyeska pipeline right-of-way has recently located two sites yielding small triangular points with contracting stems. The two specimens from Sagwon Bluffs site 1 (S-28) appear to fit well within the range of variation of the Kavik type. The site, located in the Sagavanirktok Valley, about 6 miles north of Sagwon, has been interpreted as a combination workshop/lookout post which was occupied only briefly. Other artifacts include two biface fragments, one of which appears from a photograph to resemble a wedge, one burin, two blades, a hammerstone, and a number of retouched flakes. Though caribou bone was preserved around a hearth, no bone or antler artifacts have been reported (Department of Anthropology, University of Alaska 1970:123-131).

A tent ring designated Murphy Lake site 3 (S-2) was found in the Atigun Valley, 17 miles north of Galbraith Lake. The tent ring contained a few waste flakes and bones as well as two rectangular wooden blocks which might have served as net floats. A hearth, located 27 feet south of the tent ring, yielded a small asymmetrical point reminiscent of the Kavik type as well as waste flakes and bones (Department of Anthropology, University of Alaska 1970: 88-94).

South of Murphy Lake in the Atigun Canyon, Alexander (1968) has reported a locality which yielded a unilaterally barbed point "almost identical to the

Kavik type" in association with bifaces similar to some of those from Kavik and antler rectangles "of apparently exactly the same type as Kavik specimens" (Campbell 1968:41). Continued research in the Brooks Range between Anaktuvuk and Old Crow should bring to light a wealth of interrelated material of this kind.

More Distant Areas

A collection of 15 artifacts catalogued NbTu-1 is in the collection of the National Museum of Man and attributed to MacNeish's 1954 field work, but the location of the site is unknown. Judging from its Borden designation the site must be in the Mackenzie delta vicinity, and the presence of a thick sherd of grit-tempered pottery and two pieces of edge ground slate suggests that it represents an Eskimo occupation. Other artifacts, however, include two unilaterally barbed points which appear to be leister side prongs and a well made bifacial stone arrowhead (NbTu-1:9) with a slightly contracting stem nearly identical to one of the Klo-kut examples. One point from a Thule site near Whitefish Station (NeVc-1) matches Klo-kut Type 1b quite closely (see MacNeish 1956:49, Plate III, no. 5). Elsewhere in the same general region McGhee (personal communication in 1970) has recently obtained from the Kittigazuit midden (NiTr-2) several points resembling part of the Klo-kut series.

Recent work in interior British Columbia has produced a few stemmed arrowheads which resemble the Klo-kut points quite closely. Some of these represent early historic Athapaskan occupations, such as the Chilcotin occupation of the Potlatch site (FcSi-201) at Anahim Lake (Wilmeth 1969a, 1969b, 1970) and the Ulkatcho Carrier occupation of the nearby Algatcho site (FfSk-1; Donahue 1970). Somewhat less similar but possibly still within the range of variation are some of the points attributed to the Carrier occupation of Nataalkuz Lake (Borden 1952).

In view of the similarities between the Klo-kut points and those from southwest Yukon attributed to the Stott type by MacNeish (1964), it might be expected that some resemblance would be found between the Klo-kut points and those from the Stott site in Manitoba which was the type site for the Stott type. Instead I wish to call into question MacNeish's (1964) extension of the type to the Yukon, because most of his Yukon specimens bear only a vague resemblance to his Manitoba examples and do not fit his original definition of the type (MacNeish 1954:40). Indeed the Yukon "Stott" point most similar to the Klo-kut points is described as "aberrant" (MacNeish 1964:Fig. 88, no. 1), and only a few of the others should be compared with examples from Manitoba.

Conclusions

A number of other specific trait similarities could be traced across large areas and through many millennia, but it does not seem particularly useful to do so at the present time. Such artifact types as beamers, end of the bone scrapers, certain forms of stone end scrapers, peculiar types of awls, boulder spall scrapers, grooved adzes, and tabular tci-thos are so widespread as to defy any simple explanation for all their occurrences. I would rather not add to the growing list of ubiquitous "traditions" since most of them will have to be subdivided anyway if they are to contribute significantly to our understanding of culture history. I think it preferable to restrict our comparative comments to particular distributions which appear to represent a specific problem requiring definition and solution. Then our research should proceed from known to unknown, preferably by systematic survey from one drainage basin to another, so that the archaeological map ceases to resemble a dart board and begins to take on the characteristics of a mosaic.

One such problem which is emerging from recent work concerns the distribution of the stemmed point forms found at Klo-kut and Kavik. I am certain that they

can be distinguished from most late prehistoric Eskimo stemmed points, but an attribute analysis should be attempted before specifying the distinctions. On the other hand these forms may be distributed throughout most of the Brooks Range, and they extend south through the Yukon and possibly as far south as the west-central interior plateau of British Columbia. This distribution is quite sketchy at the moment, but it suggests a montane association linked with caribou hunting and possibly representing at least a part of the late prehistoric Athapaskan developments throughout much of northwestern North America. It would not be surprising if the Kavik point eventually proves to be a diagnostic Athapaskan type, but it will not, apparently, be present in all Athapaskan contexts, even in all those of the Pacific drainage.

This suggestion should be developed into a testable hypothesis before any rash statements are made concerning the significance of the point type. But even the suggestion poses certain problems which can be mentioned in rather vague terms but which cannot yet be clearly defined. For example it becomes even more difficult to explain the sudden appearance of the Kavik type in the Late Prehistoric period at Klo-kut; what does the Early Prehistoric period represent in view of the general continuity of technology, typology, and style? If the bone and antler industry of Klo-kut can be regarded as Eskimo-like in any meaningful way, how did the distinctively Indian (?) Kavik stone arrowhead become associated with the industry and what does the association mean with respect to the origins and development of prehistoric Athapaskan cultures? Some of the evidence which bears upon these questions can be obtained from the broader picture afforded by a reconstruction of the subsistence economy and annual cycle as well as by ethnohistorical considerations.

Summary, Conclusions, and Problems

On the basis of the descriptions and discussions in the foregoing pages it is now possible to address ourselves to several important questions of rather broad scope, but the reader should be forewarned that I am more inclined to define problems than to formulate answers when faced with incomplete and sketchy evidence. Among the questions to be considered are the following: (1) the ethnohistorical evidence bearing upon the identity of the occupants of Klo-kut and other sites in the middle Porcupine region; (2) a comparison of the Klo-kut inventory with the material items documented ethnographically for the Vunta Kutchin; (3) an overview of subsistence economy and settlement patterns and their development through time; and (4) the origin and larger relationships of the technology represented at Klo-kut and elsewhere in the region. Each of these questions will be considered in turn in an effort to fit the later prehistory of the middle Porcupine region into the context of the recent culture history of northwestern North America.

Ethnohistory and the Direct Historical Approach

Klo-kut has been widely regarded as a "Kutchin site" or even a "Vunta Kutchin site" for several years now (Campbell 1968; Hall 1969; W. Irving 1967), and I believe this interpretation was justified even if based in some cases upon scant information. The ethnographic evidence upon which one can base analogic arguments is slim and uneven; for certain kinds of bone implements it is possible to trace types in use today back through time as far as our record takes us, but we know almost nothing about the early historic manufacture and use of most kinds of stone tools.

Another important kind of evidence, however, consists of the stories told today in Old Crow about Klo-kut and other localities bearing archaeological material. There are stories centering primarily upon Klo-kut, and there are

others which refer to Klo-kut in connection with events which took place elsewhere. Perhaps the most noteworthy of these stories is that which describes the final demise of a culture-hero named Kaihenjik. Several people at Old Crow have told me of reports they heard from their fathers and grandfathers that Klo-kut was a major Kutchin village over a hundred years ago. The locality must have been known to people scattered over a very large area, for "four nations" of Kutchin gathered to defend themselves from a giant man called Kaihenjik. Young men were trained to negotiate a high log bridge which spanned the gully between the village and an island which paralleled the shore, and these young men would camp on the island as lookouts who could hurry back across the log and warn the village if Kaihenjik approached (this particular detail may indicate the extent to which erosion has advanced since the time of the story, because such a bridge would now exceed in length any tree known to grow in northern Yukon Territory!). At last one day Kaihenjik arrived and in the ensuing battle killed nearly all the Kutchin camped at Klo-kut. He was so large and tough that he laughed as the piercing arrows tickled his flesh, and, after the battle, he pulled the arrows from his body and built a fire with their shafts (I have frequently been asked why no "man bones" have appeared in the Klo-kut excavations, and it is widely assumed that I have not yet dug deep enough). Kaihenjik then left the area and journeyed to a cliff above Fishing Branch on the upper Porcupine where he met his two brothers who had been hunting. All three were eventually tracked down by the few surviving Kutchin, and two brave warriors managed to vanquish the lot at the cost of their own lives.

Thirty miles upstream from Klo-kut, at the outlet from Cadzow Lake, a small multicomponent site (MjVi-1) has yielded three historic occupations, the latest of which likely dates to A.D. 1933 when Chief Joe Kay camped there because of a sudden decline in the muskrat population of Old Crow Flats. The next earlier

occupation lacks the 22-cal. and 30-cal. cartridges of the 1933 layer and yielded instead one percussion cap and a heavily used gun-flint. This earlier occupation is probably attributable to William Chitze (an ancestor of the Abel family of Old Crow). While camped at MjVi-1 Chitze's father is said to have gone down to Klo-kut to arrange Chitze's marriage. This implies a date between 1850 and 1880 for Chitze's occupation of MjVi-1, and such a date is consistent with the evidence of firearms and forms of nails found in the layer.

Another story tells of a desperate trek across Schaeffer Mountain by part of a starving hunting band seeking aid from people at Klo-kut. These stories indicate clearly that the occupants of Klo-kut during the Historic period and, probably, the Late Prehistoric period were the ancestors of the Vunta Kutchin of the present village of Old Crow. The fragments of material continuity -- bone beamers, end-of-the bone scrapers, tabular *toi-de-tho*, bark vessels, the use of hematite as red paint, certain forms of bone awls, stories concerning the use of stone adzes, and the presence of adze-cut stumps -- lend confirmation to this ethnohistorical evidence, and they are inadmissible as conclusive evidence only because each of these traits is widespread and cannot be regarded as diagnostic of Kutchin material culture.

To extend the argument somewhat further, I can simply reiterate that there is both general and specific continuity throughout the Klo-kut sequence: general continuity in the manner of working bone, bark, and certain forms of stone, specific continuity in the distributions of specific types of stone scrapers, bone beamers, bone awls, bone projectile points, and other artifact forms. This continuity is in contrast only to the apparently sudden appearance of bifacial stone working techniques in the Late Prehistoric period. Statistically the absence of stone bifaces in the Early Prehistoric period is highly significant; if we phrase the distribution in terms of a prediction based upon the

Late Prehistoric period, at least twelve stone arrowheads would be expected in an Early Prehistoric period sample of the size now available from Klo-kut. It seems highly unlikely that even a generous margin of chance could accommodate a dozen missing stone arrowheads, and the absence of trimming flakes among the Early Prehistoric unretouched flakes makes it clear that bifacial stone working techniques were not in use at Klo-kut until the Late Prehistoric period.

The only other major change in the technology at that point in time is the sudden decline in the frequency, both absolute and relative, of cut bark. Presumably this change could be brought about by the progressive elimination of birch from the immediate area of Klo-kut. Overcutting of birch in this area could lead to a concentration of bark working in other areas of the middle Porcupine drainage, but I would still expect a representative sample of bark artifacts to be deposited at Klo-kut. The nearest large stands of birch are now two to three miles upriver, and none of the trees is especially large.

There may, however, have been climatic variables which played a role in reducing the abundance of birch bark in the Late Prehistoric period. A southward displacement of treeline in central Canada, beginning around 900 years ago (Bryson *et al.* 1965), cessation of peat growth about 600 years ago at Ennadai Lake, in southern Keewatin (Nichols 1967a, 1967b), oxygen isotope measurements from the Camp Century ice core in Greenland (Dansgaard, *et al.* 1969), and indications of lowered temperatures and increased moisture at Melville Sound and Bathurst Inlet (Terasmae 1968:16) all point toward a southward displacement of the front of the Arctic air mass which, with other meteorological variables, culminated in the Neo-Boreal climatic episode of A.D. 1550-1850 in the temperate zones (Bryson 1966; Bryson and Wendland 1967:296) and the so-called Little Ice Age in the North (Terasmae 1968:18). Paradoxically the evidence for some of these changes includes a peak in the birch pollen diagrams (Terasmae 1968:16, Fig. 3), but this birch pollen probably represents dwarf birch

(*Betula nana*) rather than the paper birch (*Betula papyrifera*) from which the Klo-kut birch bark was obtained; the taxonomic complexities of the genera *Betula* (birch) and *Salix* (willow) pose difficult problems for paleoecological studies of Alaska and the Yukon (Terasmae 1967:8). Obviously such suggestions as these should be based at least in part on local evidence of changes in the pollen rain and fluctuations through time in macrofossils obtained from Klo-kut and other sites, but this aspect of our work in northern Yukon has just begun. On the other hand the evidence of flooding in Klo-kut Zone B may in itself be an important indicator of lowered temperatures and increased moisture since both of these variations would tend to increase the likelihood of high water at breakup associated with temporary ice dams. The major spring floods of the last forty years have invariably been associated with ice dams downstream from the flooded area.

Returning for a moment to the appearance of bifacial technology in the Late Prehistoric period, it is significant that several widespread population movements appear to have taken place in the western Brooks Range as a cooling trend began sometime during the last millennium. W. N. Irving (1964:323), for example, assigns his Late Prehistoric Eskimo material at Itivlik Lake to the "latter half of the present millennium" and remarks that "If the climatic history of the Brooks Range followed the pattern of warm and cool periods noted in other parts of the world, the Late Prehistoric Eskimos moved there from the coast at about the time the climate there changed from relatively warm to relatively cool." Likewise Campbell (1962:52) has noted that the Nunamiut of Anaktuvuk Pass have not lived there "for more than a few generations." McGhee (1970, 1971) has convincingly linked the onset of colder climate with the demise of Thule Eskimo whaling about 500 years ago in the Canadian high Arctic. The significance of these observations will become apparent below.

In view of the overall continuity which characterizes the Klo-kut sequence and in view of the probable existence of climatic parameters which can help to explain the major changes in the sequence, I am inclined to regard the entire archaeological record from Klo-kut as representative of the ancestors of some of the Kutchin Athapaskans. Obviously this is the most parsimonious interpretation, and I do not think there is any evidence of a population replacement which would seem to me to be a necessary condition for a linguistic replacement of such a recent age as the Klo-kut Late Prehistoric period. On the other hand we do not yet know how refined can be our archaeological identifications of historically documented cultural groups. Though I think it prudent to identify the occupants of Klo-kut as Kutchin, I do not feel confidence in their identification as Vunta Kutchin; I suspect that any such high resolution of the prehistoric record will come from reconstructions of subsistence and annual cycle rather than from technology and typology. Future work in the Chandalar, upper Porcupine, and Peel River regions should provide a basis for assessing our ability to distinguish the several Kutchin groups on the basis of archaeological remains.

What is missing at Klo-kut?

