ABSTRACT

ROGERS, Thomas J. Physical activities of the Kutchin Athabaskan Indians of the interior Alaska and Northern Canada. M.S. in Physical Education, 1978. 71 p. (Dr. Wayne Kaufman, Advisor).

The Kutchin lived in the subarctic forests in the area along the arctic circle from the McKenzie River in Canada to the Chandalar River in Alaska. They were hunters, fishermen, and gatherers who wandered continuously throughout their territory in constant struggle to exploit their environment.

The author has lived and taught school among the Kutchin for the past two years and became interested in the native culture as it might pertain to the physical education field. Research on the aboriginal physical activities was carried out in Fort Yukon, Alaska and at the Wisconsin State Historical Society in Madison, Wisconsin. The discussion of present day physical activities are based primarily upon the author's observations in Fort Yukon.

The discussion of the aboriginal physical activities includes games, hunting of large game, trapping of small game, fishing, and snowshoe construction. The discussion of the changes in the physical activities of the Kutchin influenced by the white culture takes into account three factors: (1) the change from hunting to trapping as the prime occupation, (2) the establishment of schools, which had the effect of forcing the children into school when they would normally be in the woods, and (3) the establishment of welfare programs to "help" the Indians when they became dependent on the material goods of the white man.

There is also a brief discussion of present day efforts to inform the children of their cultural heritage through the bilingual program in the schools.

PHYSICAL ACTIVITIES OF THE KUTCHIN ATHABASKAN INDIANS OF INTERIOR ALASKA AND NORTHERN CANADA

A seminar Paper

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by

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This seminar paper is approved for the School of Health, Physical Education and Recreation.

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TABLE OF CONTENTS

CHAPTER PAGE

LIST OF FIGURES

FIGURES PAGE

CHAPTER I

INTRODUCTION

Background

The researcher began teaching physical education at Fort Yukon, Alaska in 1976. This small Indian village is located eight miles north of the arctic circle, where the Yukon River makes the great bend to the southwest. The school population is 95% Kutchin Athabaskan Indian. Very little of the Kutchin native culture is apparent to the casual observer: the Kutchin are rapidly assimilating the culture imported by the Caucasions, beginning with the establishment of the Hudson's Bay Company trading post in the 1840's at Fort Yukon. The Kutchin themselves are doing little presently to perpetuate, either in action or in writing, their aboriginal native culture. In the area of physical education, there is little of the native physical activity or training to be observed today in the Fort Yukon area.

Statement of the Problem

This study has dealt with aspects of physical education of adolescents in the pre-contact native culture of the Kutchin, to include survival skills and games. Also presented is a limited discussion concerning the physical activity of the natives today, the reasons for the disappearance of the "old ways", and the possibility of inclusion of some of the aboriginal activities into the

current physical education program.

Need for the Study

Time is short for accurate research into the aboriginal culture of the Kutchin. As these people are rapidly accepting the imported Caucasian culture, they are literally willing themselves to ignore and forget the ways of the past (Mott, 1967). This rapid and overwhelming change has produced serious problems for the Kutchin, which will be discussed briefly in the review of related literature. Forty years have elapsed since the detailed ethnographies of Osgood (1936) and McKennan (1965) were written. At that time there were many excellent and expert informants on the native culture. Today that situation is no longer true; the young have no desire to live in "the old way", and their knowledge is hazy, incomplete, and in many cases, indifferent. Within another generation, barring a resurgency by the Kutchin of interest in their dying culture, there will be nowhere to go to research new and additional information concerning Kutchin culture (Mueller, 1977, personal contact).

Purpose

These natives feel the need to become a functional part of the society in which they are living. They resent being treated as inferior, yet many do have the feeling of being "lost" between two completely different cultures. In 1977, a native of Fort Yukon stated to the researcher that BIA (Bureau of Indian Affairs) meant "buy Indian anything!"

He was stating facetiously what the natives consider to be a serious problem; their own culture is disappearing, they desire to be independent, but the BIA and other welfare agencies offer the kind of help that stagnates, not invigorates, the people. In 1967, Nott stated:

> Today they are often called "lazy", "indifferent", "welfare cases", "the white man's burden", ...They have learned to rely on material things the white man brought in, and now ...there is no way for them to earn the money they need to get these material things ...The Indians themselves are quite outspoken about this. The feeling of unity is disappearing and parents with teenage children are beginning to realize just how many problems they have and are wondering what will happen to their children who don't seem to "belong anywhere".

American children are taught history during their formal education, to give them a sense of their ancestral heritage. The minorities in our society should have the same opportunity. The culture of the Kutchin was based on a very "physical" level. Of necessity, survival was of paramount interest in the harsh climate in which they dwelled. As part of the general historical background given these youngsters, it would be beneficial to build an awareness of the native physical activities within the modern physical education program. Inclusion of such activities in the program would not be meant as encouragement to return to the ways of the past, but rather to instill in the student a sense of his own past, that he might feel more content and secure in his present society, knowing that he is the product of a proud and industrious culture that existed for at least a thousand years in one of the harshest environments habitable by mankind.

Delimitations

1. There are eight groups of Kutchin, each sharing a common language and general culture. There were minor differences among the groups, based primarily upon ecological considerations. For purposes of this paper, the Kutchin are considered as a single culture, as the physical activities were generally very similar.

2. The study included only pre-contact activities in the formal research, with a discussion of current physical activities, based upon the researcher's observations in the Fort Yukon area.

Limitations

1. The research on the pre-contact activity is based almost completely upon books, journals, and previously published research.

2. There were few natives with the knowledge of the physical activities of the aboriginal culture.

3. The discussion on current physical activity was based solely on the happenings in and around Fort Yukon, Alaska. These observations hold true for the Kutchin in Alaska, but the researcher cannot say what the current situation shows among the Kutchin residing in Canada.

4. There was no physical paraphernalia found that was used in physical training and activity by the pre-contact natives. Descriptions of instruments used in these areas came from previously published research.

Definition of Terms

Aboriginal. An adjective which when placed before a noun will mean "pre-contact" period of time.

Athabaskan. The name of a language family. This family includes Indians from the Kutchin of Alaska and Canada, and tribes as far away as the Apache of the American southwest and Mexico. However, throughout the literature concerning the Kutchin Indians, the term Athabaskan is often substituted. In this study, Athabaskan may be considered to mean Kutchin.

"Interior Alaska". The portion of Alaska, the northern portion of which is the aboriginal home of the Kutchin. It is bordered on the east by the United States - Canadian border, on the south by the Alaska Range (mountains), on the north by the Brooks Range (mountains), and on the west by Eskimo and Koyukon Indian territory bordering the Pacific and Arctic Oceans.

Kutchin. The name of a tribe of Athabaskan speaking people inhabiting the northern interior section of Alaska, and the northern sections of the Yukon and Northwest Territories of Canada. There are eight varieties of Kutchin, sharing a common culture and a common language (except for minor dialectical differences), within a territory that stretches from the McKenzie River (Canada) in the east to the Chandalar River (Alaska) in the west, and from the Yukon River in the south to the Brooks Range in the north (Osgood, 1936).

Pre-Contact. The period of time before the influence

of the white man's culture. This should not be construed to mean the first time the Kutchin met a white man, as the Kutchin were famous traders, and they had trade goods from the white man as long as a hundred years before the first white settlement in Kutchin territory (Mason, 1924).

CHAPTER II

REVIEW OF RELATED LITERATURE

Much of the available literature related to the Kutchin people is repetitive, and the various authors have studied different groups within the Kutchin to find that the culture is much the same from tribe to tribe. This review of related literature mentions briefly what each source contains; a more detailed account of the general culture of the Kutchin is contained in Chapter Three.

Osgood (1936) spent three months during the summer of 1932 studying three groups of Kutchin: The Peel River group, the Crow River group, and the Yukon Flats group. He discussed in detail the country, food, dress, shelter, travel, tools, war, arts, social organization, social customs, religion, and mythology of the particular groups, and the Kutchin in general.

McKennan (1965) spent nine weeks in the summer of 1933 studying the Chandalar Kutchin at Arctic Village, Christian Village, and Chandalar Village (now called Venetie). He had hoped to find one tribe located in Arctic Village, but found that the tribe had broken up into three small groups (a frequent occurance in the pre-contact days), and decided to travel to all three groups. His study closely parallels Osgood's of a year earlier, although Osgood did not publish his study until 1936, and McKennan did not publish his study until 1965. McKennan gave details concerning territory,

language, food, hunting, fishing, weapons, tools, transportation, shelter, clothing, art, and recreation. He also discussed family life, marriage, life cycle, clans, rank, law, and war. He devoted the last part of his work to recording many of the myths of the Chandalar Kutchin.

Mott (1967) reviewed much of the literature completed by Osgood, McKennan, and others, and then added her own observations concerning the changes that had taken place in the Kutchin culture with the continuing and constantly increasing influence of the white man. The format of her paper follows closely that of Osgood, as she covers the general culture of the people. Included are "before and after" discussions about food, hunting, weapons, tools, transportation, shelter, clothing, art, recreation, social relations, law, and religion.

Van Stone (1974) researched the adaptive strategies incorporated by the northern Athabaskan tribes in general, and why these strategies were necessary in the ecological environment in which they dwelled. He discussed the human populations and the natural environment, the subsistence base and settlement patterns, social institutions, religion and the supernatural, the individual and his culture, the history of European contact, and the Northern Athabaskan and the modern world.

Hadleigh-West (1963) studied the Kutchin who resided in the Chandalar River area (the same group studied by McKennan in 1933), and the thrust of his paper concerned the

relationship of the people to the land. He discussed the Netsi Kutchin in general terms, much as had Osgood, McKennan, and others; then he spoke to the relationship to the culture regarding the vegetational milieu, the faunal milieu, the physiographic milieu, and the climatic mileau. He also made some comparisons of the Netsi Kutchin with certain other northern peoples.

