CARIBOU ESKIMOS OF THE UPPER KAZAN RIVER, KEEWATIN

by

FRANCIS HARPER

ILLUSTRATION ON FRONT COVER: Pamala (shaman) with his Husky dogs and sleigh. Rita and Anoteelik standing by. November 26.

To Mr. Herbert L. Ley, Jr.
with the regards of
Francis Harper

May 26, 1964

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During the six months that I spent in 1947 with the household of a little trading post on Nueltin Lake in faraway Keewatin (Harper, 1949:225 and 226, figs., and 1956:pl. 1, fig. 1), our nearest neighbors were a band of Pâdlimiut Eskimos on the upper Kazan River—some 50 or 60 miles to the northwest. This band constituted the southwesternmost group of the inland Eskimos; they had no contact with, and perhaps no tradition of, the sea. The Pâdlimiut in general are said to be the most primitive of all the Eskimos. They are a good-natured, happy-go-lucky people, and are generally rated as more agreeable than their Indian neighbors on the south.

The first white man to visit the country they have subsequently occupied was Samuel Hearne, an officer of the Hudson's Bay Company at Fort Prince of Wales (later Churchill), who made a remarkable series of journeys across the Barren Grounds during the years 1769 to 1772. It is worthy of note that he crossed the Kazan River at two places between Ennadai Lake and Yathkyed Lake, and yet reported (1795) no evidence of Eskimos in that territory. It was then the hunting ground of the Chipewyan Indians, who have now ceased to range northward from Ennadai and Nueltin lakes. In the meantime the Eskimos gained, and long held, possession of this portion of the Barren Grounds, and apparently their pressure forced the Indians back into the timbered country. Ancient antipathies have kept the two races apart and, in large measure, have prevented their hunting territories from overlapping simultaneously.[1,2,3,4,5,6] (For the notes to which these and other superscript numerals refer, see pages 65 ff.; see also J. B. Tyrrell, 1897:131–132, and Downes, 1943:216–218.)

Little more than a century ago the famous and widely experienced Arctic explorer, Sir John Richardson, was quite unaware of the existence of Eskimos in the interior of Canada. He remarked (1852: 203) that they are truly a littoral people, not wandering inland. The distributional area of the Pâdlimiut, as it was constituted several decades ago, is indicated by Birket-Smith (1929*a*:map) and by Marsh (1947:91, map).

After Hearne, no other man of science reached the upper Kazan until 1894, when J. Burr Tyrrell (pl. 9, fig. 3), of the Geological Survey of Canada, explored and mapped the river. The Eskimos he

met with there were the ancestors of the present generation, and some of them bore names similar to certain ones that I found still in use. In those days the Eskimos seem to have occupied the land as far south as the north end of Nueltin Lake and as far west as the area south of Dubawnt Lake. In order to supply themselves with ammunition, tea, and tobacco, they formerly made annual trips of some 300 miles south to Reindeer Lake (J. B. Tyrrell, 1895:440; Buchanan, 1920:156; Downes, 1943:117).

"The tribe of Eskimos met with in the summer of . . . 1894, live almost entirely on deer [caribou], which they spear from their kyacks while the animals are swimming in the water. Several hundred carcases of deer might be seen around one camp, and what were not immediately used, were piled in heaps, and buried under large stones, so that they would be safe from wolverenes, and available for use during the following winter. Their clothing, both for winter and summer, is made of deerskin, and their kyacks, or single canoes, are made of deerskin parchment, sewed over a light wooden frame." (J. B. Tyrrell, 1897:167.)

About 1920 a succession of small trading posts began to operate about the north end of Nueltin Lake (*cf.* Downes, 1943:211–213), and thereafter it was unnecessary for the men of the Kazan to make the long trip to Reindeer Lake.

In 1926 Captain Thierry Mallet, of Revillon Frères, accompanied by Del Simons, made a trip from Ennadai Lake down the Kazan River and return. He has left (1930; 1950) some interesting reminiscences of the Eskimos he met.

The group with which I became acquainted had its camps scattered along the river at distances of perhaps 15 to 30 miles below Ennadai Lake. While this group apparently did practically all of its trading at the little post at the northwestern end of Nueltin Lake, its downstream neighbors, in the vicinity of Angikuni and Yathkyed lakes, probably obtained their supplies from Padlei, on the upper Maguse River.