Having identified the occupants of Klo-kut as prehistoric Kutchin Athapaskans, it seems worthwhile to consider briefly what aspects of their ethnographically documented material culture are missing in the site. Irving (1967) posed this question following the 1966 excavations, and it is noteworthy that two of the items in his list -- blunt arrowheads and weapons for killing caribou -- appeared in the following two seasons of work. The long, unbarbed lance heads (e.g., MjV1-1:245, 787) were probably used for killing caribou according to statements by informants in Old Crow and by Leechman (1954) that caribou were stabbed repeatedly with lances wielded by men in bark canoes. I would also be inclined to identify many of the barbed bone points and the stone points as arrowheads

used for killing caribou which reached the river bank and left the water; the forms of the tangs on these projectiles suggest that they may have been hafted in such a way that the shaft could fall free and leave the point in place.

Most of the items still not represented in the collection were likely made of wood and thus were not preserved. These include boat parts, drying racks, house frames and many portable artifacts. Furthermore the bone artifacts in the collection include many diverse forms which must represent a wide variety of functions, but I have not felt that it is justified to classify them in functional categories without evidence obtained from local ethnography. On the other hand, a reexamination of these specimens, with somewhat relaxed restrictions on my methodology, would not produce very many more functional categories than I have named already. Some of these discrepancies can be corrected through inferences based upon experimentation with the cutting and use of bone. Others, such as the form and size of structures, can be remedied by excavations of broader scale designed to expose large living areas in which the distributions of bones and artifacts will reveal activity areas. It is not out of the question that a water-logged deposit can be found somewhere in the middle Porcupine area, but I would be surprised to discover a productive deposit of this kind at Klo-kut.

Subsistence and Settlement Patterns

The aboriginal annual cycle can be reconstructed in general terms from ethnographic literature, from archaeological data, and from accounts which I have obtained from informants in Old Crow (see Morlan 1971a:Chapters III-IV for detailed background information). Balikci's (1963) discussion of the annual cycle begins with the period of post-contact change and does not include a description of the traditional pattern; Osgood (1936:31) simply remarks that the "cycle of the seasons is almost identical with that of the Peel River tribe."

The general pattern can most easily be abstracted from the communal techniques practiced in hunting and fishing. The spring season was the time of communal hunts at crossing places along the river; these hunts were designed to intercept the northbound caribou migration and took place at a number of suitable localities along the east-west stretch of the Porcupine River, between the mouth of Bell River and the mouth of Coleen River. Major camps are said to have been located on the river bank a few miles below high bedrock outcrops which afforded good lookout localities. Examples of such camps and lookouts found thus far include the Klo-kut site (MjVl-1) and its associated lookouts (MjVk-2, MjVk-3) and two sites near the mouth of Rat Indian Creek (MjVg-1, MjVg-2). Other important spring camps may have been located at the mouth of Caribou Bar Creek (MiVn-2) and the mouth of Sunaghun Creek (MiVo-1), but these sites have thus far yielded only historic components.

Muskkrat and bird hunting probably began in the late spring, both along the Porcupine and in Old Crow Flats, but major summer camps were located along tributary streams of the Porcupine and Old Crow rivers where fish traps were set for salmon and other fishes (e.g., MiVm-1, NbVk-1). Other summer activities included egg and berry gathering, rabbit snaring, and, in late summer the capture of moulting birds.

By late August or early September it was time to move to the northern edge of Old Crow Flats to construct or to mend the caribou fences and, presumably, to establish nearby camps. The entire fall season, at least in the early historic period, was devoted to the operation of the surrounds and the butchering and storing of the meat. The Thomas Creek surround (NdVn-1) has been described by Balikci (1963) and Morlan (1971a).

The winter season was frequently lean, and winter activities are hard to define; likewise, winter camps will probably be difficult to find because of

incomplete burial and disturbance by meltwater. It is noteworthy, however, that informants at Old Crow insist that the population did not split up into small, one- and two-family units but remained together through the winter in larger groups clustered about the strong and able hunters who in the previous fall had led the operation of the surrounds. Such groups are said to have retreated to the hills along the south flank of Old Crow Flats where protected valleys provided shelter from the high winds and extreme cold of the lake-dotted, open areas. The upper reaches of Surprise and Potato Creeks have been mentioned as favorite winter locations, and the latter valley contains a place called Potato Hill where sizeable numbers of Kutchin are said to have spent the winter months.

I have little to add to this description of the annual cycle, but it may be useful to make more explicit the sources of our information for its components, and to define certain problems which may stand in the way of further elucidation of the cycle. Obviously the season best represented in our archaeological samples is the spring. Both archaeological and ethnographic evidence converge to indicate spring season occupations of fairly large villages along the Porcupine River where the northbound caribou migration could be intercepted. Klo-kut repeatedly comprised such a village for over a millennium, and the Rat Indian Creek village (MjVg-1) may represent the same kind of settlement. One statement in the literature (Leechman 1954:6) attributes this hunting pattern to "August or early September when the skins are best," but other evidence suggests that the fall hunt took place around the northern rim of Old Crow Flats where the caribou surrounds are located. It is possible that both these statements are correct but refer to different time periods or to alternatives which were selected from year to year. We have no clear evidence that surrounds were utilized in prehistoric times, because all three examples thus far were made

primarily with poles cut with metal axes. An older surround might not be preserved, but we have at the moment no basis for determining the time depth of this technique. The ethnographic evidence is quite uneven with respect to communal hunting techniques, because different authors have emphasized different techniques for the Vunta Kutchin. Leechman (1954:6-10) concentrates exclusively on caribou hunting along the river and makes no mention of surrounds; Balikci (1963:15-19) describes surrounds in detail and makes only brief mention of communal hunting along the river; and Osgood (1936:33-34) describes only individualistic hunting techniques specifically for the Vunta (Crow River) Kutchin, and his cross reference to his Peel River data describes surrounds but not communal hunts at river crossings. Furthermore I take strong exception to Osgood's (1936:31) statement that "The cycle of the seasons is almost identical with that of the Peel River tribe"; this is physiographically impossible as well as historically inaccurate. I would like to offer one fragmentary hypothesis which might help to still these muddied waters. Obviously if a communal hunt is to be successful it is necessary to intercept a caribou migration when the herd is fairly compact. This condition is probably best met in the spring as the herds approach the Porcupine River, for they tend to follow certain ridges and tributary valleys which lead north to the Porcupine. In the fall they likewise follow streams on the Arctic slope which lead to low passes in the mountains flanking the Flats, and they enter the northern rim of the Flats in relatively compact herds. Then in either season they are faced with alternative routes of travel: they can strike out across the broad expanse of the Flats itself or they can follow the hills which surround the Flats. In fact what little evidence I have on this point suggests that they do both, i.e., that the herds begin to fragment with some animals going one way and others going another. The Flats appear to act as a sort of spreading ground which disperses the herds somewhat and causes them to subdivide into smaller groups; the caribou

forage over a very broad area as they cross the Flats, but during the past two years they have badly overgrazed a swath about 20 miles wide centered on the bed of a winter road which was cut across the Flats in the winter of 1969. The noticeable effects of their overgrazing along the road which now channels their movements are among the clearest indications that they previously dispersed as they crossed that broad flat expanse. On this basis I suggest that the pattern of hunting along the river in spring and along the northern rim of the Flats in fall may have considerable time depth and represents an adjustment to the fluctuating density of the herds during migration. This hypothesis should be testable with comparative faunal analysis from village sites in both areas. Unfortunately we have not yet found a major village site along the northern rim or one which is thought, regardless of location, to have been occupied primarily in the fall.

Our archaeological sample provides a dim glimpse of summer activities and their role in the annual cycle. The two fish trap sites in Old Crow Flats should, on the basis of ethnographic data, typify the season, but the Cadzow Lake sites (MjVi-1, MjVi-2) may offer an example of a viable alternative to failure in late spring and early summer resources. Thus far we have not sampled the winter season, and the unlikelihood of burying a winter occupation in frozen country may forever limit our understanding of prehistoric winters. Informants in Old Crow have described Potato and Surprise Creeks, in the southern rim of Old Crow Flats, as important wintering grounds, and Balikci (1963:16) has mentioned the area south of Porcupine River, in the direction of Lone Mountain, as an important place to find the caribou herd in the winter. Neither of these areas has yet been surveyed on the ground; I have flown over the Potato-Surprise Creek area and regard it as forbidding country for summer travel, but a survey might be made by helicopter if the necessary funds were available.

Presumably the summer and winter camps were somewhat smaller than those of spring and fall, if only because the large-scale communal effort required to operate a surround or to intercept effectively a herd at a river crossing would require more people than the operation of a fish trap or the exploitation of scanty winter resources and stored provisions. The Vunta Kutchin may have been dispersed into smaller bands during summer and winter, and several such bands might have recombined to form a larger community in spring and fall. It must always be remembered, however, that membership in such bands was notoriously fluid, and their size probably fluctuated as well. On the other hand, informants in Old Crow have repeatedly remarked to W. N. Irving (personal communication in 1970) that the people did not split up into little groups or families during the winter but stayed together to help one another and to take advantage of the guidance of a strong leader; Irving has noted that this pattern is in marked contrast to the extreme fragmentation of Nunamiut Eskimo communities during the winter months.

These basic subsistence and settlement patterns, or something like them, must have characterized both the Early and Late Prehistoric periods since there is no evidence suggesting a major change from one period to the other. The Historic period, however, brought significant changes which culminated in the nucleated settlement patterns of the present day. I agree with Welsh (1970) that the existence and stability of Old Crow as a community was brought about and maintained by the presence and influence of Euro-Canadian institutions such as the store, the school, the church, and the nursing station. I would add that Old Crow more or less sprang into existence from the shattered remains of New Rampart House which was devastated by a smallpox epidemic in 1912, but for many years it was not the only community of its kind on the Porcupine River in the Yukon. Johnson village, Whitestone village, and even, possibly, a reoccupation

of La Pierre House in the late 1930's might have offered competition for the distinction of being the only lasting community in northern Yukon Territory. That there could be only one should have been obvious from the start: with a population of only 200 native people the White taxpayer was not likely to provide Euro-Canadian goods and services to more than one locality on the river.

What is more important in the present discussion is whether the tendency toward nucleated settlement had begun by the time of the Historic period at Klo-kut and whether the subsistence economy had been markedly altered by that time. I am inclined to interpret the Historic period at Klo-kut as a continuation, with very little modification, of the prehistoric patterns apparent earlier in the profile. As shown above there is a significant increase in the absolute and relative frequencies of fish and rabbit bones in the Historic period and a corresponding decrease in the reliance upon caribou; but the occupation(s) appears to be season-specific for the spring, and most of the aboriginal technology is still in evidence though it is accompanied by a small number of Euro-Canadian trade items. This question will be answered more clearly when the remainder of the faunal material is analyzed.

If the influence of contact is interpreted as slight, it becomes worthwhile to assess the date of the Historic occupation(s) as precisely as possible in order to link it (them) with the history of trading posts in the region (see Morlan 1971a:Chapter II). I have not isolated in the description or in the analysis more than one historic occupation, but I think a larger sample would support a subdivision into at least two major occupations in the Historic period; these would correspond, respectively, with Layers I and II of the 1968 excavations in the west end of the clearing. The artifact affording the most recent maximum age appears to be the single cartridge case from the 1966 excavations. That case is either a 45-cal. Colt or a 44-40 cartridge, but its identification

is still uncertain since it bears no headstamp. The former was designed for the Colt Army Revolver Model 1872 and the latter for the Model 1873 Winchester rifle and Colt single action revolver (VanStone and Townsend 1970:115; Logan 1959:92, 137). Informants in Old Crow have said that the first 44-cal. rifles to reach the middle Porcupine area were obtained from whalers wintering over at Herschel Island around 1894, the year after Hudson's Bay Company abandoned New Rampart House. The final aboriginal occupation of Klo-kut must, therefore, date from 1894 or later, but I would guess it was not much later. The only other specimen for which I have established a maximum age is the square-cut nail. This nail appears to have been of a form called a common cut, size 9d, and was machine-made indicating a post-1830 date; such nails were almost completely replaced by wire nails made of Bessemer steel by 1890 (Fontana 1965; VanStone and Townsend 1970:98).

On the basis of these limiting dates it seems safe to suggest that the introduction of historic trade goods to Klo-kut did not begin before Murray's 1847 construction of Fort Yukon. Certainly Murray (1910) seems to have found everyone in the area very little touched by Euro-Canadian practices and artifacts, and I doubt that the people of the middle Porcupine had the rifles which Murray found in use at the mouth of the stream. The marginal nature of these early historic influences must have been due simply to the long distance which separated Klo-kut from any of the new trading centers. Informants in Old Crow have often spoken of the long journeys made by a prominent hunter or chief for the purpose of retrieving Euro-Canadian trade goods which he could distribute upon his return, and such patterns are also described by Murray (1910) himself. Thus I think it likely that (1) the beginning of the Historic period at Klo-kut dates to between A.D. 1850 and 1880; (2) there may have been a shift in settlement to New Rampart House after it was established on the Alaskan border, *ca.*

1880; (3) a second historic occupation of Klo-kut may have occurred around 1894, following the abandonment of New Rampart House by the Hudson's Bay Company; (4) the bulk of the population may have returned to New Rampart after Cadzow opened his store there in 1904; and (5) the village of Old Crow owes its beginnings around 1912 to the smallpox epidemic which struck New Rampart. This sequence of events leaves out the reported large village near the mouth of Old Crow River, but such a village might have been occupied in the summer season after the caribou hunt at Klo-kut and thus would not have affected the basic pattern as I have outlined it. In any case the shift from seasonal camps to a more stable, nucleated pattern of settlement must have been spread out over a period of at least half a century; even so the entire change may have occurred within the lifetime of many individuals and for them it must have been a rather disruptive process.

Some of these suggestions will be examined in more detail as the historic sites of the region are fully analyzed, but I would rather defer that aspect of the Kutchin story for a later discussion. It will be quite worthwhile eventually to link the archaeological record with the ethnographic data being assembled by Welsh (1970), for an overall view of culture change should emerge from such an effort.

Origins and Larger Relationships

Discussions of "Athapaskan origins" have become quite popular in the last few years, and they seem to have taken place on at least two levels of analysis. On a very broad level are the efforts to trace the rubric of "Athapaskan pre-history" through its development from some older "tradition." MacNeish (1964) is usually credited with having postulated continuity from his Northwest Microblade tradition to his Denetasiro tradition, though in fact that is not quite what he said: "It would appear that the Denetasiro tradition was in some way

well adapted to the northwest boreal forest and that somehow it gradually replaced the Northwest Microblade tradition which had previously occupied that region" (MacNeish 1964:386, italics mine). This certainly implies continuity and development, but MacNeish does not specify the evidence for it except to list a few traits shared by the two traditions (MacNeish 1964:383).

Cook and McKennan (1970b) have been more explicit. They have recovered two "complexes" at Healy Lake -- Denali and Tuktu -- which MacNeish would assign to the Northwest Microblade tradition. Cook and McKennan (1970b) see a developmental sequence from Tuktu to Denali which in turn is ancestral to a

wider ranging sphere of Athapaskan influence some several centuries after the beginning of the Christian era and possibly coinciding with the expansion to the south. It is marked by the spread of Stott or Kavik points to such places as Anaktuvuk Pass, Klokut on the Porcupine River, and various other sites in the Yukon Territory. Although this phase is not present in the two sites we have excavated to date it is quite possible that it may yet appear at other sites around Healy Lake.

Tuktu, Denali, and this "wider ranging sphere of Athapaskan influence" together form the "Athapaskan Tradition" which accordingly has much greater time depth than hitherto attributed to any identifiable Athapaskan material. This hypothesis places both microlithic technology and the distinctive Tuktu variety of notched point in the ancestry of late prehistoric Athapaskans.