Nelson (1973) spent a full year doing field research on the Kutchin and Koyukon Indians. He spent August, 1969 through July, 1970 living with the Black River Kutchin in Chalktitsik, and the Koyukon of Huslia, and Hughes, Alaska. Nelson's study was of a limited nature; he sought to learn and record the survival techniques of the natives. His study included detailed descriptions of hunting, fishing, and gathering techniques. He also went into great detail covering the yearly cycle, with attention to what food sources were exploited at the various times of the year, and the various types of shelter used by the hunters on the trail and in the settlement. This study was done as a companion piece to his earlier work regarding the Eskimos of Alaska, Hunters of the Northern Ice, and he makes many comparisons of survival technique between the two cultures.

Mason (1924) spent several years living and travelling among the Kutchin in the early 1920's. He wrote of his experiences in a rather prejudiced style, calling the Kutchin "children" when referring to their power of reason, however his empirical observations are valuable insights into the

culture at that period of time. He speaks of the material culture of the Kutchin, social life and ethics, and the white influence. Mason also describes his travels throughout the region, emphasizing seasonal activities of the Kutchin. The end of his book contains several stories about various people of the region, both Indian and white; one in particular is very interesting, and is included in this study as an appendix. The story is entitled "The Caribou Hunters", and I cannot discover its origin. I emphasize this point as the story is neither mine nor Mason's.

Hardisty (1967) and Jones (1967) worked for the Hudson's Bay Company in Fort Yukon, and each published separate accounts of the Kutchin in the Annual Report of the Smithsonian Institution in 1867. Neither is sound ethnological research, but Hardisty gives an excellent account of wrestling, and Jones gives an interesting (if rather biased) account of Kutchin warfare.

Huntington and Elliott (1966) wrote a biography entitled On the Edge of Nowhere, which is the story of Jimmy Huntington as told to Lawrence Elliott. Huntington is a half-breed, who lived in Koyukon Indian territory on the western border of the Kutchin territory. This book is included in this study for the excellent description of dog sled racing in modern day Alaska.

Guedon (1971) researched the social life of the Upper Tanana Indians living in the territory around what is now Tetlin, Alaska. Although the Upper Tanana Indians are not

part of the Kutchin group, they share many of the same cultural traits. This study is included for its excellent explanation and description of the potlatch, a cultural phenomenon practiced by the Upper Tanana and the Kutchin, as well as most Northern Athabaskan tribes.

Hippler (1973), in an article written for American Anthropology magazine, discussed the personality of the Athabaskan Indian, and how the personality influenced cultural institutions. He stated that because of an 80% infant mortality rate, that mothers developed a cold attitude toward their children; food was so scarce that surviving children developed a sense of guilt as they associated their intense competition for food to be the cause of death among their siblings. As a result, the Athabaskans developed an intense control over outward expression of their emotions. Hippler (1973) also discussed the idea of absolute chieftainship and potlatch as a device to share the wealth and build political power. Three factors contributed heavily to the downfall of the Athabaskan culture with the arrival of the white man: Christianizing of the natives by Roman Catholic and Episcopal Churches, establishment of white man's law (destroying the power of the chief), and the introduction of alcohol. Within the past few years, the Athabaskans seem to be making a comeback, and are showing an ability to regain some of their lost culture while adapting to the society of the white man. The contributing factors are Fundamentalist Christianity (which is not as forgiving as the "high" churches,

and seems to give the Athabaskans the super ego image that was lost with the demise of the absolute chief), and the Native Claims Settlement Act, which establishes a framework for acquisition of political power and higher social status. Hippler (1973) stated his belief that the next generation may well determine whether the Athabaskan culture can make a strong comeback, or whether it will die completely.

From the material I have researched concerning the Kutchin, Hippler's statements concerning the mortality rate of infants, and the effect upon the personality of the Indian do not appear to be valid. Most early writers found the Kutchin among the strongest, bravest, most handsome, friendly, confident, and able of the Northern Athabaskan tribes. Hippler's discussion concerning the problems encountered with the influence of the white man's culture, and the Athabaskan's comeback within the past few years are more relevant to the Kutchin.

CHAPTER III

CULTURAL OVERVIEW OF THE KUTCHIN

This discussion is not meant to represent a complete description of Kutchin culture. Rather, it is intended to give a basic understanding of the people, their land, and their way of life in as brief a form as possible.

Kutchin Indians of Interior Alaska and Northwestern Canada

The Kutchin Indians existed in one of the harshest environments habitable by man. The winters are long, cold, and dark, with temperatures frequently falling to -60° and lower. They live mainly along the Yukon, Porcupine, Chandalar, and Black Rivers in Alaska, and the McKenzie River in Canada (See Figure 1). There were eight separate Kutchin groups sharing this territory, sharing a common culture and language. Other than occasional trading, they had little to do with each (Osgood, 1936).

Food and Travel. The Kutchin were nomadic hunters, fishermen, and gatherers; they traveled a yearly cycle, following the route that would provide the best chance for food (Nelson, 1973). During the spring and summer, they lived along the rivers, fishing for salmon, grayling, whitefish, sheefish and louche. They also gathered wild strawberries, blueberries, rose hips, and high bush cranberries. They spent much time preserving and storing these foodstuffs for the winter (Nelson, 1973).

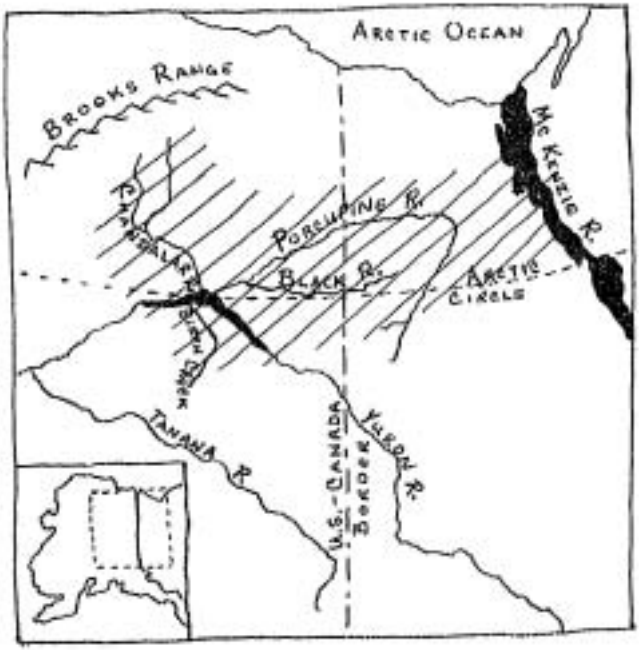

Figure 1

General Territory of the Kutchin

During the winter, the Kutchin traveled to where they could find moose and caribou, there to set up camp before the bitter cold set in.

Food was almost always scarce, and famine was a constant threat. Hunters ate first, followed by the women, and finally the children. Old people who could no longer contribute to the survival of the clan would sometimes be left out in the wilderness to die of exposure (Nelson, 1973; Mott, 1976).

Although moose or caribou were the most important meat, many times small game was the supplement that meant the difference between holding out until the big game could be killed and starvation. Small game are defined as rabbit, muskrat, mink, marten, lynx, porcupine, otter, beaver, and fox. Brown bear were left alone, and black bear were usually hunted only in time of a shortage of meat.

Game birds made up a portion of the diet; with ducks, geese, ptarmigan, and grouse being the desired species. The raven and the eagle were considered taboo (Osgood, 1936).

Weapons and Tools. A simple longbow was made of birch and twisted sinew. Arrows were made of spruce with stone heads and three or four feathers (Osgood, 1936). Knives were made chiefly of native copper with the handle made of caribou horn (McKennan, 1965). The Kutchin used the stone adze rather than the axe. Drills were made with the tooth of a fox, marten, or beaver, and a netting needle for snowshoe construction was made of a thin piece of bone about four inches long with a hole drilled in the center (Mott, 1976).

Babiche is a rope-like product made with moose or caribou hide. It is a specialty of the Kutchin women.

The Kutchin are famous for only one product in their culture: snowshoes. There were two kinds manufactured, long, rounded and uplifted toe shoes for breaking trail, and short pointed toe shoes for travelling a trail that had already been broken (Nelson, 1973). A description of the manufacture of snowshoes is contained in Chapter Four.

Transportation. When the Kutchin travelled from one camp to another, the women were responsible for packing and transporting all food and belongings. This was not an example of supposed male superiority; rather, it was a matter of priorities. While the women travelled a direct route to the next camp, the men made great detours, covering many more miles, in search of game (Osgood, 1936).

Double-ended sleds were used for winter travel, and crude back-packs were fastened with babiche. When the white-man introduced dog-sled teams, toboggans were more often used than sleds, as they travelled over the dry, powdery snow easily (Mason, 1924).

Nelson (1973) discussed the Kutchin philosophy of action when one happened to get lost. The Kutchin believed that to stop or sleep was certain death, and kept moving to the point of collapse. This was in direct opposition to the method of the Eskimo, who stopped immediately in such a situation to build shelter and wait for better weather.

Shelter. The Kutchin had several kinds of shelter, designed for winter camp, summer camp, hunting parties, and emergency stops. Summer and winter camps were dome shaped huts covered with the tanned hides of caribou or moose. These hides differed only in that for winter shelters the hair was left on the hide during the tanning process.

The Kutchin also had lean-tos for hunting camps. These were built with spruce boughs and with the open side sheltered from the wind. A fire on the open side kept the hunter reasonably warm.

The snow in Kutchin territory is too light and dry to facilitate the building of the Eskimo type igloo, but the Kutchin were able to build an emergency shelter of snow nevertheless. They heaped a pile of snow and let it freeze. When the crust had hardened, they hollowed it out and built a fire inside. When the inside of the shelter started to melt, the fire was put out and a coat of ice formed on the inside. A draft hole was then cut at the top of the dome and a fire started again; this is an example of the ingenious survival techniques developed by the Kutchin (Nelson, 1973).

Clothing. The clothing for the Kutchin consisted of long pull-over shirts (sometimes with a cap sewed on in parka fashion), and moccasin-trousers. This garb was used by men, women, and children alike. The shirt of the women was cut a bit more full in the back to facilitate carrying of infants, and the sleeves of the children were sewn together, with a slit to allow extension of the hand (Osgood, 1936). The

waterproof boots of the Eskimo were known by the Kutchin, but there is no evidence that they made any use of such apparel (McKennan, 1965).