Two earlier arguments, based upon somewhat different evidence, together led to a similar conclusion. Borden (1968) defined an "Early Boreal culture," the salient characteristic of which -- microblades -- could be used as a hallmark of Nadene movements into the New World in "terminal Pleistocene or early Holocene time." Dumond (1969) appended to this argument a northward diffusion of notched projectile points which together with the southward movement of microlithic technology, led to the formation of an

area of Na-Dene speech which has been maintained as a relatively stable geographic unit, with movements ... only back and forth within that area -- movements related at least in part to the maintenance of the noncoastal Na-Dene within the boreal forests

(Dumond 1969:862).

I do not wish to enter into an extended discussion of these hypotheses, since I am not yet able to replace them with anything better and since they are somewhat beyond the scope of the present topic; but a few cautionary remarks seem to be in order. Most of the samples on which MacNeish based his definitions of traditions are very small, as he himself has noted; I also have serious reservations about much of his typological scheme, particularly when it is used in comparisons with other areas. Even using his own typology, however, I have found several ways in which the integrity of his Northwest Microblade phases could be improved by resorting the sites and components. Furthermore we still know precious little about either the Aishihik complex or the Bennett Lake phase, and the evidence in MacNeish's sites for continuity from Northwest Microblade to Denetasiro is tenuous at best.

My main source of concern over Cook's and McKennan's definition of the Athapaskan tradition is their postulation of continuity among its three phases. Cook (1968; Cook and McKennan 1970b) is well aware of the differences between the microlithic industries and distributions of Denali and Tuktu, but I would hesitate to link them in a single tradition until these differences are better understood. I think I understand the differences between Denali and the microlithic industries of Eskimo prehistory (Morlan 1971b), but I cannot find a place for the Tuktu cores in my scheme; their association with side-notched points makes them even more distinctive. A more specific problem in the present context is the presence in Denali, as well as in Tuktu, of a significant bifacial stone working industry which, of course, carries on into the final phase of the Athapaskan tradition as documented at Dixthada. This makes the absence of bifaces in the Early Prehistoric period at Klo-kut all the more enigmatic or else suggests that the Athapaskan tradition represented at Healy

Lake applies to only some of the Athapaskans of northwestern North America. The latter suggestion is quite conceivable, I think, and it is a possibility that should be reckoned with more explicitly.

These same reservations apply to the reconstruction by Borden and Dumond, but a further note must be added in each case. Borden (1968) traces microlithic technology way to the south, onto the interior plateau of British Columbia, and along the way there are some major changes which may prove to indicate more than one origin for microlithic technology in the region. Sanger (1968:114) has remarked that the "'northern influence,' so often associated with microblades in the Pacific Northwest, appear at present to be limited to microblades," and I have noted several serious problems with any attempt to link the cores of that region with those of northwestern North America (Morlan 1971b).

A major problem with Dumond's reconstruction is that enormous mass of "Canadian" Na-Dene (Dumond 1969:Fig. 1-2). The argument leads to much too simple a solution, though Dumond (1969:862) regards it as "distressingly unparsimonious." It is my hope both that the complexities can be revealed and that specific regional reconstructions of lasting value can result from distinguishing the various "tribes" or "nations" of Athapaskan speakers as we attempt to reconstruct their prehistory. Certainly I would not lump with the other Athapaskans of the Yukon the very distinctive Kutchin whose linguistic divergence sets them apart from all their neighbors except the Han (Krauss 1973, personal communication in 1970). As I have implied in previous discussions the main axis of cultural historical relationship for the later prehistory of the northern Yukon points westward along the Brooks Range rather than south through Yukon Territory. This point must now be discussed at greater length.

The other level of analysis which has characterized discussions of "Athapaskan origins" is that which focuses upon a particular group of Athapaskans and attempts to trace their origins back as far as possible. Such a line of argument has

implicitly characterized the work of MacNeish (1964) and Cook and McKennan (1970b), but some writers have settled upon this approach without extending their discussions to a larger scope (e.g., Wilmeth 1970; Townsend 1970; VanStone and Townsend 1970). I would like to attempt to place the prehistoric record of the middle Porcupine region in that kind of context, but it cannot be done without certain reservations. As I argued above, the Kutchin appear to have occupied the middle Porcupine drainage for at least a millennium or a little more, but I have not made any suggestions regarding their earlier prehistory. Either they were present in the region at earlier times which we cannot now identify and date or they were newcomers to the area at the time we first recognize them at Klo-kut. In either case it is difficult to determine the degree to which they had diverged from their Athapaskan relatives by that time; were they Kutchin in the sense we mean today, or is it useful or necessary to distinguish some sort of "proto-Kutchin"? This question cannot yet be answered, but several lines of evidence point westward along the Brooks Range for their nearest relatives of a millennium ago.

Hall (1969) has published a detailed account of a Nunamiut Eskimo story of contact with the Dihai Kutchin, and W. N. Irving (1969) has also collected such legends as well as very similar ones from the Kutchin point of view (W. N. Irving, personal communication in 1969). These stories indicate that the Dihai Kutchin were, only a few centuries ago, more or less isolated from the main block of Kutchin speakers to the east. As recently as A.D. 1800 the headwaters of the Kobuk River may have been their home, and they must have moved east along the south slopes of the Brooks Range, briefly penetrating Anaktuvuk Pass, prior to the arrival there of the Nunamiut, to arrive in the Chandalar River region by about 1870. By then they had been decimated by conflict with their Eskimo neighbors and soon were absorbed by the Natsit

(Chandalar) Kutchin. The several convergent lines of evidence suggest that this story is substantially factual, though I would leave the dating of these events open to question. Hall (1969:327) offers three possible reasons for the former separation of the Dihai:

- (1) they could have moved there from the present-day Kutchin territory during an earlier period;
- (2) they could have somehow ended up there during the very earliest migrations or population expansions of the proto-Kutchin peoples; or
- (3) they could represent a remnant of an early Kutchin occupation of the entire Brooks Range.

Hall (1969:327-328) thinks the third alternative is the most likely, though he regards it as speculative; I agree with him on both counts.

As I noted earlier the general character of the bone industry at Klo-kut as well as many specific characteristics of the bone artifacts are strongly reminiscent of Eskimo bone working techniques and types. In addition there are many other aspects of the technology which resemble Eskimo counterparts as closely as or even more closely than corresponding Indian traits in other areas. An explanation for these observations comes to mind if one thinks of the Brooks Range as continuous Kutchin territory during most of the last millennium or a little more. Such a widespread distribution for the prehistoric Kutchin, particularly since there is reason to believe that it would reach to Walker Lake on the headwaters of the Kobuk, would put them into direct contact with developing Eskimo cultures on the Middle Kobuk by A.D. 1000. Previously the middle Kobuk had been occupied in turn by the American Paleo-Arctic tradition, the Northern Archaic tradition, and the Arctic Small Tool tradition, followed briefly by a possible Indian culture (Anderson 1968) with which I can find very few similarities to Klo-kut. Close resemblances to Klo-kut first appear with the Western Thule occupation of Onion Portage, beginning about 1000 years ago, and they continue through all the phases of the Arctic Woodland culture (Giddings 1952). In

particular, however, there appear to be close similarities between the Late Prehistoric period at Klo-kut and the Ekseavik village of about 600 years ago. These similarities consist of more than a few artifacts; indeed, if one subtracts from the Eskimo site the equipment associated with the exploitation of the sea, the remaining complex of Kobuk traits conforms closely with the Klo-kut assemblages.

With these facts in mind, I would like to propose the following hypotheses:

1. By 1000 years ago the entire south flank of the Brooks Range was occupied by groups of people engaged, at least seasonally, in the exploitation of the northern reaches of the boreal forest in Alaska and the Yukon. This kind of forest is characterized by fairly rugged terrain, intermittently dotted with large, lake-studded flats, many open areas resulting from both edaphic and altitudinal factors, and it is rich in large game, particularly caribou, and fish. The principal technological hallmarks of human adaptation to these conditions include a well-developed bone industry on which much of the land hunting weaponry and fishing technology are based, extensive utilization of spruce wood and birch bark, and the use of both cryptocrystalline and microcrystalline types of stone for different kinds of artifacts. Technologically it is feasible in such a context to find local industries which lack techniques of bifacial stone knapping, because the major implement category for which such techniques are used (weaponry) can consist of bone and antler examples. The presence of bifacial stone projectiles in the Western Thule Band 1 occupations of Onion Portage and in the Ahteut village of *ca.* A.D. 1200-1250 resulted from a long history of bifacial stone knapping reaching all the way back to the Denbigh Flint complex. On the other hand, at the other end of the Brooks Range the Early Prehistoric period lacked such techniques, possibly because no culture ancestral to it had possessed them.

2. This broadly shared technological complex characterized both prehistoric Eskimo cultures (on the Kobuk) and prehistoric Kutchin cultures (east of the Kobuk as far as the middle Porcupine). This fact led to considerable confusion concerning the identity of the bearers of the Arctic Woodland culture when that concept was first defined.

3. For some reason, which I cannot yet specify, the particular forms of bifacial stone points which developed in Ekseavik spread eastward as far as the middle Porcupine around 600 years ago. Indeed many of the traits shared across this broad zone became even more specifically similar from one end of it to the other. (Eventually I will attempt to quantify this statement, but it will require a detailed examination of the Kobuk collections.) The introduction to the middle Porcupine of bifacial stone working techniques was associated with very few other changes. The major one was a reduction in the use of birch bark, and if climatic variables are partially responsible for the bark decline they might also be invoked as partial explanations of the diffusion of bifacial techniques during the Ekseavik time period.

4. Sometime during the last 500 years the historic Brooks Range distribution of Kutchin, Koyukon, and Eskimo took shape. It is not clear how this may have happened, for a northward intrusion of Koyukon appears, on linguistic, ethnographic and slim archaeological grounds, to be unlikely (A. McF. Clark, personal communication in 1970). Perhaps the differentiation of Koyukon and Kutchin took place *in situ* in their respective areas just south of the Brooks Range, but such a process makes it difficult to explain how the Dihai Kutchin would have remained at Walker Lake until A.D. 1800.

In the ethnographic record there are many cross-ties between the Koyukon and Kobuk Eskimos (McFayden 1964), and somewhat fewer cross-ties of this kind link Kutchin with the Kobuk. Linguistic evidence indicates a marked divergence between

Koyukon and Kutchin, and Dihai Kutchin apparently diverged to become a very distinctive dialect of Kutchin. Regardless of this recent phase of prehistory, however, I think it likely that the southern Brooks Range should be regarded as an ecological and technological unit throughout much of the period since A.D. 500, and this unity is responsible for the similarities between prehistoric Kutchin technology, as revealed at Klo-kut, and that of the late prehistoric Eskimo of the Kobuk River. Abundant evidence indicates that the historic distributions of Indians and Eskimos in the Brooks Range are no older than a century or two (Campbell 1962; Hall 1969; W. Irving 1964; McFadyen 1964).

This reconstruction is not in conflict with evidence elsewhere in Alaska or in the Yukon. The so-called Stott points of MacNeish's (1964) Denetasiro tradition are found only in the Bennett Lake phase which is universally associated with historic trade goods, and similar specimens on the interior plateau of British Columbia are also found only in post-contact sites (Wilmeth 1969b, 1970). The prehistoric collection from the Chimi site lacks these stemmed points, and their major occurrence in Central Alaska -- Dixthada -- may very well date within the last 600 years and might well be within the range of the influences spreading eastward across the Brooks Range. Indeed, if the stemmed points spread from the Brooks Range to southwest Yukon I would expect them to follow the Yukon-Tanana upland rather than some route across the Ogilvie Mountains in Yukon Territory. Their major function probably was in the killing of caribou, and they represent an important part of the adaptation of their makers to mountain conditions. Murie (1935) has noted that the woodland caribou is primarily a mountain animal and, viewed in that light, we should expect human hunters of caribou to be oriented toward the passes and open, treeless areas of the hilly country of interior Alaska and the Yukon.

I believe this emphasis upon caribou hunting and the exploitation of rugged terrain may be a fair characterization of much of the later prehistory of most Athapaskan groups in northwestern North America. At least some of the largest villages of such groups would have centered around communal caribou hunting localities, and only in certain circumstances would such localities be found along major river valleys. I regard Osgood's (1936:31) emphasis upon the "salmon area" and the singular importance of fishing to be an exaggeration in the case of the Vunta Kutchin, and I suspect he over-emphasized this activity for many Athapaskan groups in Alaska and the Yukon. Perhaps partially because of this emphasis, as well as because of the logistic difficulties of travelling away from the rivers in the area, we have spent too much time searching major stream banks and not enough time walking ridge tops and small stream valleys leading to drainage divides. We must anticipate poor preservation and, possibly, small samples in sites in rugged country, but I think the sites will better represent the major focus of prehistoric Athapaskan cultures. Admittedly Klo-kut is located on a major stream bank, but it is in one of those important situations in which the communal hunting of caribou can be carried out along a river valley. Admittedly it is a season-specific and activity-specific site, but I doubt that we will find another prehistoric village locality with so representative a cross section of prehistoric Kutchin material culture.

REFERENCES

- ALEXANDER, Herbert L.
 1968 The Atigun Sites: A New Vista for Brooks Range Archaeology. Paper read at the 33rd Annual Meeting of the Society for American Archaeology, Santa Fe.
- ANDERSON, Douglas D.
 1968 A Stone Age Campsite at the Gateway to America. *Scientific American* 218(6):24-33.
 1970 Athapaskans in the Kobuk Arctic Woodlands, Alaska? *Bulletin of the Canadian Archaeological Association* 2:3-12.
- BALIKCI, Asen
 1963 *Vunta Kutchin Social Change*. Ottawa: Northern Coordination and Research Centre, No. 63-3.
- BANFIELD, A.W.F.
 1954 Preliminary Investigation of the Barrenground Caribou. Canadian Wildlife Service, *Wildlife Management Bulletin*, Series 1, No. 10A and 10B.
 1961 A Revision of the Reindeer and Caribou, Genus *Rangifer*. *National Museum of Canada Bulletin* 177.
- " "
 BOKONYI, S.
 1970 A New Method for the Determination of the Number of Individuals in Animal Bone Material. *American Journal of Archaeology* 74(3):291-292.
- BORDEN, Charles E.
 1952 Results of Archaeological Investigations in Central British Columbia. *Anthropology in British Columbia* 3:31-43. Victoria.
 1968 New Evidence of early cultural relations between Eurasia and Western North America. Paper read at the 8th International Congress of Anthropological and Ethnological Sciences, Tokyo-Kyoto.
- BRYSON, Reid A.
 1966 Airmasses, Streamlines, and the Boreal Forest. *Geographical Bulletin* 7(2):228-269. Ottawa.
- BRYSON, Reid A., William N. IRVING, and James A. LARSEN
 1966 Radiocarbon and Soil Evidence of former Forest in the Southern Canadian Tundra. *Science* 147(3653):46-47.

- BRYSON, Reid A. and Wayne M. WENDLAND
 1967 Tentative Climatic Patterns for some Late Glacial and Post-Glacial Episodes in Central North America. In *Life, Land, and Water*. W.J. Mayer-Oakes, Ed. Occasional Papers of the Department of Anthropology No. 1. Winnipeg: University of Manitoba. pp. 271-298.
- CAMPBELL, John M.
 1962 Cultural Succession at Anaktuvuk Pass, Arctic Alaska. In *Arctic Institute of North America Technical Paper* No. 11. pp. 39-54.
 1968 The Kavik Site of Anaktuvuk Pass, Central Brooks Range, Alaska. *Anthropological Papers of the University of Alaska* 14(1):32-42.
- CLARK, Donald W.
 1968 Koniag Prehistory. Ph.D. dissertation, University of Wisconsin, Madison.
- COOK, John P.
 1968 Some Microblade Cores from the Western Boreal Forest. *Arctic Anthropology* 5(1):121-127.
- COOK, John P. and Robert A. MCKENNAN
 1968 Archaeology of Healy Lake, Alaska. Paper read at the 33rd Annual Meeting of the Society for American Archaeology, Santa Fe.
 1970a The Village Site at Healy Lake, Alaska: an Interim Report. Paper read at the 35th Annual meeting of the Society for American Archaeology, Mexico City.
 1970b The Athapaskan Tradition: A View from Healy Lake in the Yukon-Tanana Upland. Paper read at the 10th Annual Meeting of the Northeastern Anthropological Association, Ottawa.
- CRESSMAN, L.S. and D.E. DUMOND
 1962 *Research on Northwest Prehistory: Prehistory in the Naknek Drainage, Southwestern Alaska*. Final report to the National Science Foundation, Research Grant G-12964. Eugene: Department of Anthropology, University of Oregon.
- DANSGAARD, W., S.J. JOHNSON, and J. MØLLER
 1969 One Thousand Centuries of Climatic Record from Camp Century on the Greenland Ice Sheet. *Science* 166(3903):377-381.
- DEPARTMENT of Anthropology, University of Alaska
 1970 *Report/Archaeological survey and excavations along the Alyeska Pipeline Service Company haulroad and pipeline alignments*. Fairbanks, Alaska.

- DE LAGUNA, Frederica
 1934 *The Archaeology of Cook Inlet, Alaska.* 263 pp. Philadelphia: University of Pennsylvania Press.
- 1947 The Prehistory of Northern North American as Seen from the Yukon. *Memoir of the Society for American Archaeology* No. 3.
- 1956 Chugach Prehistory. *University of Washington Publications in Anthropology* Vol. 13. Seattle.
- DONAHUE, Paul F.
 1970 Excavations at Algatcho and Tezli on the Central Interior Plateau of British Columbia. Manuscript, 25 pp., on file at the National Museum of Man, Ottawa.
- DUMOND, D.E.
 1969 Toward a Prehistory of the Na-Dene, with a General Comment on Population Movements among Nomadic Hunters. *American Anthropologist* 71(5):857-863.
- FONTANA, Bernard L.
 1965 The Tale of a Nail: On the Ethnological Interpretation of Historic Artifacts. *Florida Archaeologist* 18(3)(part 2): 85-96.
- FORD, J.A.
 1959 Eskimo Prehistory in the Vicinity of Point Barrow, Alaska. *Anthropological Papers of the American Museum of Natural History* 47(1):1-272.
- GIDDINGS, J.L.
 1952 The Arctic Woodland Culture of the Kobuk River, University of Pennsylvania, *Museum Monographs* No. 9. Philadelphia.
- 1964 *The Archaeology of Cape Denbigh.* Providence: Brown University Press.
- HALL, Edwin S.
 1969 Speculations on the Late Prehistory of the Kutchin Athapaskans. *Ethnohistory* 16(4):317-333.
- 1971 Kangiguksuk: A Cultural Reconstruction of a Sixteenth Century Eskimo site in Northern Alaska. *Arctic Anthropology* 8(1):1-101.
- HEIZER, Robert F.
 1956 The Archaeology of the Uyak site, Kodiak Island, Alaska. *University of California Anthropological Records* 17(1).

- IRVING, Laurence
 1960 Birds of Anaktuvuk Pass, Kobuk, and Old Crow: a study in Arctic adaptation. *Bulletin of the U.S. National Museum* No. 217.
- IRVING, William N.
 1964 Punyik Point and the Arctic Small Tool Tradition. Ph.D. dissertation, University of Wisconsin, Madison.
 1967 Klo-kut: a late prehistoric Kutchin site in Northern Yukon Territory. Paper read at the 32nd Annual Meeting of the Society for American Archaeology, Ann Arbor.
 1969 Legend and Prehistory in the Brooks Range. Paper read at the 2nd Annual Meeting of the Canadian Archaeological Association, Toronto.
- JOHNSON, Frederick and Hugh M. RAUP
 1964 Investigations in Southwest Yukon. *Papers of the R.S. Peabody Foundation for Archaeology* 6(1):1-198.
- KRAUSS, Michael
 1973 Nadene. *Current Trends in Linguistics* No. 10.
- LEECHMAN, Douglas
 1954 The Vanta Kutchin. *National Museum of Canada Bulletin* 130.
- LOGAN, Herschel C.
 1959 *Cartridges: A Pictorial Digest of Small Arms Ammunition*. New York: Bonanza Books.
- MACNEISH, Richard S.
 1954 The Stott Mound and Village, near Brandon, Manitoba. *National Museum of Canada Bulletin* 142. pp. 46-81.
 1964 Investigations in Southwest Yukon: Archaeological Excavations, Comparisons, and Speculations. *Papers of the R.S. Peabody Foundation for Archaeology* 6(2):201-488.
- MCFADYEN, A.M.
 1964 Koyukuk River Culture of the Arctic Woodlands. M.A. thesis, The George Washington University, Washington, D.C.
- MCGHEE, Robert
 1970 Speculations on Climatic Change and Thule Culture Development. *Folk* 11-12:173-184.
 1971 Climatic Change and the Development of Canadian Arctic Cultural Traditions. Paper read before the Symposium on Climatic Changes in Arctic Areas During the last 10,000 Years, Oulanka, Finland.

- MCKENNAN, Robert A.
 1959 The Upper Tanana Indians. *Yale University Publications in Anthropology* No. 55.
 1965 The Chandalar Kutchin. Arctic Institute of North America, *Technical Paper* No. 17.
- MCKENNAN, Robert A. and John P. COOK
 1968 Prehistory of Healy Lake, Alaska. Paper read at the 8th International Congress of Anthropological and Ethnological Sciences, Tokyo-Kyoto.
- MORLAN, Richard E.
 1970a Toward the Definition of a Prehistoric Athabaskan culture. *Bulletin of the Canadian Archaeological Association* 2:24-33.
 1970b Some Aspects of a Prehistoric Kutchin Subsistence Economy. Paper read at the 10th Annual Meeting of the Northeastern Anthropological Association, Ottawa.
 1971a The Later Prehistory of the Middle Porcupine Drainage, Northern Yukon Territory. Ph.D. dissertation, University of Wisconsin, Madison.
 1971b Wedge-shaped Core Technology in Northern North America. *Arctic Anthropology* 7(2):17-37.
- MURIE, O.J.
 1935 Alaska-Yukon Caribou. *North American Fauna* No. 54. Washington, D.C.
- MURRAY, Alexander Hunter
 1910 Journal of the Yukon 1847-48. *Publication of Canadian Archives* No. 4. Ottawa.
- NICHOLS, Harvey
 1967a Pollen Diagrams from Sub-Arctic Central Canada. *Science* 155 (3770):1665-1668.
 1967b Central Canadian Palynology and its Relevance to Northwestern Europe in the Late Quaternary Period. *Review of Palaeobotany and Palynology* 2(1967):231-243. Amsterdam.
- OSGOOD, Cornelius
 1936 Contributions to the Ethnography of the Kutchin. *Yale University Publications in Anthropology* No. 14.
- RAINEY, F.G.
 1939 Archaeology in Central Alaska. *Anthropological Papers of the American Museum of Natural History* 36(4):351-405.

- RAINEY, F.G.
1940 Archaeological Investigations in Central Alaska. *American Antiquity* 5(4):299-308.
- SANGER, David
1968 Prepared Core and Blade Traditions in the Pacific Northwest. *Arctic Anthropology* 5(1):92-120.
- SIEGAL, Sidney
1956 *Nonparametric Statistics for the Behavioral Sciences*. New York: McGraw-Hill Book Company, Inc.
- TERASMAE, J.
1967 Notes on Quaternary Palaeoecological Problems in the Yukon Territory, and Adjacent Regions. *Geological Survey of Canada Paper* 67-46.

1968 Some Problems of the Quaternary Palynology in the Western Mainland Region of the Canadian Arctic. *Geological Survey of Canada Paper* 68-23.
- TOWNSEND, Joan B.
1970 Tanaina Archaeology in the Iliamna Lake Region, Alaska. *Bulletin of the Canadian Archaeological Association* 2:34-41.
- VANSTONE, James W. and Joan B. TOWNSEND
1970 Kijik: An Historic Tanaina Indian Settlement. *Fieldiana: Anthropology* Vol. 59.
- WELSH, Ann N.
1970 Community Pattern and Settlement Pattern in the Development of Old Crow Village, Yukon Territory. *Western Canadian Journal of Anthropology* 2(1):17-30.
- WILMETH, Poscoe
1969a The Potlatch site, British Columbia: A Preliminary Report. *Kansas Anthropological Association Newsletter* 14(7):1-9.

1969b Excavations at Anahim Lake, British Columbia: Second Season. Typescript, 9 pp., on file in the National Museum of Man, Ottawa.

1970 Chicotin Archaeology. *Canadian Archaeological Association Bulletin* 2:42-43.
- WORKMAN, William B.
1968 Archaeological Excavations in the Upper Aishihik Valley in 1966 and 1968. Paper read at the 19th Annual Alaskan Science Congress, Whitehorse.

WORKMAN, William B.

1969 Archaeological Investigations in the Upper Aishihik Valley.
Typescript, 32 pp., on file in the National Museum of
Man, Ottawa.

APPLICATIONS OF THE DIRECT HISTORIC APPROACH IN
CENTRAL DISTRICT OF MACKENZIE, N.W.T.

William C. Noble

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APPLICATIONS OF THE DIRECT HISTORIC APPROACH IN
CENTRAL DISTRICT OF MACKENZIE, N.W.T.

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Résumé

Dans le District central de Mackenzie, il est possible, à partir d'une importante quantité d'écrits de l'époque historique ancienne et de la période contemporaine ainsi qu'à la lumière des découvertes archéologiques, de tenter d'appliquer la méthode historique directe à la préhistoire. A l'heure actuelle, les données archéologiques sont assez complètes pour que l'on puisse appliquer cette méthode aux Tchippewayan du Yellowknife pour une période ininterrompue allant d'environ 200 ans avant notre ère jusqu'à nos jours. Les chronologies archéologiques ne sont pas aussi complètes dans le cas des Tchippewayan mangeurs-de-caribou, des Liard, des Flanc-de-chien et des Lièvre.

La chronologie du Yellowknife ou "tradition Taltheilei Shale" est l'une des plus complètes établies à ce jour pour une tribu athapaskan septentrionale. Il est maintenant établi que les Athapaskan occupent le District central de Mackenzie depuis au moins 2000 ans.

Abstract

With a substantial body of early historic and modern literature to draw upon, in conjunction with archaeology, valid attempts can be made to apply the direct historic approach to prehistory in the central District of Mackenzie. Presently, archaeological data are sufficiently complete to apply this method to the Yellowknife Chipewyan over a continuous period extending back to ca. 200 B.C. More fragmentary, however, are the archaeological sequences for the Caribou-Eater Chipewyan, the Slave, the Dogrib and the Hare Indians.

The Yellowknife sequence, Taltheilei Shale Tradition, represents one of the most complete and continuous developments yet defined for a Northern Athapaskan group. Clearly, Athapaskans have occupied the central District of Mackenzie for at least the past 2000 years.

Introduction

The direct historic approach (Steward 1942) is and promises to be an effective tool in tracing the prehistory of historic central Northern Athapaskans. Presently, archaeological data are sufficiently complete to apply this method of

historical backstreaming to the Yellowknife (Copper) Chipewyan over a continuous period extending back to *circa* 200 B.C. More fragmentary, however, are the archaeological sequences for the Eastern (Caribou-Eater) Chipewyan, the Slavé, the Dogribs and the Hare Indians. Yet, despite such problems, subtle regional and local differences exist which promise to be extremely useful in applying the direct historic approach. Certainly, the data derived from ethnohistory, ethnology, linguistics and physical anthropology can contribute a wealth of intradisciplinary data to augment the archaeologist's endeavours.

Linguistically, the Yellowknife (Copper, Red Knife or Birchrind) Indians spoke a more guttural and archaic Chipewyan dialect (Hearne 1958:80; Mason 1914: 376, 1946:13) than do the modern eastern (Caribou-Eater) Chipewyan. Too, the Dogribs, who are most closely related linguistically to the Hare Indians, are somewhat less distant from the Slave than they are from the Chipewyan (Mason 1946:13; R. Howren: personal communication). Glottochronological estimates on the periods of divergence for these Déné languages are subject to archaeological testing, and such testing constitutes an important ramification of successful direct historic approach applications.

With regard to ethnohistoric and modern ethnographic-ethnological documentation, application of the direct historic approach in central District of Mackenzie has advantages. For the most part there exists a wealth of continuous data from Samuel Hearne (1958) through Peter Pond (1930), Alexander Mackenzie (1966), John Franklin (1969), George Back (1836), Richard King (1836), John Richardson (1852), John Rae (1850), James Anderson (1857), Warburton Pike (1892), Frank Russell (1898), and many others including the Northwest and Hudson Bay Company records. Too, the post-1900 modern documentation contributes important data in determining cultural continuities and reconstructions of changing lifeway patterns. With this substantial body of early historic and modern literature to draw upon

in conjunction with archaeology it seems to me that valid attempts can be made to apply the direct historic approach in central District of Mackenzie (Fig. 1), not only to artifacts, settlement and burial patterns, but also ultimately to various aspects of social organization. In large, central District of Mackenzie is not overwhelmingly confused by the type of fluid ethnic displacements manifest on the northern plains (Forbis 1963).

In the following, a synthesis will be made of existing archaeological data pertaining to the five groups mentioned above, beginning with the historic era. Readily apparent are qualitative and quantitative differences, particularly with regard to existing chronologies and low sample yields. While the archaeology is made difficult by the very nature of the country and the small camp-type occupations, which are generally thin and widely distributed, the major problem is one of sheer access to sites in the interior. Pertinent components useful in applying the direct historic approach do exist, but require considerable energy to locate.

The Slave

Currently, Slave archaeology has little time depth and many refinements are necessary before the ancestry of this historic group will be completely known. Historic and late prehistoric sites certainly establish their presence in the territory southwest of Great Slave Lake from Hay River over to Fort Liard and northward to Fort Simpson between the period A.D. 1760 to the present. The archaeological researches of MacNeish (1954), Millar (1968), Noble (1971) and Fedirchuk (1970) allow a brief formulation for the Slave sequence in this geographic region. Commencing with modern remains (Millar 1968:122, 142), the sequence may be traced back through the early historic complex of Fort Liard (Millar 1968:303) to the late prehistoric Spence River complex (MacNeish 1954:250).