Potlatch. Potlatches were held for various reasons among the tribes of the Northern Athabaskan Indians, but they were generally reserved as a feast to commemorate the dead among the Kutchin. When a person died, it was the custom for the period of mourning to end with a "feast" or "dance" in which the person giving the potlatch would provide food, sing a special potlatch song in honor of the deceased, and give away all his possessions. This was a way of building political power (Hippler, 1973). During the period of mourning, the potlatch giver would accumulate food and material possessions to give away at the conclusion of the potlatch. It was custom for the receiver of a gift to return 50% value within an unspecified period of time; to give away all possessions with no return would have been too much to expect (Osgood, 1936).

Conclusion. Life cycle, social life, religion, and mythology were not discussed in this chapter for lack of time and space. An attempt was made to limit the discussion to cover elements of the aboriginal Kutchin culture that had a bearing upon the physical activity and training of the adolescent. If a detailed account of the general Kutchin culture is desired, see the reference for Osgood in the bibliography.

CHAPTER IV

PHYSICAL ACTIVITIES IN THE ABORIGINAL CULTURE OF THE KUTCHIN

The life of the aboriginal Kutchin, continually wandering through their territory in the boreal forest in northwest America, was a constant physical struggle for survival. Boys, by the age of ten or twelve, had been with their fathers or uncles on major hunting trips away from the family circle. Girls, by the age of fourteen were experts in the art of tanning hides, making babiche, and running the camp. The majority of the physical training received by the Kutchin adolescent was, of necessity, on a subsistance level. There were, however, some games for children, and some recreational activities enjoyed by adults during potlatches, which are discussed along with the subsistance activities.

Games

Osgood (1936) was the source for almost all of the games included in this section. They come from the Peel River Kutchin, the Crow River Kutchin, and the Yukon Flats Kutchin. Any other sources are mentioned where they are used.

Wrestling was the game most enjoyed by the Kutchin. It was not the type of wrestling the white man developed, but rather a fast-paced takedown tournament, with no rest for the man or woman advancing. Hardisty (1867) gives an excellent description:

> Their wrestling matches are commenced generally by two little boys. When one of them is thrown he retires and another, a little bigger, takes his place. As soon as he has thrown his opponent he rises quickly and places himself in preparation for the next, who will make a sudden rush at him so as to get an advantageous hold before he is prepared and while still panting from his previous exertion. Still if he be the stronger or more expert, he may knock down his second adversary, also the third or perhaps a fourth before he is thrown, when he retires and leaves the field to his conqueror, who in turn will continue to throw as many as he can, one after the other, until he, too, perhaps from exhaustion, is obliged to give way to a fresher or more vigorous opponent. The combatants rise in gradation until all the men have had their turn, and one, the last, remains alone on the ground with the honor of being the best wrestler of the tribe. Afterwards two little girls begin in their turn and so on until all the women have been thrown, except one who remains to claim the approbation of her male friends.

Tug-of-war games of two varieties were played. In one style two lines of men or boys faced each other. The first pair would each grasp one end of a stick approximately the length of two fists. If a participant was successful in pulling the stick to his side, he accepts a challenge from the other side. The game continues until one side has exhausted all of its players in challenges. Another type of tug-of-war was played between the sexes. Two stakes are driven into the ground a few feet apart and a length of moose skin rope (babische) is marked in the middle. Men and women grab opposite ends of the rope with the marker half way between the stakes. The object was to pull the marker past the stake. The women would occassionally win.

Boys played a game in which one of them would drag a piece of moose or caribou hide six inches wide and two and one half feet long between parallel lines of challengers with

pointed sticks that resembled spears. The spear throwers would attempt to pin the hide to the ground; if the boy pulling the skin got away he was considered very smart.

The snow-stake game was played by boys in the winter. A sharp stake about three feet long and three quarters of an inch in diameter was shoved into a snowbank with the pointed end extended outward at an angle. The player would use a club somewhat like a baseball bat to drive the stake as far through the air as possible.

The Kutchin played a game similar to hockey in the winter on a clear stretch of ice. Goals were six to eight feet apart, the puck was made of a two inch segment from a spruce pole, and the sticks were cane shaped with the hitting area about eight inches long. The game had an interesting variation from hockey in that if the person making the goal could follow the puck through the stakes, he could continue to drive the puck away from the opponents goal. If he was not caught, the game was over and his team won.

The bouncing game was apparently a favorite. Four spruce trees forming a square ten feet on a side were selected and stripped of branches. A patch of moose or caribou hide one to two feet in diameter was suspended in the middle of the square by fastening babische lines diagonally to the trees. A man then jumped onto the patch of hide and jumped for as long as he could stay on. Some performers were claimed to be excellent and able to turn around while jumping. The height of the patch of hide varied, but Hardisty's (1867) suggestion

of twenty feet seems a bit of an exaggeration (Osgood, 1936).

A kicking game similar to soccer was played with a moose-hide ball. Four pieces of hide were sewn together except for a small opening and then turned inside out and filled with moose hair and sewn the rest of the way on the outside. A player could pick the ball up to kick it, but could not run with the ball.

The hoop and pole game was played by the children. The object was to successfully throw a spear like pole through a hoop that was rolled past a line of participants; the boy with most successful throws won the game. In another game, a ball-like frame was fashioned from willow branches and tossed into a stream. Children would attempt to retrieve the ball with a piece of babiche fastened to a pole with a piece of angled bone at the end of the string.

The hip bone of the beaver is paddle shaped with a hole in the center. A game was played by tying a smaller bone to the hip bone with babiche and flipping the smaller bone in the air and attempting to bring it down through the hole.

Hunting Large Game

Although the Kutchin made use of nearly every edible plant and animal in their territory, the most important element in their subsistance way of life was either the caribou or the moose, depending upon the location of the particular band. The other large game hunted was the bear, which while not nearly so important was hunted in time of

scarcity of moose or caribou.

Caribou hunting was a community project and took much preparation. A caribou surround was constructed and remained more or less a permanent structure, used for several years. The surround was circular; posts were set up at a height of about four feet and poles and brush set upon them. Narrow openings between these structures were set with snares to capture escaping caribou. The opening of the surround has leading from it in projecting lines like a funnel, a line of posts about six feet in height with moss hung on them to represent men (See Figure 2). Some of these surrounds were so large that the diameter of the inside might be a mile or a mile and a half. (Osgood, 1936). A large group of Indians would drive the caribou into the surround; they would either be snared or shot with bow and arrow as they doubled back to the opening. Caribou were killed whenever they were available, but were most prized in August and September, when their skins were in prime condition.

In areas where caribou were not plentiful, moose was the most important game for the Kutchin. Moose do not travel in great herds as do caribou, and hunting them was done individually or in small groups. A great deal of knowledge must be accumulated before a man can successfully hunt moose; they are intelligent, and have a great amount of territory in which to hide when they feel the presence of a hunter (Nelson, 1973).

Moose are found almost anywhere throughout most of the

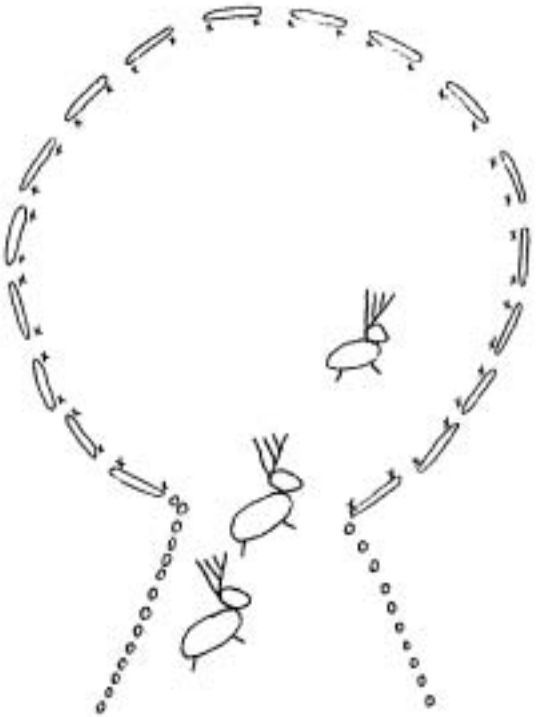

Figure 2

A Caribou Surround

low lying country of the Kutchin, but they were usually hunted close to the rivers. There were two reasons for this: moose congregate around the rivers during fall rut (mid-September to mid-October), and moose were very difficult to transport after being killed, and the river was the best way of getting the meat back to camp. It is during fall rut that moose are easiest to kill, and this was when the greatest effort was put forth in the hunt. This is the breeding time for moose; they congregate along willow patches on the banks of rivers where food is plentiful for the increased concentration of the herd. Adult males are extremely aggressive and the Indians used two methods to attract them. The velvet is coming off of the racks of the males, and they vigorously rake their racks in bushes to rid themselves of the loose velvet. The Indians used a dried scapula from the female moose and raked this into the bushes when they came upon some signs of moose, but had not actually seen any. If a male was nearby, he would charge the sound, thinking it to be another male. Also during this breeding season, the Kutchin would imitate the low-pitched mating call of the female. The aggressive male would come running to a different fate than he expected.

During the fall hunt, while the rivers were still open, the Kutchin used the hide of the moose to fabricate a temporary boat to transport the meat back to camp. Hides are sewn together with sinew around a spruce frame, with the hair toward the inside, and the seams are sealed with pitch. Some

of these boats could float three of four tons of meat. When the transport was completed, the skins are cut up to manufacture babiche (Mason, 1924).

Winter hunting of moose was much more difficult, and subject to chance. After fall rut, the moose scatter and are very difficult to track, kill, and transport. In cold weather, the snow is dry and the noise carries too well for a hunter to get very close to the animal. When it is cold (-20° and colder), it is usually very calm, and very little hunting was attempted. The best time to hunt in the winter was when it warmed up and the wind picked up; then the snow did not make such a racket, and the wind would drown out the noise of the tracker (Nelson, 1975). One important tactic of winter hunting was semi-circular tracking (See Figure 3). Moose were known to occasionally double back down wind of their trail after feeding, to be able to hear somebody or something following their trail. The Indian, upon finding moose tracks, would track the animal by making looping movement downwind of the trail until he lost the trail. Then, he would make smaller loops back toward the trail until he came upon the resting moose.