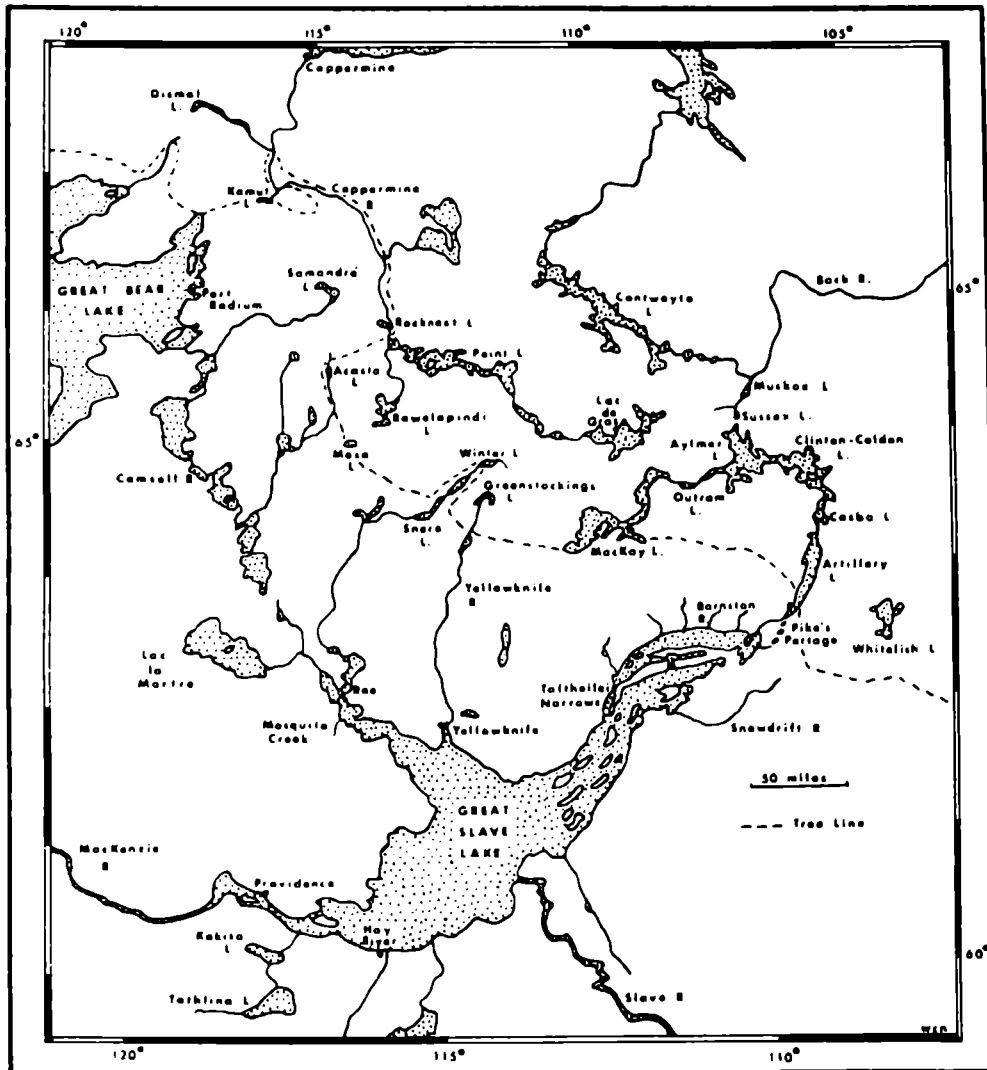


Figure 1. Map of interior central District of Mackenzie.

Millar's decision to separate historic sites from late prehistoric components is entirely reasonable, rather than grouping the two under Spence River as originally proposed by MacNeish. Too, the ill-defined "Fisherman Lake" complex (MacNeish 1954:249) should be deleted until more convincing data are available (Millar 1968:142).

Among the modern, post-A.D. 1900 Slave, few if any of the traditional tools remain in their material culture. Excavated remains of this era usually include sets of wooden tent pegs, iron knife blades, iron files, modern buttons, tin cans, various calibre rifle shells, sling shots and broken gramophone records. Such items have been recorded at the McLeod Mountain site (JcRw-8), the JcRw-3B site, and the Fisherman Lake site (JcRw-2A), all northwest of Fort Liard (Millar 1968: 102, 122, 142). That gramophone records can date early in this modern era is attested to by Ernest Thompson Seton (1911:118, 282) who found broken record fragments at Salt River, and saw a cheap gramophone machine in use at Fort Smith in 1907.

Indications of traditional settlement pattern still persist among the outlying Slave near Fort Liard, more so than among the modern Slave communities centered at Forts Providence and Simpson or at Kakisa Lake. At these latter locations, log cabins or government-built dwellings predominate (Helm 1961:9; Noble 1966: personal observation). However, at Fisherman Lake in the summer of 1967, Millar (1968:139-140) had occasion to document a Slave tent camp conforming to the aboriginal pattern. Distributed laterally along the lake edge, not a single tent opened directly upon the lake, and women's areas were invariably located near the tent door. A similar pattern is interpreted as being the case at the nearby late prehistoric Tsuelah (JcRw-16) site (Millar 1968:140) where artifact distributions were plotted in relation to central hearth clusters.

Archaeologically, the modern Slave can be traced back through the early historic Fort Liard complex to the late prehistoric complex of Spence River. Eight definable components of the Fort Liard complex (A.D. 1800-1900) include six sites on Fisherman Lake: JcRw-2A (Millar 1968:142); JcRw-3 or N.W.T.-63 (MacNeish 1954:250), JcRw-3B (Millar 1968:122), JcRw-8 (Millar 1968:102), JcRw-13 (Millar 1968:294) and JcRw-20 (Fedirchuk 1970:110). Two additional components comprise the Providence (JiQj-1) site (Noble n.d.) and an early historic burial (JIRi-2) at Fort Simpson (Noble and Anderson n.d.).

In this historic complex, the assemblages include traditional items such as small side-notched points, snubnose end scrapers, rough bifaces and utilized flakes. Historic goods comprise kaolin trade pipes, copper or white metal buttons, iron knives, iron files, iron fish hooks, strike-a-lights, rose-head nails, string nets, lead musket balls and early percussion cap cartridge shells. It is apparent that many items of aboriginal material culture were rapidly supplanted during the early historic fur trade era. Masses of fish bone occur at sites of this period on Fisherman Lake (Millar 1968:110), while at the Providence site beaver bones have been identified.

The late prehistoric Spence River complex, radiocarbon dated A.D. 1760 (I-3192) at the Julian site (JcRw-13/1) on Fisherman Lake (Millar 1968:130), encompasses ten components southwest of Great Slave Lake. They include the Spence River (JcRw-1 or N.W.T.-47) site (MacNeish 1954:249), Julian (JcRw-13/1), Fisherman Lake (JcRw-2-A-1), Klondike (JcRw-3A-1 or N.W.T.-63), JcRw-3B-1, JcRw-8-1E, and Tsuelah (JcRw-16), all on Fisherman Lake (Millar 1968:130, 142, 110, 121, 101, 137), as well as the Kakisa Lake (JfQh-1) and Doré (Pickeral) Point (JhQj-1) sites near the headwaters outlet of MacKenzie River (Noble n.d.).

Specific artifact continuities from the Fort Liard complex appear in Spence River, including the small side-notched projectile points, snubnose end scrapers,

rough bifaces and worked flakes. However, the late prehistoric artifact inventory is much wider, comprising round-based points, linear and circular bifacially chipped Chi-Thos, flake side scrapers, unifaces, drills, net sinkers, blade-like flakes, rare wedges, abraders, pebble hammerstones and cobble flake lithic tools. Of bone implements, the unilaterally barbed harpoon is present as are rib-bone awls and bone picks. Unidentified mammal and fish bones as well as charred berries constitute the known subsistence inventory during this period. Camp sites are invariably located near fishing grounds, which are primarily small inland lakes. This settlement pattern conforms to and supports the ethnological evidence gathered by Helm (1961:9).

At present it is impossible to clarify Slave-Beaver Indian relationships from an archaeological standpoint. If they were formerly related, with the Slave being a northern branch of the Beaver Indians of Peace River, as is suggested by ethnohistoric documentation (Keith 1807), we might expect certain similarities in their prehistoric material culture. Conceivably, the seemingly late prehistoric Freeland site (HbQh-7) at Peace River, sampled in June 1964 by J. V. Wright and W. C. Noble, could be a former Beaver Indian occupation. It is suggested that Freeland be analysed and compared with Spence River in the near future to check this possibility.

The Dogribs and Hare

Absolutely nothing is known yet about Hare Indian archaeology, but linguistic data suggest that they are closely related to the Dogribs (Richardson 1852:245; Howren: personal communication). As such, they are to be kept in mind during the following brief examination of Dogrib ancestry. That the Dogribs have steadily been encroaching upon traditional Yellowknife territory since 1771 is well attested by their early historic and modern distributions.

Hearne (1958:134) met Yellowknives and Dogribs on Point Lake of the Coppermine River in 1771, and apparently feuds developed between the two groups during 1775-1780 over a few remnants of ironware which he left among them (Hearne 1958:116n). In 1789, Northwest Company clerk Laurent Leroux visited Lac la Martre where he encountered 18 small canoes of "Slave" (most probably Dogrib) Indians and four Beaver Indians (Mackenzie 1966:109). The term Slave was applied to many Indian groups at this and later times, and was a favoured Cree appellation for the Dogribs (Richardson 1852:246). Prehistorically, the region north and around the north arm of Great Slave Lake was held by the Yellowknife ancestors (Noble 1971).

Feuds continued between the Dogribs and the Yellowknives after 1800 (Franklin 1969:291) with two deadly encounters in 1823 (Simpson 1843:318) and 1828 (Richardson 1852:209), which so reduced the Yellowknives that Back (1836:457) observed in 1833 that they had been driven from the Winter Lake region to the northeastern shores of Great Slave Lake. From this time on, the Dogribs held the upper hand and became firmly established on the north arm of Great Slave Lake, particularly at old Fort Rae, also known as Mountain Island Post (Russell 1898:69), established in 1852.

Archaeologically, only two periods can presently be defined for the Dogribs, and no great time depth is available. First is the modern era, arbitrarily established as post-1900, and second is the historic Fort Rae phase, 1850-1900.

Of modern remains, both spring and late fall bush settlements have been recorded by the present author. Characteristically, material remains from such sites are very rare, consisting primarily of bone beamers similar to those described by Russell (1898:177, 185), tin cans, cutlery, cartridge shells, toy canoes and model outboard engines of mid-1930 vintage ingeniously cut from

tobacco cans (e.g., 3 in the Sam Otto collection, Yellowknife). This paucity of material items severely inhibits making effective links with the earlier historic period.

Much better preserved, however, are inland Dogrib settlement patterns. Recent late summer tent camps are marked invariably by the presence of erect 2½- to 3-foot high stakes used as wall supports for rectangular canvas tents. When camp is broken, the stakes are simply left standing. Use of wall support stakes is not practised by the Chipewyan on Great Slave Lake, and appears to be a diagnostic modern Dogrib custom. Such camps have been observed on southwestern Artillery Lake, Lower Pike's Portage, Taltheilei Narrows, Winter and Roundrock lakes on the upper Snare River system, and also on the north shore of Acasta Lake, 80 miles southeast of Port Radium, Great Bear Lake (Noble 1971).

Spruce boughs cover the interior floors of these Dogrib tents, with an open hearth centrally positioned. In some instances, the hearth is represented by a 5- to 10-gallon tin can stove.

In August 1966, 30 Dogrib families were located at Taltheilei Narrows. In addition to tents similar to those mentioned above, three traditional conical lodges of caribou skin were observed by the author, with a hearth centrally located within each. In other words, the traditional Dogrib lodge has not entirely disappeared.

That traditional elements still persist in Dogrib settlement pattern is also evidenced at an "Edge of the Woods People" camp, (LcPe-7), located at the northwest end of Roundrock Lake, 150 miles north of Yellowknife. Visited in 1967, this remarkable camp of four brush lodges is removed 22 miles upriver from the modern Dogrib community of nine Government-built log cabins on the north shore of Snare Lake. At LcPe-7, none of the four conical spruce brush lodges opens directly upon the lake, and 5- to 6-foot-high meat platforms as well as brush dog shelters with chaining stakes attend each lodge. In one

instance, a brush menstrual hut lies adjacent to one of the central lodges, but it is separated from the main thoroughfare of the camp.

Also illustrating a transitional refinement at the Roundrock Lake camp is the occurrence of what was a rectangular canvas tent in front of and adjoining each brush lodge. The sidewall support stakes remain, and centrally located within each tent is a hearth $2\frac{1}{2}$ to 3 feet in diameter. Two hearths are bounded by large spruce logs, while two others associated with the two centre habitations in the camp exhibit a traditional pattern of hearth construction. This is the practice of bending a split and notched spruce pole around the hearth's circumference and pegging it in position. Naturalist Frank Russell (1898:161) describes this Dogrib trait in 1894, while Seton (1911:150) documents and illustrates one case of a tent adjoining a Chipewyan caribou skin lodge in 1907. Clearly, transitional features in Dogrib settlement patterns are obvious at LcPe-7.

Only four artifacts were found at the Roundrock Lake camp, one of which helps date its period of occupation. Recovered were two split caribou tibia beamers, one tin plate, and a metal election disc inscribed, 'Vote Bud Orange - X'. This latter item helps date occupancy of the site sometime around 1964, the time when Mr. Orange was first elected as a Liberal M.P. for District of Mackenzie.

Definition of the historic Rae phase of Dogrib development is based upon ethnohistoric descriptions and collections made by the author in 1966 at Old Fort Rae (KaP1-1). At this site, two reasonably intact multi-roomed log buildings remain standing, one of which had 1938 newspapers adhering to a wall. Officially, this site was abandoned by the Hudson's Bay Company sometime shortly before 1910. Historic artifacts include a double-pointed single-eyed awl cut from trade copper, the firing mechanism of a flint-lock rifle, musket balls, copper buttons, strike-a-lights, and various sized steel traps. Russell

(1898:77) also informs us that iron-tipped arrows were in use in 1894, as were beamers, gill nets and the cup and pin game (Russell 1898:177, 168, 181).

Richardson (1852:255) relates that the Dogribs buried their dead rather than practising cremation or scaffold burial, and ground interment continues into the modern Dogrib era (Noble and Anderson n.d.). Much remains to be done to more clearly define historic Dogrib material culture, particularly with regard to persisting lithic and bone specimens of the traditional culture.

To date, no late prehistoric Dogrib components have been identified. Dogrib mythology claims a western or northwestern origin (Franklin 1969:160, 290), an hypothesis which gains some strength on the basis of linguistics, ethnohistory and archaeology. No prehistoric manifestations can presently be attributed to the Dogribs in the region from northern Great Slave Lake to the upper Snare River system (Noble 1971). It thus appears that Dogrib ancestry must be looked for in the bush region west and north of Lac la Martre to southwestern Great Bear Lake. As a working hypothesis, I should like to propose that they did not push into the northwestern area of Great Slave Lake much before 1770. A late prehistoric divergence from the Hare Indians might also be considered in view of their close linguistic ties. Certainly, the Dogribs never fully adapted to life on the tundra in the successful manner that the Yellowknife and Chipewyan did. Transporting wood for use as fuel beyond the timber line (Russell 1898:112; Wheeler 1914:55; Stefansson 1914:46) is an important indication that the Dogribs were and are essentially "bush" Indians.

The Yellowknives

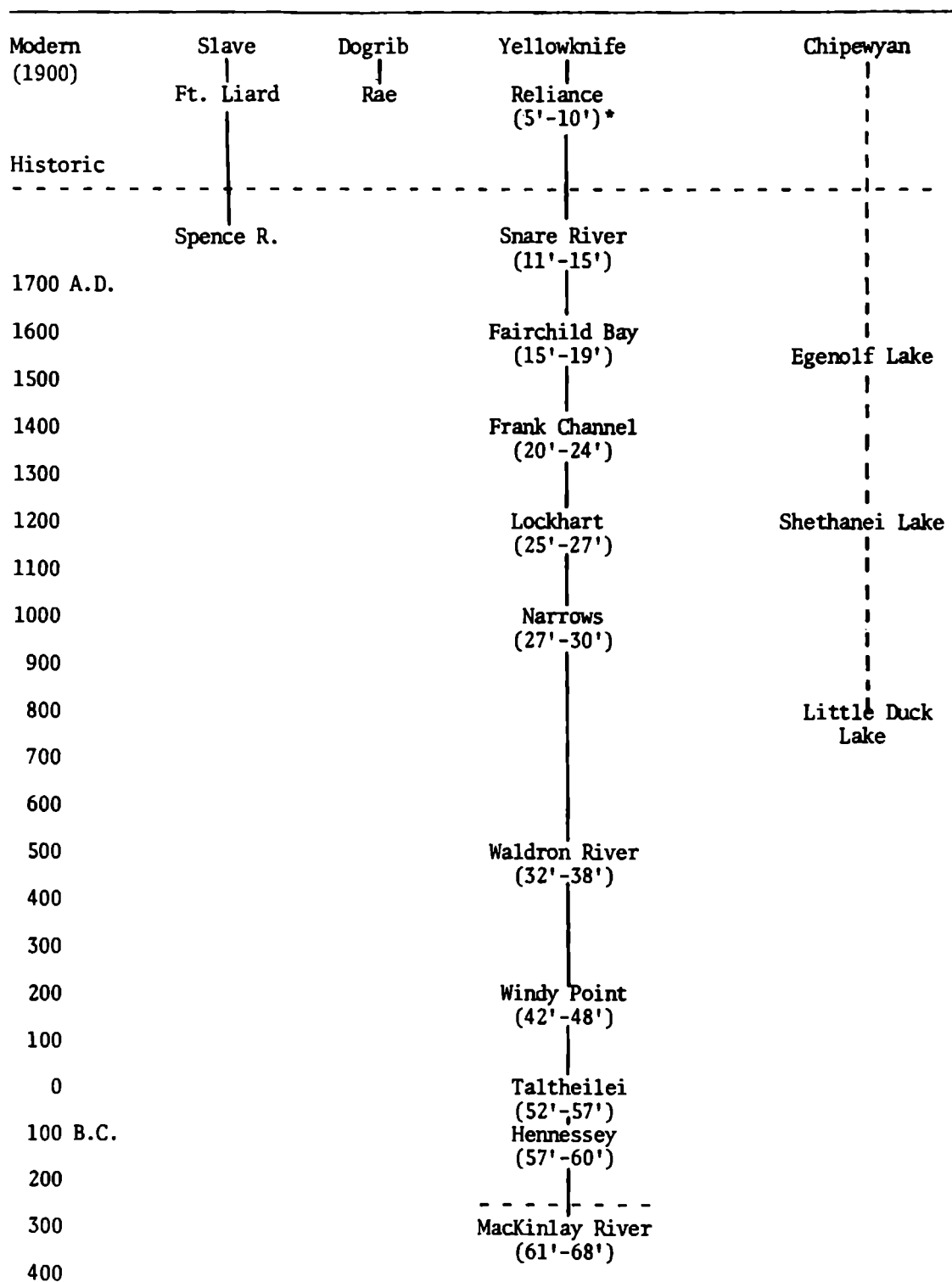
In central District of Mackenzie, the direct historic approach can most effectively be applied to the Yellowknife (Copper, Red Knife or Birchrind) Indians. Known to have formerly spoken a more guttural and archaic dialect of

Chipewyan, the Yellowknives as a cultural entity are extinct today. Formerly they commanded the territory lying between Contwoyto Lake, Back River and Artillery Lake, westward across the north shore of Great Slave Lake, and northward down the Coppermine River, and thence westward to northeastern Great Bear Lake. Many prized caribou crossings and muskoxen grounds lie within this tundra-taiga zone.

On the basis of 118 recorded sites aligned into ten successive complexes, Yellowknife ancestry can be traced through the Taltheilei Shale tradition from A.D. 1840 back to *circa* 200 B.C. Seriation, radiocarbon dating and relative beach line elevations help define this unbroken cultural sequence (Table 1) from the early historic Reliance complex through the prehistoric complexes of Snare River, Fairchild Bay, Frank Channel, Lockhart, Narrows, Waldron River, Windy Point, Taltheilei and Hennessey (Noble 1971). Two of MacNeish's (1951) pioneer complexes, Taltheilei and Lockhart, fit within this Athapaskan tradition, but his mixed Whitefish Lake complex has been largely abandoned.

Definition of modern Yellowknife culture proves frustrating and sorrowful, for even by 1913 they were "losing their tribal identity and becoming amalgamated with the Chipewyans" (Mason 1914:376). Their trade in caribou skins lasted until the early 1920's (Critchell-Bullock 1931:33), but in 1928 an influenza epidemic effectively obliterated the Yellowknives as a distinct cultural entity. While the Federal government moved the few remaining Yellowknife families at Reliance (KeNo-1A) and a small band on Artillery Lake to Snowdrift in 1948, one family refused to go and currently resides at Reliance. Only two or three of the elderly women at Rocher River reputedly still speak the original Yellowknife dialect.

TABLE 1
ARCHAEOLOGICAL SEQUENCES



* Elevations above mean Great Slave Lake level.

More concrete as a starting point for application of the direct historic approach is the early historic era, 1771-1850, with its rich ethnohistoric documentation (Beryl Gillespie: personal communication) and archaeological materials of the Reliance complex (Noble 1971). During the historic Reliance period, side-notched arrowpoints and spears persist (Hearne 1958:79, 91; Franklin 1969:338; Back 1836:289; Noble 1971), with the lance continuing to be the favoured weapon for killing caribou up to at least 1890 (Pike 1892:48, 51, 204). Grey silicious shale, a diagnostic material utilized by the Yellowknives, continues into the historic era from earlier times, and was used for projectiles, bifaces and scrapers. Knives, bayonets and lance heads of native copper are recorded during the 1771-1786 period (Hearne 1958:114; Pond 1930:101, 120), but were gone by 1820 (Franklin 1969:341). This is corroborated by archaeological evidence. Too, split caribou tibia knives and grey soapstone pipes (Back 1836:100; Pike 1892:28, 47) occur in the historic era, but most aboriginal material items were rapidly supplanted with trade goods by 1830 (Noble 1971).

Indicating the acculturated nature of the Reliance complex are European blue glass trade beads, clay pipe stems, copper kettles, iron and copper danglers, brass and pearl buttons, fragments of chinaware and gunflints (Noble 1971). Clearly such items cannot be considered truly diagnostic in applying the direct historic approach, for many Athapaskan groups drew upon the same early historic trading forts of Athabasca River (Pond 1930:122), Grant's House (Mackenzie 1966:30), Resolution (Masson 1960:109), Providence (Mackenzie 1966:38, 40), Enterprise (Franklin 1969:246) and Reliance (Back 1836:182). The territorial distributions of trade items, however, are of importance.

Yellowknife burials during the early historic are ground interments within spruce log tombs (Noble and Anderson n.d.).

Detailed descriptions of the material culture in prehistoric Yellowknife development has been outlined elsewhere (Noble 1971). Suffice it here to mention pertinent highlights and to emphasize that material culture continuities are clearly present. In the late prehistoric Snare River complex (1700-1770), small side-notched points and slender lithic lanceolates occur alongside native copper lanceolates. Too, bifaces, scrapers, bar-like whetstones, circular sandstone Chi-Thos, birch bark tinder rolls, blade-like flakes and caribou bone constitute important items in this complex. Two radiocarbon dates, A.D. 1740 \pm 80 (S-474) and A.D. 1765 (I-4375), help place the Snare River complex within the late prehistoric, and such materials occur on beaches elevated 11-15 feet above the mean 512-foot water level of eastern Great Slave Lake. Typologically, the earlier Fairchild Bay complex (A.D. 1500-1700), found on 15- to 19-foot high beaches (Table 1), immediately precedes Snare River; it exhibits few changes.

Proceeding backwards in time, native copper implements are present in the Frank Channel complex (A.D. 1300-1500), radiocarbon dated A.D. 1280 \pm 70 (GaK-1865) and A.D. 1410 \pm 95 (I-4550). Side-notched and lanceolate points continue to occur as do the bifaces, scrapers, bifacially chipped circular sandstone Chi-Thos, bar-like whetstones, blade-like flakes and unstitched birch bark tinder rolls. Preserved too are bone fish gorges and unilaterally barbed harpoons (Noble 1971), but worked or recognizable net sinkers are missing in this and in the entire Taltheilei Shale tradition sequence. Perhaps unmodified cobbles were utilized to weight netting paraphernalia. In addition to fish, fauna eaten at this time include woodland caribou, black bear, beaver, muskrat, Snowshoe hare, Whistling swans and Canada geese. Frank Channel components lie 20-24 feet above eastern Great Slave Lake.

Generically preceding Frank Channel is the Lockhart complex (A.D. 1100-1300), initially defined by MacNeish (1951:33), and realigned by Noble (1971). During this phase two innovations appear for the first time in the sequence, namely, side-notched and corner-removed lithic points. All other artifacts, however, including lanceolates, persist through to much later times, and help demonstrate a decided element of conservatism and cultural stability over time. Lockhart components lie on northeastern Great Slave Lake beaches elevated 25-27 feet above mean water level.

The Narrows phase (A.D. 800-1100), immediately preceding Lockhart, is radiocarbon dated A.D. 940 ± 160 (GaK-1866) and A.D. 1070 ± 130 (I-4973). Slightly-tapered unground lanceolates with straight bases predominate, alongside the usual complement of bifaces, scrapers, bifacially chipped circular sandstone Chi-Thos, bar-like whetstones and blade-like flakes. Grey silicious shale continues to be the dominant material utilized by the people, while caribou is the common game. Such components lie between 27-30 feet above Great Slave Lake.

The Waldron River complex (A.D. 400-800), generically earlier than Narrows, is identical to McGhee's (1970:62-63) Willowherb and Lapointe sites on the lower Coppermine River, dated A.D. 500 ± 80 (S-468) and A.D. $570 \pm$ (S-466). Unground narrow lanceolates with slightly tapered bases are characteristic with bifaces, scrapers, circular Chi-Thos, bar-like whetstones and blade-like flakes persisting in numbers. Such components measure 32-38 feet high around northeastern Great Slave Lake, and the Waldron River (KfNt-1) type site is dated A.D. 385 ± 90 (I-5821).

During the next earlier phase, Windy Point (A.D. 200-400), short, straight to contracting stem points with unground bases make an appearance alongside the usual straight-sided unground lanceolates (Noble 1971). Bifaces, scrapers,

bifacially chipped circular sandstone Chi-Thos, blade-like flakes and wedges continue, and a small native copper awl or punch tip is known. Dependency upon caribou is evident, and Windy Point components invariably lie 42-48 feet above the mean northeastern Great Slave Lake level.

Generically preceding Windy Point is the Taltheilei complex (A.D. 0-200), redefined by Noble (1971) from MacNeish's (1951:38) early definition. In this period, the diagnostic large, ground-stemmed Taltheilei lanceolate makes its appearance, alongside the shorter, ground-stemmed Hennessey and MacKinlay point varieties, as well as long, narrow straight-sided lanceolates (Noble 1971). Aside from these changes in projectiles, the remainder of the lithic assemblage remains unchanged from Windy Point times. As explained elsewhere (Noble 1971), Taltheilei and Hennessey points are not to be confused with points of the Palaeo-Indian Cody complex. MacNeish's Taltheilei site (KdNw-1) measures 56 feet above present Great Slave Lake, and a radiocarbon date of A.D. 160 ± 70 (S-465) from the typologically similar Sandwillow site (McGhee 1970:61) is presently convincing.

Taltheilei clearly arises from the Hennessey complex (200 B.C. - A.D. 0) with its short, ground-stemmed lanceolates. Other point forms at this time also include short, slender MacKinlay points with ground bases, short unground pentagonal points and a rare bipointed specimen (Noble 1971). Bifaces, scrapers, bifacially flaked circular sandstone Chi-Thos, blade-like flakes, wedges, choppers and bipolar hammerstones occur in grey silicious shale, red jasper, multicoloured cherts, basalt and various quartzites. This complex bears certain specific similarities to Millar's (1968:297) Mackenzie complex, dated A.D. 20 ± 160 (I-3191).

Hennessey arbitrarily marks the beginning of the Taltheilei Shale tradition, which is undoubtedly of northeastern central Athapaskan affinities underlying ultimate Yellowknife-Chipewyan development. Yet earlier complexes have a bearing on its ultimate origins. On northeastern Great Slave Lake, between

61-68 feet in elevation, the MacKinlay River complex has been defined (Noble 1971). Estimated to date 400-200 B.C., this complex exhibits an interesting blend of typical late Arctic Small Tool materials in association with specific implements which follow through into Hennessey.

MacKinlay River exhibits short, slender ground-based MacKinlay points, which are clear prototypes for the later Hennessey and Taltheilei lanceolates. Too, thin grey silicious shale bifaces occur alongside various scrapers, blade-like flakes, and the bipolar hammerstone tool of later times. But certainly distinctive are small tools including small concave-based chert points, rare semilunar lateral insets, rare unworked microblades and a series of small tool scrapers. This complex clearly arises from a seriated series of three other late small tool complexes of apparent northern derivation termed the Canadian Tundra tradition, cross-dated to *circa* 1200-200 B.C. (Noble 1971).

Two working hypotheses arise concerning ultimate origins for the Taltheilei Shale tradition. One is that it arises from MacKinlay River and by extension the whole northern derived small tool Canadian Tundra tradition, which would have to be considered some form of proto-Athapaskan. Second is the hypothesis that MacKinlay River reflects a blended admixture of Indian and small tool cultures. Many Arctic specialists consider such small tool assemblages to be early Eskimo.

Yellowknife origin mythology helps little and, at present, appears to be highly unreliable. Franklin (1969:287) documents that by their own account, the Yellowknives "inhabited the south side of Great Slave Lake, at no very distant period." Undeniably, they did inhabit the south shore in the later periods, but archaeology currently indicates that their ancestors also occupied extensive regions north of Great Slave Lake in relative geographic isolation for a period spanning at least 2000 years.

The Caribou-Eater (Eastern) Chipewyan

To date, little may be cited concerning Caribou-Eater (Eastern) Chipewyan archaeology. Modern remains have been investigated in the Mackenzie and Keewatin Districts (Irving 1968:50; Noble n.d.), and Nash (1970:80-85) is making advances in defining prehistoric Chipewyan components in northern Manitoba, where their probable ancestry extends back to A.D. 660 at least. However, no tightly continuous archaeological sequence is available to apply the direct historic approach precisely.

It is certain that in the early historic era the Caribou-Eater Chipewyan and the Yellowknives were separate entities (Hearne 1958:84), a fact subsequently documented by Back (1836:154) and by Franklin (1969:287), who also states that originally the two peoples were one group. Accordingly, this ethnohistoric data raises two immediate questions: What was the nature of the separation; and, when did it occur?

As yet unresolved, the first question begs the query: Who exactly separated from whom? Did the Yellowknives, in fact, diverge from the eastern Chipewyan as Franklin suggests, or was it vice versa? The Yellowknives are often cited in the early literature as having spoken an older and more guttural, clicked dialect than the eastern Chipewyan (Hearne 1958:80; Back 1836:154; Seton 1911:148; Mason 1914:375-376), which offers the implication that the Caribou-Eater dialect is a more recent development. Linguists might well consider and hopefully clarify this problem with its inherent possibilities of former isogloss shifts. But it is also pertinent to point out that the nature of separation between the eastern Chipewyan and the Yellowknives is not solely linguistic. Archaeologically, substantially subtle differences are already apparent between the two groups, particularly with regard to material culture and adaptive regional distributions through time and over space. The material culture of these two Chipewyan groups

appears to be operating independently of the linguistics.