An example of the difference between shooting a moose and hunting one, and of the knowledge needed to be known as a hunter is cited by Nelson (1973):

> About a mile or two up the Salmon River we spotted two moose feeding in the willows. Though we saw them well before they seemed to detect us, Robert surprised me by heading right toward them with the boat. They soon looked up and started to run. Herbert started shooting right

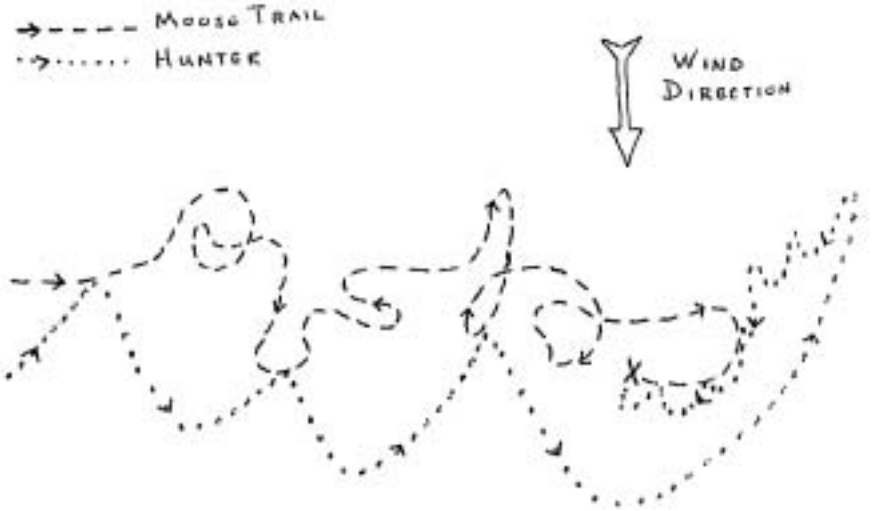

Figure 3

Diagram of Semicircular Hunting for Moose

then, but all of his shots missed and the animals vanished.

When the moose ran, the boat was immediately taken to shore. Herbert ran to where the moose had been standing and quickly examined their tracks. He followed a track into the birch woods behind the willows, but saw no moose. He then backtracked almost to the place where they were originally seen. As he stood there looking at the tracks, he heard a moose calling softly from where they were first spotted. He looked up and smiled, then half-ran very quietly toward the low sound. There among the willows stood a cow moose, ears up, staring at him. He leveled and shot her in the chest. Just then he saw a young bull moose beyond the dying cow. He ran up a few yards past her, mimicked the cow's call to get the bull's attention, and killed him with one shot from ten yards.

Herbert said later that when moose separate they often return to meet at the place where they were last together. The cow and bull had circled to within thirty yards of him in less than a minute's time without making a sound until the cow's calling gave them away.

This account illustrates the kind of knowledge, alertness, and ability to make quick predictions which characterize a good hunter. Animals often have stylized, highly predictable behavior patterns which hunters learn from tradition and experience. Once the animal is located, a thorough understanding of its limited behavioral repertory can make a kill almost inevitable if the hunter knows the correct responses. This kind of behavioral interaction, whereby the man capitalized upon predictable activities or reactions of game species, is the key factor in human predation.

In aboriginal times, snares were perhaps the most important method of killing animals, and they were important in the taking of moose. Heavy babiche was used, and fastened to a loose toggle to lessen the chance of the moose busting free from the snare. A loop approximately four feet in diameter was fashioned with a running noose that would tighten when pulled, and not loosen when given slack, was set about three feet from the ground. Of course, the effectiveness of

hunting with snare depended completely upon the knowledge of the trapper, and the location in which he placed the snare. The Indian knew the country well, and placed the snare in trails where moose were known to congregate year after year, or in a place where there were fresh signs. Poles and brush were set leading to and camouflaging the snare set, so that the moose would move toward the snare opening. If the moose was snared during the winter and freezes before being discovered, the Indian was faced with a considerable task in butchering and transporting the animal. Before contact with the white man and the introduction of the cross-cut saw, this must have been a nearly impossible task.

When a moose was killed during the winter, and it was not possible to move the meat back to camp immediately, the meat was cached. There were several ways of caching the meat, depending upon the time available, and the possibility of wolves, bears, ravens, and jays ruining the meat. The meat was cut into small pieces and allowed to freeze, so that it could be stored or moved without freezing into a solid mass (Nelson, 1973). It was then buried in the snow and marked so as to be able to be found upon return. If a more elaborate cache was desired, the Kutchin selected three or four spruce close together, stripped off the branches and bark (to keep scavengers away), and built a platform high between the trees. The meat was then stacked on the platform and covered with the hides. This was time consuming, but offered the best

protection against scavengers.

Black bear were most often hunted in dens. The Kutchin would be on the lookout in the fall for dens, and would check during the winter to see if they were occupied (Nelson, 1973). Black bears like to make their dens in the holes left when the wind turns over a spruce tree, or in the soft cut banks along a river. They line their dens with moss, and plug the opening when going into hibernation. A small hole usually remains at the top of the den, and during the winter a frost will cover the hole due to condensation of the bear's breath (Nelson, 1973). When a black bear was in hibernation, the Indian would first get a long curved stick and feel for the bear through the hole at the top of the den. When the awakened bear came lazily out of his den, it would be clubbed to death, or occassionally speared. Grizzly bears were seldom hunted in their dens, as they come charging out of the den in a rage and will kill anything in their path. Kutchin claimed that they did not like the taste of grizzly bear; this was probably a case of their respect for the grizzly's ferocity more than a case of sensitive taste buds.

Trapping of Small Game

Small game was a very important supplement to the diet of the Kutchin, as well as providing warm fur to use in lining and decorating their clothing. Small game availability was subject to yearly cycles, but the Kutchin followed the path of the moose or caribou, so they trapped the small game in

whatever cycle they were found. The most important of the small game was the muskrat, followed by the arctic hare. Other important small game included the mink, lynx, marten, beaver, porcupine, squirrel, and fox.

Porcupine meat was considered delicious, and they were extremely easy to catch, being one of the slowest animals on earth. Their quills protect them from many predators, but man simply clubs them; they do not throw their quills, but swish their tails and the quills stick into whatever they strike. The meat is prepared by singeing off the quills over a fire, and then boiling or frying the meat (Mason, 1924).

The arctic hare was prone to run in yearly cycles, and in abundant years was an important dietary supplement. Willow groves along the banks of rivers were ideal places to capture hares. Fall and early winter, before their fur had turned white was the best time to hunt hares; young boys would often shoot them with bow and arrow. However, the most productive method was the snare. Snare sets were set along trails left by the hares in the snow (See Figure 4). A curved piece of spruce was set over the trail as a toggle, and the snare set a couple of inches off the snow. Small branches were set along either side of the set to prevent the hare from hopping around the set (Nelson, 1973).

Hares were also hunted by conducting drives (Nelson, 1973). A line of people, staying in an even line, zig-zagged along a patch of willow, driving the hares toward a group of

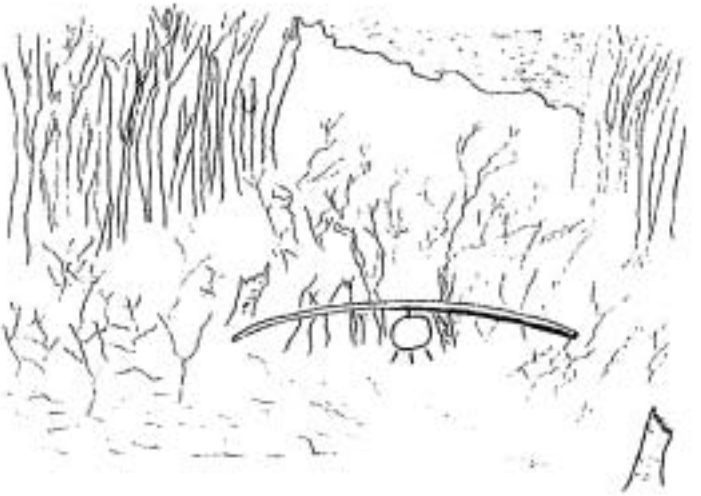

Figure 4

Drawing of a Snare Set for Rabbit

hunters who would shoot them with blunt end arrows, killing the hares by concussion.

Still another method of harvesting hares involves cutting down a long line of willows and laying the branches in a straight line. Small openings are made so that hares may cross from one side to the other while feeding. A few days later, snare sets are made in these openings.

Other fur bearing animals were taken by the aboriginal Kutchin, using much the same kinds of snares described above, but they were generally peripheral to the native economy until the arrival of the white fur traders (Nelson, 1973). By using the steel traps introduced by the white man, the Kutchin, with their extensive knowledge of the area and the habits of the animals, greatly increased their harvest of the muskrat, beaver, marten, mink, and lynx. This was the beginning of the change in the culture of the Kutchin, and will be discussed . . . . in greater detail in Chapter Five.

Fishing

Of all the food sources exploited by the Kutchin in the Pacific drainage area (Yukon River and its tributaries), fish was the most abundant and the most reliable (Nelson, 1973). Salmon, jackfish (northern pike), whitefish, and sheefish were abundant, with the several varieties of salmon being the most important. Special fish camps were set up during the summer months for the express purpose of trapping and netting salmon during their run from the sea to the upper Yukon and Porcupine

Rivers (Osgood, 1936). It is the absence of salmon that differentiates the Kutchin from the McKenzie River area (Arctic drainage) and the Yukon River area (Pacific drainage).

The most important method of harvesting fish was the use of the fish trap. These were often elaborate and difficult to construct and maintain; a community effort was required (Osgood, 1936). Dog salmon traps were built on the Crow River by the Kutchin during the early summer. A V-shaped weir was built across the stream with the point directed upstream. When the salmon came against this barrier, they swam along the barrier toward either shore trying to get around the weir. They came to another fence directing them into a trap. The trap was constructed of willow and the opening was funnel shaped. As the salmon swam through the narrow end of the opening and into the trap, they found themselves in a confined area; few salmon escaped back out the narrow opening (See Figure 5).