As to the question of when separation may have occurred, the archaeology in central District of Mackenzie and northern Manitoba currently points to a period in prehistoric times. On the basis of preliminary comparisons between Nash's (1970) materials from Little Duck, Shethanei and Egenolf lakes with contemporaneous assemblages in central District of Mackenzie (Noble 1971), it is suggested here that the separation most probably occurred sometime before A.D. 1400.

Lexico statistical estimates presently offer little help in dating the eastern Chipewyan sequence. Nash's (1970:81-85) radiocarbon dates of A.D. 660 \pm 110 (I-3033) and A.D. 960 \pm 110 (I-3032) from Little Duck Lake, A.D. 1180 \pm 80 (GaK-2341) from Shethanei Lake and the A.D. 1490 \pm 80 (GaK-2342) Egenolf Lake site do not smoothly align with Hoijer's (1956) estimates. Hoijer (1956:228) once suggested that the eastern Chipewyan-Beaver Indian divergence occurred about 475 years ago, and that the Southern Athapaskans diverged from the Northern Athapaskans (including the modern Chipewyan) less than 1000 years ago. Clearly, the estimate of Northern and Southern Athapaskan divergence does not align with the archaeological date for Athapaskan assemblages in either northern Manitoba or central District of Mackenzie.

Eskimo in Central Mackenzie

Scattered data may also briefly be synthesized concerning applications of the direct historic approach to various Eskimo groups which have penetrated into central District of Mackenzie. Eskimos and Athapaskans, mutually wary of one another, had encounters in the central interior which sometimes met with bloodshed (Hearne 1958:74, 98; Franklin 1969:289; Back 1836:197).

In recent times, Eskimo have penetrated deep into the central interior of what was formerly traditional Yellowknife hunting territory. Topographic surveyor Guy H. Blanchet (1925:14, 1964:39) relates finding fresh seal fur at the southwest end of Aylmer Lake during his summer work of 1924. Also on the upper Lockhart River, the present author (Noble n.d.) located a large rock cairn in 1967 at the northwestern end of Outram Lake (LaNq-1), 21 miles west of Blanchet's find. Having Eskimo affinities, this cairn cannot be dated definitely, but in all probability it too is relatively modern. The most probable Eskimo people responsible for the seal fur on Aylmer Lake during the mid 1920's are the Kiluhikturmiut from near Bathurst Inlet (David Damas: personal communication); they were probably extending their late summer hunting territory at a time when the greatly reduced Yellowknives were no longer exploiting their former caribou and musk oxen hunting grounds on the upper Lockhart. During the mid-1920's, the Yellowknife hunting range appears to have contracted primarily to Artillery Lake (Critchell-Bullock 1931:33).

Elsewhere in the interior, remains attributable to the Copper Eskimo occur at the Pike's site (LiNj-1) on the middle Back River. Of recent historic age, this site was described by Warburton Mayer Pike (1892:148-186) during the summer of 1890. Here he was informed by his Yellowknife guide that occupation had been relatively recent and intermittently seasonal, judging from the nature of undressed sealskin and caribou horn core remains. Native copper, a soapstone bowl and musk ox horn spoons were collected.

That the Copper Eskimo were resorting to the region just west of the lower Coppermine River in late prehistoric times is indicated at the multicomponent Kamut Lake (MePn-1) site (Harp 1958:233). Here, bone debris mentioned by Harp was traced in 1968 by the present author to a 4-foot diameter hearth buried 6 inches deep. A radiocarbon return of A.D. 1740 \pm 90 (I-3956) run on burned caribou

remains is in accord with similarly dated Copper Eskimo sites on southwestern Victoria Island (McGhee 1968). Two artifacts at Kamut Lake (Harp 1958:Fig. 7: 4-5) appear to be attributable to the prehistoric Copper Eskimo.

Summary Remarks

Application of the direct historic approach in central District of Mackenzie has only now begun and has proven rewarding with regard to the Yellowknife branch of the Chipewyan family. Beginning with the historic era, Yellowknife ancestry can be traced back into the Taltheilei Shale tradition, which represents one of the most complete and continuous developments yet defined for a central Northern Athapaskan group. Currently, archaeological evidence indicates that Athapaskans have occupied central District of Mackenzie for 2000 years at least.

As indicated in Table 1, much more archaeological data are needed in order to clarify the short Slave, Dogrib and Hare sequences. Too, it is imperative that tight chronological sequences be formulated for each band grouping, for major temporal gaps offer no real assurance of generic continuity. Particularly helpful will be the closing of the Caribou-Eater development in order to more precisely assess its relationship with ancestral Yellowknife development. Once chronological frameworks are assembled for each branch grouping, then more sophisticated attempts at applying the direct historic approach should be in the offing.

Ultimate origins for the various Athapaskan traditions in Mackenzie District remain in doubt. MacNeish (1959:14) once suggested that the Northwest Microblade tradition, in part, underlay such continuums, but however intriguing and visionary this hypothesis may be, it must be realized that it is based on rather scanty evidence. In central District of Mackenzie, the Northwest Microblade tradition does not appear east of Great Bear and Great Slave lakes (Noble 1971).

Instead, a different and later small tool manifestation, the Canadian Tundra tradition (*ca.* 1200-200 B.C.), temporally precedes the recognizable Athapaskan continuums. In fact, Canadian Tundra also shows specific generic continuities to the Taltheilei Shale tradition, but whether Canadian Tundra can in whole or part be considered proto-Athapaskan remains problematical.

Finally, on a plane of higher taxonomy, it is now apparent that MacNeish's (1959:13) Denetasiro tradition could be broadened and elevated to the level of an archaeological co-tradition if it is to be retained in the literature. Indeed, present difficulties in defining any type of overall homogeneous Northern Athapaskan culture pattern caution against premature usage of this concept. We are still in the stage of having to define basic chronologies and component traditions for various band groupings. In central District of Mackenzie, the direct historic approach offers an effective means of accomplishing this task.

REFERENCES

- ANDERSON, James
1857 Extracts from Chief Factor James Anderson's Arctic Journal. *Journal of the Royal Geographic Society* 27:321-328.
- BACK, Captain (Sir George)
1836 *Narrative of the Arctic Land Expedition to the Mouth of the Great Fish River, &c., in the Years 1833, 1834, and 1835.* London.
- BLANCHET, Guy H.
1925 An Exploration into the Northern Plains North and East of Great Slave Lake, Including the Source of the Coppermine River. *Canadian Field Naturalist* 39(1):12-16, (2):30-34, (3):52-54.
1964 Exploring with Sousi and Black Basile. *The Beaver* 295:34-41.
- CRITCHELL-BULLOCK, J.C.
1931 An Expedition to Subarctic Canada, 1924-1925. *Canadian Field Naturalist* 45(1):11-18, (2):31-35.
- FEDIRCHUK, Gloria
1970 Recent Archaeological Investigation at Fisherman Lake: The Julian Site. In *Early Man and Environments in Northwest North America*, R.A. and J.W. Smith, Eds. Calgary: The Students' Press. pp. 105-116.
- FORBIS, Richard G.
1963 The Direct Historic Approach in the Prairie Provinces of Canada. *Great Plains Journal* 3(1):1-8.
- FRANKLIN, Captain John
1969 *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22.* Edmonton: Hurting.
- HARP, Elmer, Jr.
1958 Prehistory in the Dismal Lake Area, Canada. *Arctic* 11(4):219-249.
- HEARNE, Samuel
1958 *A Journey to the Northern Ocean.* R. Glover, Ed. Toronto: The Macmillan Company of Canada.
- HELM, June
1961 The Lynx Point People: The Dynamics of a Northern Athapaskan Band. *National Museum of Canada Bulletin* 176.
- HOLJER, Harry
1956 The Chronology of the Athapaskan Languages. *International Journal of American Linguistics* 22(4):219-232.

- IRVING, William N.
1968 The Barren Grounds. In *Science, History and Hudson Bay*. C.S. Beals and A. Shenstone, Eds. Vol. 1. Ottawa. pp. 26-54.
- KEITH, George
1807 Letter to Roderic MacKenzie, January 7th, 1807. Public Archives of Canada. Ottawa.
- KING, Richard
1836 *Narrative of a Journey to the Shores of the Arctic Ocean in 1833, 1834 and 1835*. 2 vols. London.
- MACKENZIE, Sir Alexander
1966 *Exploring the Northwest Territory: Sir Alexander MacKenzie's Journal of a Voyage by Bark Canoe from Lake Athabasca to the Arctic Ocean in the Summer of 1789*. T.H. McDonald, Ed. Norman: University of Oklahoma Press.
- MACNEISH, Richard S.
1951 An Archaeological Reconnaissance in the Northwest Territories. *National Museum of Canada Bulletin* 123. pp. 24-41.
1954 The Pointed Mountain Site Near Fort Liard, N.W.T., Canada. *American Antiquity* 19(3):234-53.
1959 A Speculative Framework of Northern North American Prehistory as of April 1959. *Anthropologica* n.s. 1:1-17.
- MASON, J. Alden
1914 On Work Among Northern Athabaskan Tribes, 1913. *Geological Survey of Canada, Summary Report for 1913, Sessional Paper No. 26*. Ottawa. pp. 375-376.
1946 Notes on the Indians of the Great Slave Lake Area. *Yale University Publications in Anthropology* No. 34.
- MASSON, Louis F.R.
1960 *Les Bourgeois de la Compagnie du Nord-Ouest*. New York: Antiquarian Press.
- MCGHEE, Robert
1968 Copper Eskimo Archaeology. Ph.D. Dissertation, The University of Calgary, Calgary.
1970 Excavations at Bloody Falls, N.W.T., Canada. *Arctic Anthropology* 6(2):53-72.
- MILLAR, James F.V.
1968 Archaeology of Fisherman Lake, Western District of MacKenzie, N.W.T. Ph.D. Dissertation, The University of Calgary, Calgary.

- NASH, Ronald J.
1970 The Prehistory of Northern Manitoba. In *Ten Thousand Years*. W.M. Hlady, Ed. Winnipeg: Manitoba Archaeological Society. pp. 76-92.
- NOBLE, William C.
n.d. Archaeological Sites in the Central Northwest Territories, 1966-69. Manuscript, 385 pp., in possession of author and on file with the Archaeological Survey of Canada, National Museum of Man, Ottawa.
1971 Archaeological Surveys and Sequences in Central District of MacKenzie, N.W.T. *Arctic Anthropology* 8(1):102-135.
- NOBLE, W.C. and J.E. ANDERSON
n.d. Contributions to Central Northern Athapaskan Osteology and Burial Patterns. Manuscript in possession of authors, McMaster University, Hamilton.
- PIKE, Warburton Mayer
1892 *The Barren Ground of Northern Canada*. London.
- POND, Peter
1930 *Peter Pond: Fur Trader and Adventurer*. Harold A. Innis, Ed. Toronto: Macmillan.
- RAE, Dr. John
1850 *Narrative of an Expedition to the Shores of the Arctic Sea*. London.
- RICHARDSON, Sir John
1852 *Arctic Searching Expedition: A Journal of a Boat-Voyage Through Ruperts Land and the Arctic Sea*. New York: Harper's Bros.
- RUSSELL, Frank
1898 *Explorations in the Far North*. Iowa City: University of Iowa.
- SETON, Ernest Thompson
1911 *The Arctic Prairies*. New York: Chas. Scribner's Sons.
- SIMPSON, T.
1843 *Narrative of the Discoveries on the North Coast of America*. London: Richard Bentley.
- STEFANSSON, Vilhjalámur
1914 The Stefansson-Anderson Arctic Expedition of the American Museum: Preliminary Ethnological Report. *Anthropological Papers of the American Museum of Natural History* 14(1).
- STEWART, Julian J.
1942 The Direct Historic Approach to Archaeology. *American Antiquity* 7(4):337.
- WHEELER, David E.
1914 The Dog-Rib Indian and His Home. *Bulletin of the Geographical Society, Philadelphia* 12(2):1-23.

NORTHERN ATHAPASKAN RESEARCH: SOME COMMENTS

Richard Slobodin

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NORTHERN ATHAPASKAN RESEARCH: SOME COMMENTS

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Résumé

Au lieu de faire le résumé et la critique des communications présentées à la conférence et reproduites dans le présent volume, ce rapport final traite du caractère relativement récent de l'intérêt scientifique porté aux recherches sur les cultures des Athapaskan septentrionaux; il souligne en outre la nécessité de formuler une théorie à portée beaucoup plus générale et de synthétiser les connaissances acquises. Le rapport donne également un aperçu de certaines lacunes d'ordre ethnographique existantes et propose diverses méthodes qui méritent d'être davantage exploitées dans les recherches sur les Athapaskan septentrionaux.

Abstract

Instead of being a summary and critique of the papers presented at the conference and published in this volume, this concluding treatise discusses the relative recency of research interest in Northern Athapaskan cultures by scientific scholars and points out the need for both development of theory at a greater range of generalization and a synthesis of extant knowledge. It also outlines a number of existing ethnographic lacunae and suggests various approaches that warrant further application in Northern Athapaskan research.

The conference sponsored by the National Museum of Man in March, 1971, brought together many of the anthropologists who have contributed to research among Athapaskan-speaking peoples in the western American Subarctic. All sub-disciplines except physical anthropology were represented. It is a striking fact, and one of more than anecdotal interest, that among the participants were the two ethnographers who inaugurated professional work among Northern Athapaskans in recent times: Cornelius Osgood, who entered the field in 1928, and Robert McKennan, who first went north in 1929.¹

Throughout the 1930's there was a very slight increase in Northern Athapaskan research, with the continued work of Osgood and McKennan and the collaboration of Birket-Smith and de Laguna (1938), as well as novice efforts by the present writer. During World War II, the only significant development in Northern Athapaskan research was the early work of John and Irma Honigmann in northern British Columbia.

The staggering sociocultural changes in the American North which became manifest in the years immediately following the war were not at first paralleled by an influx of social researchers, although two scholars whose work has proved to be important, June Helm and Catharine McClellan, became active during this period. I believe it was justifiable to say, a dozen years ago, that the area "has not been crowded with field workers" (Slobodin 1962:3).

In short, systematic study of Northern Athapaskan-speaking peoples is on the whole a recent undertaking.² The situation presents interesting, even dramatic opportunities, as so much has yet to be learned. It seems fair to say that in linguistics and in archaeology, only a beginning, although a good beginning, has been made. In ethnography, hitherto undelineated communities turn up, such as the Dihai Kutchin, which disintegrated in mid-nineteenth century and was unreported in the literature until 1935 (McKenna 1935; Hadleigh-West 1959; Hall 1969), or the little-known "Mountain Indian" band

¹This leaves out of account the work of Jenness in the 1920's among the marginal, atypical Carrier (1934, 1943). In justice, any student of Northern Athapaskans must acknowledge his debt to those doughty Oblate priests, Fathers Emile Petitot and Adrien Morice. It is in no sense a denigration of their immense efforts in the late nineteenth century to say that their publications comprise valuable source material which must be scrutinized and used with care, in the light of information and viewpoints not available to them. It is also true that several first-rate anthropologists dipped into the Northern Athapaskan area early in this century; e.g. Lowie (1909, 1912) and Mason (1946, based on a visit in 1913), but these were brief trips, outside of the main current of their work.