Another method of trapping fish was the net, probably used on the wide Yukon River in the Yukon Flats, where the river was much too wide to build traps. The nets were made of babiche, needed frequent drying, and did not last very long (Nelson, 1973). The net was weighted at the bottom and floated at the top, and staked at either end. Fish swimming into the net would become tangled in the netting. These nets had to be checked frequently to be effective or fish would avoid them.

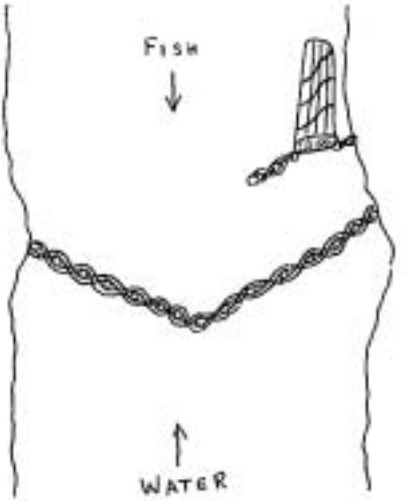

Figure 5

Diagram of a Salmon Trap

Nets were also used under the ice during the winter, and the process was time consuming and bitterly uncomfortable (Mason, 1924). Small holes were chopped in the ice. Then a block of wood pulling a light rope of babiche was maneuvered from hole to hole under the ice by prodding it with a pole. The babiche rope was then used to pull the properly weighted net under the ice (See Figure 6).

Ice fishing was also practiced by chopping a small hole in the ice and jiggling the baited line until it was struck by a fish. The line was then wrapped around a stick to bring the fish to the surface (Nelson, 1973).

Snowshoe Making

The Kutchin made the finest snowshoes in the world. Osgood gives the following instructions for the construction of snowshoes (Osgood, 1936).

> The frame he makes of birch, care being taken to find wood without knots (If birch cannot be found, then willow will do). He cuts five pieces of the wood flatly oval except at the front ends which he trims gradually smaller finally cutting them to overlap five inches. The arc of the frame he supplies by bending the green wood around his instep, trying it fast when the curve is properly shaped. When the pieces have dried, the long parts are lashed together with babiche at the rear end which passes through two holes and over the top of the frame, thus leaving a smooth surface underneath with which to glide over the snow. Three struts are fitted into slots in the outside pieces. The first spreads the frame five inches at a distance of thirteen inches from the rear end of the shoe. The second spreads the frame eight inches, twenty-eight inches from the end. The third spreads the frame nine inches at a distance of forty inches from the end. The widest part of the shoe is about halfway from the front strut to the tip of the shoe which turns upward six inches from the ground. The

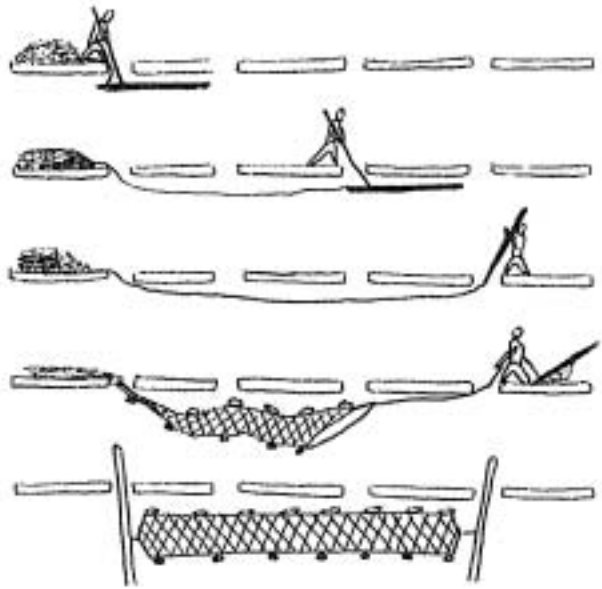

Figure 6

Cross-Sectional Diagram of
Netting Fish Under Ice

overall measurement of these shoes is five feet.

> The lacing of the snowshoe, generally performed by women, is done in four sections created by the struts. All except that which supports the foot, are done essentially in the same pattern by open-work weaving of fine babiche (stretched, semi-tanned skin line) on a framework of loops made by passing a babiche line through a series of holes about an inch apart which are drilled V-form on the inner face of the wood frame.

There is a lengthy and detailed description (Osgood, 1936) given which is not included here; anyone wishing a complete description of the lacing procedure may consult Contributions to the Ethnography of the Kutchin, pages 77-82.

There was undoubtedly much more to the physical nature of the culture of the Kutchin. Certainly the hunting, trapping, and fishing techniques were much more varied and extensive than the few examples provided in this paper. However, I believe that the descriptions contained here represent a solid and comprehensive picture of the general types of physical activity engaged in by these hardy and industrious people. Existing for at least a thousand years in this harshest of environments, these were a vigorous and proud people; their decendants have a rich and exciting heritage upon which to look back. The white culture has completely changed their lives, sometimes to the detriment of their well being; but they should be aware, and maintain a positive image, of the heritage of their native culture.

CHAPTER V

CHANGES IN THE PHYSICAL ACTIVITY OF THE KUTCHIN IN THE POST-CONTACT ERA

The Kutchin accepted the culture of the white man without bloodshed; in fact, they accepted it eagerly; after only one hundred and forty years after the establishment of Fort Yukon, the aboriginal culture has completely disappeared. People today talk of the past as the "bad times", and as something to be forgotten. In one sense, this was a healthy attitude; the Kutchin saw the obvious advantages the material culture of the white man could offer, and eagerly accepted the change. In another sense, certain aspects of the change were detrimental to the Kutchin.

The first changes came about with the establishment of the fur trading posts such as Fort McPherson and Fort Yukon. The Kutchin gave up their nomadic life to live in villages and trap fur during the winter. As the years passed, the men hated to be away from their families, and the trap lines came closer to the villages, and the time tending the lines became shorter (Nelson, 1973). They became dependent upon the material goods of the white man. With the decline of fur prices, the Indians found themselves unwilling to return to the hard ways of the past and unable to pay for the style of life to which they had grown accustomed (Mott, 1967).

The establishment of schools for the children had an

even more devastating effect upon the Kutchin native culture. Winter hunting and trapping techniques were essential to the body of knowledge that the Kutchin must have to follow his way of life. However, the schools were set up following the pattern of the white man. America developed as an agrarian economy initially, and the spring and summer the children worked on the farm, and in the autumn and winter they went to school; this is exactly the reverse of the Kutchin culture. Nelson (1973) quotes Hudson Stuck, an Alaskan missionary, speaking around the turn of the century:

> To keep a school in session when the population of a village is gone on its necessary occasions of hunting or trapping, and to have the annual recess when the population is returned again, is folly...Moreover, it is folly to fail to recognize that the apprenticeship of an Indian boy to the arts by which he must make a living, the arts of hunting and trapping, is more important than schooling, however important the latter may be, and that any talk... of a compulsory education law which shall compel such boys to be in school at times when they should be off in the wilds with their parents, is worse than mere folly, and would, if carried out, be a fatal blunder. If such boys grow up incompetent to make a living out of the surrounding wilderness, whence shall their living come?
>
> The next step would be the issuing of rations, and that would mean the ultimate degradation and extinction of the natives...is the writer perverse and barbarous and uncivilized if he avow his belief that a race of hardy, peaceful, independent, self-supporting illiterates is of more value and worthy of more respect than a race of literate paupers? (Stuck, 1925, p.356)

Of course, Stuck's words were ignored, the compulsory education act was passed, the school year conflicted with the native hunting and trapping, and Stuck's prediction came true. Nelson (1973) says:

> Welfare has been perhaps the greatest influence in taking

> the people away from the land, because it is destroying their initiative to pursue any kind of productive endeavor. The Indians who continue to work are frustrated when they see others being paid to do nothing:
>
> "I got a job here in the village, but it hardly gets me enough to feed my family good. Why should I work like hell on that job when the other guys get more every month for just sitting around doing nothing. That don't seem right to me. I'll be darned if I'm going to work when it's like that; so I might as well get that welfare, too, instead of working.
>
> Although the...people are quite willing to accept welfare, they are distressed by its effects. They see themselves becoming lazy, useless, and spoiled. Their lives have become a meaningless routine of sitting around watching the seasons pass, waiting for a new welfare program that will "help" them more.

This chapter does not concern the changes in the social structure of the Kutchin, but rather the changes that have taken place in the games of the adolescents, and in the hunting, trapping, and fishing activities, to the extent that they are still practiced today.

Games

In two years living in Fort Yukon, I have seen none of the games played that have been described in this paper. The games of the white culture have completely supplanted those of the native culture. A few years ago the most popular game was softball, and the youths played it long hours during the perpetual daylight of summer. A few years ago a community center was built in Fort Yukon, complete with a gymnasium. The physical education program is much like any such program in the lower states. But the game of basketball is the consuming interest of the young people today; they play it

year around whenever enough people can be found to make up a game. Girls play well, and often join in the game with the boys, asking and giving no quarter.

At the end of the long winter, with the coming of long daylight hours, warmer temperatures, but before the snow is gone, there are festivals held in all of the villages. These festivals are called "spring carnival", and there is much physical activity enjoyed by people of all ages. Although all the activities are outdoors, the influence of the white culture is obvious, with the exception of snow shoe racing.

Snow mobile racing is the most important activity. The men compete over a fifty or sixty mile course once each day for two days, total elapsed time, for cash prizes and trophies. Dog sled racing is set up on a shorter course with the same format as the snow mobile races, with divisions for men, women, and chichackos (greenhorns). There are fire building-tea making contests and muskrat skinning contests for women, cross country ski races for children, and snowshoe racing for men. There is also a carnival "queen" contest, a sort of beauty pageant for the young girls in the village.