²The sense of recency is accentuated by several lengthy intervals -- in some cases over twenty years -- between dates of fieldwork and dates of publication.

(Michéa 1963), or the Kolchan, not known until recently to possess ethnic distinctiveness (Hosley 1968).

It will not be surprising if, with a larger number of researchers at work than previously, identification is made of additional ethnic or dialect groups unmentioned in the literature. These and similar considerations enhance the excitement of research in an area where, in a sense, exploratory work is still being done.

The brevity of the history of Northern Athapaskan studies doubtless also accounts in large part for the relative immaturity of work in this area, taken as a whole. As suggested earlier, this work remains largely at the ethnographic level. The ensuing remarks refer to the subject matter and the level of organization of Northern Athapaskan work, but not at all to its quality. It is not the competence of Northern Athapaskanists that is in question -- and I hope my colleagues will not damn my impudence for even raising such a question -- but rather the level of maturity of the research as a whole.

We have not, so far, produced very much in the way of synthesis on the ethnological level, nor what in Robert Merton's terms might be called middle-range theory. Theory at a greater range of generalization may have been developed by some anthropologists working in this area, but not as Northern Athapaskanists. What we have produced is a somewhat random series of pictures, in greater or less detail, which taken together produce some strong impressions; a "feel" about the material which, taken with our own field experience, each of us experiences in regard to the particular people or region with which he or she is most familiar. The overall scene is full of lacunae. In our writings we refer to each other's work a great deal, but we seem to do so rather for ethnographic corroboration -- or the converse --

than in order to take up issues on the nature, definable units, and dynamics of social/cultural organization, or the factors involved in continuity and change. This is not to deny that interesting and in some cases highly persuasive statements have been made, tentative conclusions drawn, or provocative questions raised. The fate of these, however, is for the most part either to be let alone and apparently ignored, as with McKennan's challenge to the belief that clan organization among the northwestern peoples of the area is largely due to diffusion from the Pacific Coast (1959, 1965), or they are more or less accepted without much discussion, as with Helm's definition of social units among the Dogrib (1965).

Osgood's Ingalik monographs (1940, 1958, 1959), highly original and distinctive as they are in several respects, seem to have suffered the fate of "classics" -- admired, read, it is true; but not used, except as ethnographic sources.

As for Honigmann's (1949, 1954) exposition of personality formation among the Kaska and other northern peoples, which constitutes perhaps the most extensive and closely argued body of theoretical writing in Northern Athapaskan research, it has long cried out for reexamination and development. Alas, we do not number a Hallowell among us. That we can boast no parallel to the drawnout debate on Ojibwa "atomism" is perhaps not altogether to be regretted, but it does reflect a certain lack of intellectual liveliness in our interchanges. At any rate, a Northern Athapaskanist prepared and able to reexamine the Honigmanns' work has yet to appear -- unless it be the Honigmanns themselves.³

³A challenging effort in studying individual variation in personality within a community was organized by Helm, relying principally on the Rorschach projective test (Helm, DeVos, and Carterette 1963). I am not aware of further publication along this line.

This situation tends to make Northern Athapaskan work -- and I am referring principally to social/cultural anthropology -- interesting ethnographically but not, as yet, very interesting theoretically. The contrast with analogous work in parts of Africa, Melanesia, or for that matter, the Eskimo culture area, is striking.

The major interests of Northern Athapaskanists, insofar as these are manifested in publication, are fairly well reflected in the present Conference papers. They are:

1. Ethnographical data organized around or illustrating a particular theme or problem: Savishinsky, Osgood, A. Clark, Slobodin.
2. Ethnological studies within the area: McClellan, de Laguna, Honigmann.
3. Ethnohistory and proto-history: Gillespie, Noble, Morlan, Helm, D. Clark.
4. Social ecology: Smith.

Of the linguistic papers, I would venture to say that Davis's is on the ethnographic level; that of Howren, on the ethnological.

In one respect the roster of Conference papers is not quite representative of recent Northern Athapaskan work. There is only one paper dealing directly with social ecology, whereas the ecological approach has been a dominant one in the ethnography and ethnology of the area. However, ecological considerations are important in several other papers, particularly those of Donald Clark, Gillespie, and Savishinsky. Indeed, such considerations are lacking in few of the Conference contributions. Much, if not most recent work in the cultural anthropology of the area, including the archaeology, has been developed from premises in social ecology, or in one or another kind of historical approach, or in a combination of both. There

is little doubt that Northern Athapaskan work during the past decade or two has been strongest in cultural ecology and ethnohistory.

It is to be hoped, and in fact it is likely, that in the near future certain interests will be taken up or developed by currently active researchers or by younger anthropologists moving into Northern Athapaskan work. The emphasis here is upon cultural and social anthropology; I am not qualified to suggest what may be done in other subdisciplines. R. A. McKennan concluded his contribution to the 1965 National Museum of Canada Conference on Band Societies by listing eight "gaps in our knowledge" (1969:110-111). His statement is so cogent that nothing need be added from the point of view expressed therein, which is that of areal ethnology; that is, what needs to be known about the societies in question. The kinds of work listed below, which it seems to me are needed, are given from the standpoint of the organization and development of cultural and social anthropology; that is, how anthropology as a whole can profit from Northern Athapaskan studies.

1. Economic-ecologic studies, including those focusing on household economies and using fairly precise quantitative data representing production, consumption and distribution of goods and services. Some work of this sort has been done, and more is in hand at this writing.

2. Specific analyses of social organization in terms and in form such that they can be utilized by students of societies in other areas. Some Northern Athapaskan studies of this sort are in print, but it seems to me that not many have the cogency, for comparative purposes, of such a work as Dunning's for Northern Ojibwa (1959) or Damas's for Iglulik Eskimo (1963).

3. Studies of religion, cosmology, ideology, both pre-Christian or early contact, and modern. The cumulative picture of the pre-Christian ideology, or of allegedly surviving features of it in recent times, seems

quite inadequate.

4. Studies of Northern Athapaskan art, in the broad sense of the term, or to employ a current term, the expressive culture. For some, perhaps a majority of cultures in the area, the most developed arts appear to have been the verbal and the musical. Little ethnomusicology has been published for the area. As for oral literature, even at the ethnographic level, the recording of myths and tales has not been very precise or full. With the notable exception of McClellan's recent work (1970), little that has been done in folkloristics equals in accuracy and comprehensiveness the collections of Petitot, published between 1876 and 1890. Most published tale collections or song texts are, or seem to be, brief paraphrased translations. Much can be done here, and it would not be all salvage ethnography. For example, it is possible, or it was a very few years ago, to make extensive collections of tales told by children. These are not, of course, all traditional tales, although they contain much traditional material, but they are very interesting on many grounds.⁴

An outstanding study of expressive culture is Helm and Lurie's work on the Dogrib hand game, with technical analyses by Gertrude Kurath (Helm *et al.* 1966). This study sets a standard for others which might be made from various viewpoints. Certainly the phenomena are there to be observed and analysed, since gambling and sport are important in most if not all Northern Athapaskan societies.

There is no need to stress the opportunities for, or the usefulness of, community studies, for it is likely that these will continue to be produced.

⁴An interesting kind of content analysis of folktales was that in which the Africanist Ronald Cohen participated during an Americanist interlude in his work (Cohen and VanStone 1963; Voudrach 1967). While it was not, in my personal view, entirely successful or convincing, it merited more discussion, challenge and follow-up than it seems to have enjoyed.

There is also no need to point out the value of work that is being done very well, such as ethnohistorical, ecological, and other studies combining field-work and archival research.

No doubt any other of the people interested in Northern Athapaskan social research would come up with a set of priorities somewhat different from that set forth above. I venture to believe, however, that there would be a good deal of overlap and consensus in our views on research needs.

Perhaps at some future date, we or our successors may have accumulated enough information and understanding to reach some agreement on some of the major questions concerning the peoples and cultures we have attempted to study. One such question is: how much justification is there, other than custom, convenience and linguistic analogy, in speaking of "Northern Athapaskan research," and, by implication, a Northern Athapaskan culture area?

REFERENCES

- BIRKET-SMITH, Kai and Frederica DE LAGUNA
1938 *The Eyak Indians of the Copper River Delta*. Copenhagen: Det. kgl. Danske Videnskaberens Selskab.
- COHEN, Ronald and James W. VANSTONE
1963 Self-Sufficiency and Dependency in Chipewyan Stories. Contributions to Anthropology 1961-62, Part. 2. *National Museum of Canada Bulletin* 194:29-55.
- DAMAS, David J.
1963 Igluligniut Kinship and Social Organization: A Structural Approach. *National Museum of Canada Bulletin* 196.
- DUNNING, R.W.
1959 *Social and Economic Change among the Northern Ojibwa*. Toronto: University of Toronto Press.
- HADLEIGH WEST, Frederick
1959 On the Distribution and Territories of the Western Kutchin Tribes. *Anthropological Papers of the University of Alaska* 7(2):113-116.
- HALL, Edwin S., Jr.
1969 Speculations of the Late Prehistory of the Kutchin Athapaskans. *Ethnohistory* 16(4):317-33.
- HELM, June
1965 Bilaterality in the Socio-Territorial Organization of the Arctic Drainage Dene. *Ethnology* 4:361-385.
- HELM, June and Nancy O. LURIE
1966 The Dogrib Hand Game; with Notes by G. Kurath on Dogrib Choreography and Music. *National Museum of Canada Bulletin* 205.
- HELM, J., G.A. DEVOS, and T. CARTERETTE
1963 Variations in Personality and Ego-Identification within a Slave Indian Community. Contributions to Anthropology 1960, Part 2. *National Museum of Canada Bulletin* 190:94-138.
- HONIGMANN, J.J.
1949 Culture and Ethos of Kaska Society. *Yale University Publications in Anthropology* No. 40.
1954 The Kaska Indians: An Ethnographic Reconstruction. *Yale University Publications in Anthropology* No. 51.
- HOSLEY, Edward
1968 The Kolchan: Delineation of a New Northern Athapaskan Indian Group. *Arctic* 21:6-11.

JENNESS, Diamond

- 1934 Myths of the Carrier Indians. *Journal of American Folk-Lore* 47:97-257.
- 1943 The Carrier Indians of the Bulkley River. *Bureau of American Ethnology Bulletin* No. 133.

LOWIE, Robert H.

- 1909 An Ethnological Trip to Lake Athabasca. *American Museum Journal* 9:10-15.
- 1912 Chipewyan Tales. *Anthropological Papers of the American Museum of Natural History* No. 10:171-200.

MASON, J. Alden

- 1946 Notes on the Indians of the Great Slave Lake Area. *Yale University Publications in Anthropology* No. 34.

MCKENNAN, Robert A.

- 1935 Anent the Kutchin Tribes. *American Anthropologist* 37:369.
- 1959 The Upper Tanana Indians. *Yale University Publications in Anthropology* No. 55.
- 1965 The Chandalar Kutchin. *Arctic Institute of North America Technical Paper* No. 17. Montreal.
- 1969 Athapaskan Groupings and Social Organization in Central Alaska. Contributions to Anthropology: Band Societies. *National Museum of Canada Bulletin* 228:93-114.

MCCLELLAN, Catharine

- 1970 The Girl who Married the Bear. *National Museums of Canada Publications in Ethnology* No. 2.

MICHEA, Jean

- 1963 Les Chitragottnéké: essai de monographie d'un groupe Athabascan des Montagnes Rocheuses. Contributions to Anthropology 196, Part 2. *National Museum of Canada Bulletin* 190:49-93.

OSGOOD, Cornelius

- 1940 Ingalik Material Culture. *Yale University Publications in Anthropology* No. 22.
- 1958 Ingalik Social Culture. *Yale University Publications in Anthropology* No. 53.
- 1959 Ingalik Mental Culture. *Yale University Publications in Anthropology* No. 56.

SLOBODIN, Richard

1962 Band organization of the Peel River Kutchin. *National Museum of Canada Bulletin* 179.

VOUDRACH, Paul

1967 Good Hope Tales. With summaries and analysis by Ronald Cohen and Helgi Osterreich. *Contributions to Anthropology* V. *National Museum of Canada Bulletin* 204:1-58.

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Each component of the National Museum of Man, (the History and Communications Divisions, the Canadian Ethnology Service, the Archaeological Survey of Canada, the Canadian Centre for Folk Culture Studies and the Canadian War Museum), provides papers for publication in the Mercury Series. These are available from the following address on receipt of a cheque made payable to the Receiver General of Canada. Since the mark-up on these publications is negligible no discount is allowed for bulk or institutional sales.

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- No. 20 "From the Earth to Beyond the Sky: An Ethnographic Approach to four Longhouse Iroquois Speech Events" by Michael K. Foster. 448 p., 8 tables, 16 figures, \$5.00

This study is an analysis of four structurally related rituals of the Longhouse Iroquois of Southern Ontario: the Thanksgiving Address, the Great Feather Dance, the Skin Dance and the Tobacco Invocation. Transcribed and translated text included as appendices.

1975

- No. 21 "Bella Coola Ceremony and Art" by Margaret A. Stott. 153 p., 11 figures, 16 plates. \$2.25

The aim of this study is to lend ethnological importance to a collection of material culture, by revealing the relationship of Bella Coola ceremonialism and art with other aspects of society, and offering an analytical summary of Bella Coola art style. Contemporary ceremonialism and art are also described and analysed.

- No. 22 "A Basketful of Indian Culture Change" by Ted J. Brassler. 121 p., 74 figures. \$2.00

Analysis of the decorative patterns on aboriginal woven and woodsplint basketry, which reveals the tenacious survival of basic artistic concepts of aboriginal origin. The woodsplint technique was adopted by the Indians to adapt their crafts to White market. Ethno-historical value of museum collections is demonstrated.

- No. 23 "Papers of the Sixth Algonquian Conference, 1974" edited by William Cowan. 399 p. \$4.50

The Sixth Algonquian Conference was held in Ottawa, in October 4-6, 1975. It was an inter-disciplinary conference embracing archaeology, history, ethnology and linguistics, and this collection comprises most of the papers presented.

- No. 24 "Canadian Ethnology Service: Annual Review 1974" edited by Barrie Reynolds. 71 p., 13 plates, 2 maps; on request.

- No. 25 "A Contextual Study of the Caribou Eskimo Kayak" by Eugene Y. Arima. 275 p., 3 maps, 31 figures. \$3.25

After a discussion of the place of material culture studies in modern anthropology, the author shows the continuity of the Caribou Eskimo kayak form from the Birnik culture. The reconstruction of general kayak development is given in detail as well as a thorough coverage of construction and use of the kayak.

- No. 26 "A Place of Refuge for all Time: Migration of the American Potawatomi into Upper Canada 1830-1850" by James A. Clifton. 152 p., 3 maps, 7 plates. \$2.25

This monograph contains a study of the movement of a large portion of the Potawatomi Indian tribe from the states of Indiana, Illinois, Wisconsin and Michigan into Upper Canada in the period 1830-1850. It also examines the Canadian evidence to shed some light on not well understood features of Potawatomi social organization and ecological adaptations in the first decades of the 19th century.

- No. 27 "Proceedings: Northern Athapaskan Conference, 1971" edited by A. McFadyen Clark (2 vols). 803 p., 14 maps, 13 figures, 23 tables. ~~\$9.25~~

The seventeen papers on Northern Athapaskan research in ethnology, linguistics, and archaeology published in these two volumes were presented at the National Museum of Man Northern Athapaskan Conference in March 1971. The papers are prefaced by a short introduction which outlines the rationale and accomplishments of the Conference.