Hunting

Hunting is still the most important method of obtaining meat for a small per cent of the natives residing in Fort Yukon, and most probably the percentage increases in the smaller villages of the Kutchin. Today, the gun has completely taken over throughout Kutchin territory; the natives have had guns

in their possession since the early nineteenth century. The .22 caliber rifle is most popular for small game, the 30.06 or 30.30 rifle for big game, and the 12 guage shotgun for the harvesting of water fowl. The birch bark canoe was first replaced by canvas, and then by aluminum; an important addition to travel options is the large flat bottom river boat. These boats are powered by twenty-five to thirty-five horse power outboard engines with lifters to aid travel through the shallow water. They range from eighteen to thirty feet in length and five to six feet wide. Fully loaded they are capable of transporting five butchered moose.

Some methods of hunting are gone; caribou are still quite important to the diet of the Kutchin, but they are no longer hunted in surrounds by the whole community. Caribou and moose alike are hunted individually or in small hunting parties. Caribou are hunted during their migration through the Kutchin territory, especially as they swim across the rivers. Moose are hunted mainly in the fall from river boats. Big game is important, but it is not the essential item to the society; it is not pursued on a full time basis as in the past.

Trapping

With the establishment of the trading posts, the principle activity of the Kutchin shifted from hunting to trapping. The valuable furs of the marten, lynx, mink, beaver, wolf, and muskrat could be exchanged for cash and the material goods and food at the trading posts. The biggest change in

trapping came with the steel trap; which replaced the snare and the dead fall. Today trapping is done almost exclusively with the steel trap, with the exception of the rabbit snare used by the young children around the village.

Fishing

Even fewer natives fish today than hunt. Those who do use most of the fish as dog food to feed their dog teams through the winter. Harvesting fish is much easier than in aboriginal times. Cotton and nylon gill nets are long wearing and have completely replaced the babiche gill net. In fact babiche is no longer made. Perhaps the most important development in fishing was the introduction of the fish wheel. This is a large apparatus with two basket scoops driven by the current that scoops up the fish as they swim upstream and throws them into a sluice from where they fall into a trap below the water line. Fish camps are still in evidence today, usually in conjunction with a fish wheel. Salmon are still cut and dried on racks as in aboriginal times, but some of the fish are now frozen for human consumption.

Most of the methodology of the kill in hunting, trapping, and fishing has changed, and the changes have made the harvest of the land much easier for the Kutchin. It is important to remember, however, that there is a difference between killing an animal and hunting one. The Kutchin who actively pursue the subsistance life still have the wealth of knowledge of the land and of the habits of the wildlife they exploit.

Aboriginal Physical Activity in the School

The Kutchin today display more interest in their cultural heritage than the past few generations. Hippler (1973) stated that for the Athabaskans to make a successful entry into the modern society, they must first become "more Athabaskan", and that the next generation may well show whether they will survive as a people.

There has been recently passed a federal law establishing the right of students to be educated in their native language, and the responsibility rests with the school to provide instruction in the native language. This law is not very important from a linguistic standpoint among the Kutchin in the Fort Yukon area, as they are now native speakers of English, and Kutchin is taught as a second language. However, the bi-lingual program is teaching the native children about their cultural heritage through instruction in the native language, and this is an important step.

Activities in the past few years have included setting up fish camps in the fall, and muskrat trapping camps in the spring. These excursions take place away from the village in the bush. The children learn the aboriginal culture through active participation (although using modern fishing and trapping techniques mentioned above).

Classroom activities include learning the native words for the fish, game, and plants that were so very important to the aboriginal native economy. They also perform such

activities as tanning hides, and decorating clothing with beadwork (which replaced the use of porcupine quills). They make native footwear, using moose hide for the bottoms and canvas for the top and decorate them in the native style.

These types of education are reaping the benefit of making the children aware of their cultural heritage, and building a positive self image. It appears that the Kutchin are making a comeback and will survive as a race.

REFERENCES CITED

REFERENCES CITED

Guedon, M.F. People of Tetlin, Why are you Singing? A Story of the Social Life of the Upper Tanana Indians. Ann Arbor, University Microfilms, Inc., 1971.

Hadleigh-West, F. The Netsi Kutchin: An Essay in Human Ecology. Ann Arbor, University Microfilms, Inc., 1963.

Hardisty, W.L. The Loucheux Indians. Annual Report of the Year 1866 of the Smithsonian Institution, Washington D.C., U.S. Government Printing Office, 311-320, 1866.

Hippler, A.E. The Athabaskans of Interior Alaska: A Culture and Personality Perspective. American Anthropologist, 1973, 75, 1529-1541.

Huntington, J., and Elliott, L. On the Edge of Nowhere. New York, Crown Publishers, Inc., 1966.

Jones, S. The Kutchin Tribes. Annual Report of the Year 1866 of the Smithsonian Institution, Washington D.C., U.S. Government Printing Office, 321-327, 1866.

Mason, M.H. The Arctic Forests. London, Hopper and Stoughton, 1924.

McKennan, R.A. The Chandalar Kutchin. (Arctic Institute of North America Technical Paper No. 17). Montreal, Canada, The Arctic Institute of North America, 1965.

Mott, M. The Kutchin Indians of Alaska. Unpublished Master's Thesis, University of Alaska, 1967.

Nelson, R.K. Hunters of the Northern Forest. Chicago, University of Chicago Press, 1973.

Osgood, C. Contributions to the Ethnography of the Kutchin (Yale University Publications in Anthropology). New Haven, Human Relations Area Files Press, 1970.

Vanstone, J.N. Athapaskan Adaptations: Hunters and Fishermen of the Subarctic Forests. Chicago, Aldine Publishing Company, 1974.

APPENDIX A

THE CARIBOU HUNTERS

Joe Fraser and Chandalar Sol were partners and brothers-in-law. Sol was a full-blood Indian of the tribe of the Chandalar (gens de large). Of all the tribes of the Loucheux the Chandalars are the finest-looking, the most prosperous, the pleasantest people, and the best hunters. They have remained so because, of all the tribes, they have come least into contact with the white man and his whisky, and the fur-trader with his crooked, petty ways of living on the uneducated and easily cheated savage.

They live away in the Endicott Mountains of Alaska, and only once a year a few men come down to exchange wolf and fox pelts and caribou leather for guns, traps, tea, sugar, and tobacco. They come into the Indian village of Fort Yukon every November, long-haired, tall and handsome, with flashing dark brown eyes. When their trading is finished, they harness their grey wolf-dogs, and running swiftly and lightly, they disappear into the timber to the northward, tired already of their week's 'bust in civilization'.

But Sol had left his people of the mountains for the more varied life on the great river and its other tributaries. With Joe, he had spent the summer prospecting on the Colleen River, and the winter found them practically broke, with no very immediate prospect of wealth. The fur had decreased in the land, as fur will periodically. The lynx had migrated

and disappeared to southward and eastward, the mink and fox were few, and the prices were low.

" 'Tain't no damn' good trappin' this winter," Joe said one night, spitting thoughtfully into the ashbox. "There ain't no fur in these blamed flats, the link 've beat it for keeps, we can't sell no marten or beaver, an' I guess the mink and fox 've just went and croaked to show their dog-goned independence!"

"Trappin' this time I think jus' same as prospec'!" said the Indian with a grin, thinking of the hardworked and unrewarded summer they had just spent. "I think we bes' go Chandalar. Lots of vutsai" (caribou). "We kill plenty an' buil' cache. Then we haul in and sell fat meat good, hein? Plenty wolf too that place. Maybe wolf we kill, put down poison some place; Chandalar wolf no savvy poison. We don't gets broke this time!"

"You said a mouthful, Sol," said Joe with a smile. "We ain't gonna git broke this time, even if we have to cut wood all winter, which I ain't over 'n' above stuck on! I guess you've sure hit it about them mountains. Them 's the place for us!"

The Chandalar, whither they proposed to go, flows south from the Endicott Range, joining the Yukon north of the Arctic circle.

Leaving Fort Yukon at that time of year, the partners would not see the sun again for the next four months, unless

they came back sooner, for from November to February the sun does not show itself in the valleys of the Endicotts. For six hours or so every day, unless there be a snow-storm, a man can see to travel. The whiteness of the snow increases the visibility, and the eyes get accustomed to the darkness. With a good moon, travelling is possible at any hour.

A week later they pulled out of Fort Yukon, to the jingling of sleigh-bells and the flying of coloured ribbons from the collars of their team. As they passed through the village the dogs barked and howled, and the women waved their hands from the cabin doors and cried, "Good-bye, savaie!" (sweetheart).

"Good-bye, savaie!" cried Joe to a shapeless squaw of some seventy years. All the women laughed, for that is Indian humour. But soon they left the town, and their journey started. They were using one sled, with a team of six, their load being dried salmon for the dogs, a ham of caribou meat, rice and hard-tack for themselves, also tea, tobacco, and their rifles, snow-shoes and beds, with the little necessities such as babiche (raw-hide cut into strings), needles and sinew, tanned moose skin for patching clothes or moccasins, 'Native Son' matches, spare snaps for the harness, and three axes, also a small sack of spare clothes for each man. Their food was calculated to last a week, with enough tea and tobacco for coming back as well as going, and for presents to Indians on the way.

The first day they covered thirty-five miles and reached a small Indian village of four cabins. In one of these they slept, after giving their dogs a good feed of fish. The owner of the cabin, Johnny Porcupine, gave a feast to the few men of the village in honour of the visitors. They ate, sitting cross-legged on the floor, round the huge pot of boiled ptarmigan and snowshoe rabbits.

The travellers told all the news of Fort Yukon: what old people were dead, young people married, which women had borne children, and what all the different men had killed during the fall hunting.

Johnny Porcupine complained bitterly of having to wait around the village instead of going into the mountains to hunt. An old man had been dying slowly of consumption.

"Whatsermatter Robert Choh he's don't die yet?" said Johnny. "Three mont' all the time he die. Not dead yet! One mont' grave I dig for bury him. I got to wait here till he's die. He's take long time."

After the meal Joe translated some letters from a St. Louis fur dealer, and the partners stretched their beds on the bough-strewn floor and fell into a dreamless sleep.

They started before daylight next morning, and for six days travelled steadily up the Middle Fork of the Chandalar. Towards the head of this river they expected to find the great herds of caribou. They would spend a week hunting, butchering the meat, and 'cacheing' it from wolverine and birds. But

each day, as they travelled forward, they saw neither track nor sign of the caribou. They took turns breaking trail, the other man running behind the sled, keeping it upright over the rough ice and sloping banks. At night they would build a 'siwash' camp, digging a big hole in the snow, lining it with green spruce boughs and building up a three-foot wall of green spruce-trees for a wind-break on back and sides. In front they would kindle a big fire of dry spruce. Every day they would run into 'overflows'. These are caused by the river freezing to the bottom in some shallow place. The water, flowing from above, bursts the ice and floods the surface to the depth, perhaps, of several inches. When they reached these Joe would pull on his Esquimau water-boots, or mukluks, made from seal and walrus skin, and test the new-frozen ice. If he, as the heavier man, could cross safely, Sol would follow with the dogs. If not, they had to make a portage through the forest along the bank. This was losing time, as generally the timber was thick, and they had to cut a trail for the sled.

To fall through the ice of the overflow would mean discomfort and danger, though there were only a few inches of water above the solid ice. A man's feet when saturated thus, will freeze in the Arctic winter in less time than he takes to build a fire, and when a sled goes through, beds, fish, food, and spare clothing become solid cakes of ice. The sled must be scraped, after getting wet, for about two hours before it

will run. When dogs get their feet wet, lumps of ice form between their toes, and they bite these out, pulling the hair out with them. Then the snow makes their feet sore where the hair has been lost.

Each man's bed consisted of a blanket of rabbit skin and the skin of a bull-caribou, the hair left on, dried raw. On these latter they slept. The dogs had had a hard time all the way up the Middle Fork, and they expected any day to hit the caribou, so they had not cut down the dog-feed to economize, and on the sixth day it was finished. Each morning and night, while one man built or broke camp, the other would put on his long, light snowshoes and go up the nearest hill to look for signs or sight of the beasts which were to be their food, without which they would starve.

When the fish gave out they cut up their caribou skins and boiled them for the dogs. They had only one more day's feed for themselves, and next day they ate up the meagre little ration and punched more holes in their belts.

That night the dogs got nothing.

Next morning they arose and had a large drink of tea and a pipe apiece for breakfast. The dogs had howled all night, but sympathy had held the men from beating them to silence. They discussed the situation. What should they do next? They would take at least nine or ten days to get into Johnny's village under prospective conditions, with or without killing their skeletons of dogs. If they continued their journey into

the mountains they would be certain to find the caribou in time; they could kill their dogs as a last resort.

It may sound easy and obvious in theory, but in practice it comes hard, if you are a decently human man, to kill and eat a beast that has slaved and starved for you and shows he knows that you are about to kill him, and why.

That day they covered ten miles, and at night cut three feet from the length of their sled, and boiled the moose-skin parchment from its sides. Most of this they gave to the dogs, but they ate a little themselves and kept some for breakfast next morning.

Raw-hide contains quite a little nourishment, and, although not an appetizing fare, seems good to a hungry palate. Tanned skin is no use for food, the glue being removed or rendered valueless by that process.

Next night they had nothing more to give the dogs, and all they could possibly spare for themselves was a little babiche, which they ate slowly and methodically, extracting the maximum enjoyment from each mouthful, for each man knew full well, though he said nothing, that it might be his last meal on earth.

But still they travelled on. Day by day they toiled forward, grim and silent, every hour a week of misery. Every day their hope grew less and their bodies weaker. They felt that their backbones had turned into jelly, their knees to water, their heads and feet to lumps of lead, and their hips

felt as if red-hot sand had been mixed with the joints.

And throughout all, day and night, working forward or crouching over the fire, was the awful hunger for food. Sometimes they felt ravening, looking at their poor starving dogs with red and longing eyes, trying not to look at each other, or sick, feeling like vomiting, or else the hunger pang would twist and torture them with the shrinking of the stomach. They still had tea, but they left the tobacco alone.

Weaker and weaker they got, and as they weakened the cold took greater effect on them. They changed their drill parkees for coats of caribou fur; they wore the coats at night, and still had to keep the fire burning till morning. They tied their dogs up at night, no longer for convenience, but for fear. In their own misery and agonies, they grew callous of the sufferings of the poor beasts. The dogs knew that there was no food and never howled for it after the men had finished their last meal. They did their poor best every day, and the men looked forward with horror to the time when weakness and cold would compel them to kill and eat their poor dumb helpers.

Joe froze three fingers of his left hand down to the middle joints, and in the racking torture of thawing them out, coupled with lowered vitality and the misery of their plight, he sat down on the load and sobbed like a little child, while Sol, equally wretched, rubbed his fingers back to life.

On the fourth day of starvation they came to the mouth of a small creek flowing from the east. They turned up this

and travelled for two days, but still no sign of caribou.

They did not see sign even of rabbits, porcupines, or ptarmigan. Not a living thing was in the country except themselves and the furry skeletons that whined and toiled in the harness. God seemed to be dead in the land and to have cast a curse and a blight upon it.

The glorious peaks of the Endicotts, jagged and steep and mantled with snow, rose all round them, like great, forbidding phantoms, out of the forest of spruce which covered their bases, towering above the little, white, winding creek, up which the starving travellers were toiling. The valley was beautiful beyond the wildest dreams of Heaven, and yet no living creature remained to behold it.

Every night, when they crawled into their sleeping robes, each would confidently assure the other that to-morrow they would find the caribou, but Joe would pray in his heart for strength to carry him through the ordeal of the next day.

Sol, usually economical of speech, spoke not at all, except to express confidence, for Joe's sake, but his own thoughts were resignedly fatalistic, according to the nature of his race.

On the sixth day they crossed the summit of the range, and started down the slope to the East Fork of the Chandalar. That they found strength, in their horrible weakness and emaciation, to make the ascent was miraculous. When they reached the timber at the head of a little creek, and at last

stopped for the night, they were in danger of falling exhausted in the snow, unable to rise, and freezing to death, losing the race in the last lap. They made a slovenly little camp and fell asleep almost before they could get into their robes. Their spark of life sank down and down, and would probably have gone out if a fall of snow had not given them an extra blanket and warmed the spark to action again.

As Sol was harnessing the dogs next morning he cried out to Joe:

"Look, Joe! Chahtsul feel good!"

Indeed, Chahtsul (little boy), the wise old leader, was pulling on his chain towards the lead harness, waving his plume tail in obvious anticipation of something good.

"Caribou this time all right!" Sol said with a genuine grin.

"Mebbe!" said Joe, putting on his snowshoes. "Liable ter hit 'em, but I ain't figger'n' on nothin'. Guess the poor old devil's gone daffy. 'Tain't wunnerful!" He limped painfully down the creek, the white dog following close, his tail in the air for the first time for a week.

But Joe had not much hope. He thought they would have to kill their dogs one by one and eat them, till they could get back to Fort Yukon. They would be lucky to get back even at that rate. As he walked slowly down through the alternate soft snow, hard crust and glare ice of the rocky creek, Joe thought of many things. He thought of his old bed at home in

Vancouver, and of the kitchen table where he and his brothers and parents ate their three meals a day. He thought of the good food he had felt disinclined to eat and turned away from. He thought of what he would eat if he were there now. Would he start with beefsteak pie or with a piece of brown bread, thickly buttered? He would like to be in old Jean Latour's road-house in Fort Yukon, always warm and comfortable, food always at hand, and made doubly pleasant by the white-haired old French-Canadian, who treated all comers alike as friends and equals, whether they were celebrated explorers returning from Arctic discoveries or bankrupt miners begging a crust.

Joe remembered how he had abused old Jean for serving him a duck and forgetting to take out its entrails. What a fool he had been! If only he had those entrails now! He thought of his father, hardy old Scot, and visualized him calling for his porridge in the morning. He thought of his brothers. One of them kept a restaurant in Victoria, lucky devil! He thought of his old mother, handsome and wise and peaceful, laying newly baked cakes and bread on the table before him. His thoughts wandered again, and he saw a vision of glorious brown eyes and hair, curved red lips, and...Back to earth at a shout from Sol:

"Joe - ah! Zuk! Zuk vutsai!"

(O Joe! Look! Look at the caribou!")

On the skyline of a hill, some four miles away, stood a band of caribou, looking back. Then they laughed and

chattered and sprang forward with a lighter step, for they had found the caribou, found the meat which is the fuel of life.

Joe caught himself humming 'Annie Laurie', and Sol shouted from behind:

"This time no die, I think! Goddam! Pretty soon one Hell belly-ache! Belly-ache she's bad one, but not so bad as die!"

And Joe shouted back: "You bet we're jake right now! Thank God we ain't killed none of the dogs!" For he loved his dogs, not as pets, but as fellow-workers, and particularly Chahtsul, the crafty old leader.

But the dogs were far from dead, and were showing such keenness that the men knew that they were near caribou. Half a mile on, and they came upon the fresh trail of some dozen beasts.

They stopped and built camp, laying the fire without lighting it; then both men put on their big hunting snowshoes and started along the trail after the deer. Within half an hour they could see them, on a bare mountain-side a mile farther on. After a careful stalk they got within about two hundred and fifty yards.

The caribou were pawing at the pockets of soft snow between the ridges to get at their food, the moss below.

Joe took steady aim from his knees and brought down the biggest bull with a Spitzer bullet in the shoulder.

As the caribou stood momentarily bewildered at the

collapse of their leader, Joe killed a fine barren cow, and Sol, firing about ten shots rapidly, after the manner of his kind, brought down two cows and a young bull.

They gralloched the barren cow, not bothering to skin her, and Joe cut out a shoulder, while Sol filled his packsack with guts, the aorta and other choice bits, which the Indian loves, but which the white man generally despises.

On returning to camp they ate as much as they could, which was very little, and drank some tea. Joe fed the rest of the meat to the dogs. Then after the first pipe for a week, he hitched up the team, and with light heart and heavy stomach made his way to where the dead caribou lay, and turned the dogs loose on to the body of the big bull.

They hauled in the bodies of the caribou, and, after taking out the titbits for themselves and the best meat from the tenderloins and shoulders, they gave each dog half a beast where he was tied.

For three days they stayed there and built up their strength. At first they ate little at a time and very often. The dogs just lay in their holes in the snow, gorging and sleeping alternately. The men cooked and smoked and ate. They had roast and boiled, fried and just warmed (Indian fashion). They discussed with pleasure the comparative merits of tongues and hearts, kidneys and brains, tenderloins and shoulder meat, young bulls and old cows.

Sol feasted on guts, lungs, tallow, nostrils, and those

things which the natives consider delicacies. He imagined he ate them 'roasted', but really he only warmed them over the fire, melting a little of the fat.

After a three days' life of eating, smoking, and sleeping, when all the work they did was to cut and pack in firewood, they moved down the creek to the East Fork River and stopped in a clump of thick timber, green and dry.

They built a careful and comfortable camp this time, making a higher wall than usual and banking snow against it. They stayed there for a week, hunting all day and leaving the dogs in camp.

They left the meat lying, dragged into heaps where they killed it, fixing up simple scarecrows to keep off ravens and eagles, and setting a fox trap at each pile, more to frighten than to catch, though they caught two fine red foxes in this way. There were few wolverines in that part. They are the boldest and most relentless thieves, caring nothing for the taint of human scent, less for the efforts of man to keep the invader from his property.

Joe and Sol had no fear of wolves stealing their meat. The caribou swarmed on every mountain-side, and the wolves were in great numbers feeding on them. A wolf shows great respect for a man's property, but will not mind taking what he thinks has been thrown away. For this reason Sol put strychnine into the heads and entrails of some of the caribou, and throwing them far from the snowshoe tracks, left them there,

taking care not to go near them. In this way he killed seven grey wolves and two black (blue) ones. That he could do this was due to the wolves of the Chandalar never having been poisoned. Poison is dangerous to deal with, as dogs may get loose and pick up the bait.

They spent a week in their camp on the East Fork during which time they killed fifty-one caribou. When they had hauled them all down to the camp, they spent a strenuous day building a big cache in which to store them.

They chose four good-sized spruce-trees for the uprights, lashed bottom beams on to them with rawhide, then laid poles across the beams, touching each other, till a solid platform was made about ten feet from the ground.

They cut the caribou into quarters with an axe, and laid them neatly on the platform. Then, using lighter bottom beams, they built a roof immediately above the piled meat, lashed poles together into four walls all round, and their property was stored in a box, safe from eagles or ravens. Their last precaution was to bark and carefully smooth the uprights below the floor of the cache, and throwing water (snow melted in a kettle) over the smoothed surface, they had their cache on pillars of slippery ice. This was necessary in case a wolverine should come along, and to prevent 'weasels' (ermine) or marten (American sable) from burgling and defiling their meat.

They took as much as the shortened sled would carry

(about two hundred and fifty pounds) and started down the river for the Yukon, light of heart at having accomplished their purpose and escaped a horrible death after gazing into its face for so many weary days.

The East Fork of the Chandalar is a bad river to travel on. Many overflows trouble the traveller, and while the ice is rough, the nigger-heads on the bank are worse. While walking on the big hunting snowshoes a man knows and cares nothing for the ground below. He only sinks through about three inches of the powdery top layer of snow. But when breaking trail for dogs dragging a heavy load, a man must wear small snowshoes, sinking deeper and feeling the shape of the ground.

Big nigger-heads are a sore trial to the toes and ankles, wind and temper. The sled jolts, rocks, and bangs from side to side, and the dog-driver must hold it steady all the time and lift it up whenever it upsets, which probably is every hundred yards, or less. These nigger-heads are pear-shaped tussocks of coarse grass, growing small end downwards. From the head the long blades of grass grow outwards, touching those of the next plant. If a man puts his weight on one it will turn over, and a large nigger-head will throw him down, probably twisting his ankle. Nigger-heads run from a few inches to about three feet in height. In the summer they combine with the mosquitoes to make life in the North a burden.

Towards the end of the first day's run they reached the

camp of some inland Esquimaux. There were two families, and apparently some old dependants, living in two lodges of caribou skin, buried deep beneath the snow. They made the travellers welcome, speaking Takudh, and Joe and Sol were glad to see their cheery, ugly faces and to talk to strangers for a change.

The Esquimaux, or 'Huskies', fed the dogs, and gave their visitors an excellent meal of porcupine and some blueberries, picked in the summer.

The women took their clothes and moccasins and patched the holes, one old woman chewing Joe's mukluks to soften them before sewing. As a seamstress the 'Husky' woman has no equal. It is so essential to the 'Husky' that his clothing should be windproof, his mukluks waterproof, that such skill is a necessity to existence. A garment defectively sewn will be extremely likely to cause severe freezing, perhaps death, unless immediately detected and remedied. In sewing they push the needle away from them.

The two partners made the people a handsome present of tobacco, tea, and matches. The old chief, full of gratitude and hospitality, brought in his daughter from the other lodge to entertain the strangers. The girl was shapely, young, and good-looking, but Joe explained to the old man that he had a loving wife at home with his two children, and that he did not 'cheat'. Failing to understand these sentiments, the old man, thinking he had not offered enough, brought in his old wife, wrinkled as a last year's apple.

Joe vigorously protested that to take such enjoyment after eating blueberries was his particular 'taboo'; that if he did he would be visited by all manner of evil spirits, who would torment him. Fully understanding and sympathizing, the old Esquimau sent his wife back to the lodge and gave himself up to tobacco.

After mutual protestations of undying friendship, the two partners set forth again, and the day after they went up a creek from the east and climbed over into the Salmon River valley. They and their dogs were now strong and well, and crossing over this Divide was not the hellish, prolonged agony of their late experience of the kind.

At the head of the creek they found another smaller camp of Esquimaux. But this time there was no cheery welcome, like the last, with laughter and shouting. Now anxious eyes looked at the sled and its load of meat with a meaning that was not lost to the travellers. They knew that the people had delicate feelings about deliberate begging, so they hauled out a big shoulder of fat meat and gave it to the women to cook.

The camp was full of women, children, and old people, and the only able-bodied man had broken the only rifle a week or ten days before. They had now been starving for four days, feeding the children meagrely on what few ptarmigan and rabbits the women could snare.

In times of starvation the meat-getters, the men, have the preference in food, the children next. But this poor

hunter could get no meat.

Sol gave the 'Husky' his rifle and a good supply of ammunition. When the partners continued their journey next day, they left every scrap of meat they could spare, to feed the people well till they should get some caribou.

They travelled on uneventfully until they reached the mouth of Salmon River, where they turned southwest down the Porcupine. Here a west wind blew half a gale, the first since a heavy fall of snow, and the flying powder froze their eyelashes together. Every time they thawed them apart they nearly froze their hands. While they warmed their hands in their mittens, beating them on their knees, their eyelashes froze together again.

Under these adverse conditions they made poor time down the Porcupine, and before getting near Fort Yukon they once more faced a meal of tea and tobacco.

"I hate like Hell to go into the Fort without no grub," said Joe that night. "Looks so damn' silly don't it?"

But the partners were not fated to arrive home destitute. The next afternoon the wind ceased to plague them, and an hour before dark, Sol, running ahead of the dogs on the crust made by the wind, suddenly stopped and pointed.

"What's 'at, Sol?"

"Black fox, I think!"

Joe hurriedly unsheathed his rifle and prepared to stalk forward on to the bearer of such valuable fur.

But it was no silver fox that Sol had seen. It was a raven, and it rose from feeding on something that lay beyond a piece of rough ice, out of sight.

These birds have a hard time, and are often reduced to haunting villages in winter, stealing scraps from dogs, patently miserable in the bitter cold.

Joe went ahead and suddenly stopped, astonished. There was the track of a big moose, running desperately, and on either side the tracks of a big timber wolf. In another minute he had reached the body, newly killed, from which the raven had been disturbed.

The wolves also had been scared away by the sleigh-bells, and had had no time to enjoy their kill. Joe made camp there, and Sol walked back along the trail studying the tracks. Two wolves had chased the big bull down the middle of the river for about a mile, snapping at his flanks and trying to hamstring him. Two others, one on each side of the river, kept him from mounting the perpendicular river bank of frozen mud.

Finally, they had hamstrung him, and all four had pulled him down.

The men butchered the meat, packed it to the bank, and put it up on a cache, camping alongside. They gave their dogs a huge chunk apiece and fed full themselves.

When darkness came the four plundered plunderers lifted their voices in mournful howling. The dogs shivered and whined

in terror. The men loosed them, and they cowered round the fire in abject fear of the vengeful fury and long-fanged, powerful jaws of the wild cousins whose meal and lawful kill they had usurped.

This may sound cowardly, but the 'husky' dog is no more a match for a timber wolf than an asthmatic poodle is for a 'husky'.

Wolves take great delight in dog-murder.

The men fired a few shots into the dark, but they would not be driven from their stolen meat. They stayed round the camp making night ghostly with their mournful lamentations. The fire was made to last till morning in case the wolves should get bold in the darkness and kill the dogs while the men slept.

Chahtsul, the old leader, shivering shamelessly, crawled, uninvited, into the camp and squeezed himself against the comforting bulk of Joe's body.

The howl of the timber wolf, the hunger cry or the cry to the moon, is the wildest and most mournful noise in all the wild and mournful northern winter. Beautiful and musical, it is also horrible and tragic. The listening man feels his hair move on the nape of his neck when he first hears it, even in the dim distance.

But the partners did not trouble about the wolves. Full fed and with a top-heavy load, they pressed on to Fort Yukon, which they reached the following morning. They pulled up their

dogs, and entered old Jean Latour's road-house.

"Hello, mon vieux!" cried Joe, as the old man came out of the kitchen. "Where's Laura? Up at the cabin?"

"Entrez, mon ami!" said old Jean. "Laura she inside here for help Maree feex eet some moose skeen. She's come out wan meeneet. Sacre monjee, mon brave! I glad for see you! I go fetch heem that Laura!"

Next moment she came in, her eyes sparkling.

"Ah, Joe, my man! I glad see you back! All the time I feel you have bad time! Tell me you don't have bad time, Joe!"

Holding her close, Joe prospected backwards with his heel and dealt Sol a heavy kick on the kneecap.

"Don't you worry, little woman!" he said. "We've busted our sled, but had a dandy time! Nothin' went wrong! Jean, get us some beans and cake and coffee. I'm hungry as a meat axe."