In the summer of 1947 the upper Kazan River band comprised only 19 members, divided among about seven families. Not more than two or three of these families, as a rule, seemed to congregate on a single campground, on the shore of either the river or some nearby lake (see pl. 1). They shifted ground occasionally, as when a site became unbearable from the stench of rotting caribou bodies and from hordes of blowflies and maggots.

Near the mouth of Windy River two types of ancient structures may indicate former possession of this area by Eskimos. One type consists of two tent-rings on a promontory on the north side of the river at its mouth; they are perhaps a hundred yards apart. Each is approximately 15 feet in diameter (*cf.* pl. 3, fig. 1). The stones composing the rings have, for the most part, a long axis of about 8 inches to two feet. On one side of each ring they almost touch each other; but on the opposite side there are wide gaps. These sites are strategically located near crossing-points of the caribou on the Windy and Little rivers.

While I am not aware of any certain criterion (other than the excavation of archaeological remains) for distinguishing between Eskimo and Chipewyan tent-rings, the other type of structure is perhaps more definitely Eskimoan. It consists of a semicircle of rocks, piled up to a height of several feet, on the summit of a hill 1.5 miles northwest of the mouth of Windy River (Harper, 1955:93, fig. 27). This "Pile o' Rocks," so called, commands a wide prospect over the surrounding Barrens, and it is the best location in the vicinity for the observation of caribou herds migrating southward in the late summer and early fall.

Harp (1959:50–51) describes both types of Eskimo sites in other parts of Keewatin:

"The sites themselves were of two types: habitation areas occupied totally for some period of time by a family or group of families, and lookout-workshop sites. . . . A few [of the habitations] were situated directly at a water-crossing, apparently in the path of oncoming caribou . . . .

"The lookout-workshop sites, on the other hand, were all situated on high vantage points that commanded a splendid view of the country for miles around. Frequently they were on top of eskers or drumlinoid hills. It may be presumed that the chief function carried out at these stations was game-watching, but it is doubtful if we could have discovered them had it not been for the residue of their secondary function as workshops. Judging from the tremendous quantities of stone chips and artifacts, most commonly quartzite, littering the surface of some of them, the hunters put long hours of waiting to good use. . . .

"Their [the modern Caribou Eskimos'] campsites are readily observable and require little description. The stone tent rings are generally on rocky or gravelled surfaces, odds and ends of trading

post goods lie scattered about, and there is a litter of fresh food-bone debris."

I did not notice—nor in fact look for—any artifacts at the "Pile o' Rocks." The tent-ring sites were too ancient to reveal any surface debris.

Although the environment on the upper Kazan is predominantly Barren Grounds, little patches of hardy spruce and tamarack timber push northward along the river. Thus this band of Pâdlimiut may be said to have lived on the forest border; and their material culture was considerably influenced thereby. They made use of forest products to an extent beyond the reach of their kin along the northern and northeastern coasts of Keewatin. The timber not only provided them with raw material for their sleighs, kayak frames, harpoons, drums, and various tools, but it also brought them into contact with various forest-inhabiting mammals and birds, such as Red Squirrels, Black Bears, Spruce Partridges, and Canada Jays.[7, 8]

The primary source of food and clothing for the Pâdlimiut and several neighboring tribes in the interior of Keewatin has been the Barren Ground Caribou (*Rangifer arcticus arcticus*).[5, 6] Consequently these tribes are known as the Caribou Eskimos.

From the air, in summer, the territory of the upper Kazan River band (pl. 1) appears as a most attractive green expanse of tundra, dotted with a myriad bodies of sparkling blue water, varying in size from Ennadai Lake to small tundra ponds. Streams, other than channels connecting ponds, seem to be comparatively few. The terrain is actually not so flat as it appears from some 1,500 feet in the air; some of the numerous rounded elevations are said to rise as much as 100 feet above the general surface. The patches of scrubby timber here and there may be readily made out from a plane, as may, also, many well-marked caribou trails on the eskers and other ridges. Unfortunately I had no opportunity to observe this Eskimo country except from the air. My only contact with the people was at the trading post and its vicinity at the mouth of Windy River on Nueltin Lake.

Eskimos are said to occur no longer in the Dubawnt Lake area, where they were found by J. B. Tyrrell (1897:11) and J. W. Tyrrell (1908:94 ff.) in 1893. In 1947 there was just one man (Katello, aged about 55) left in the upper Kazan River band who remembered his people residing or camping on the Little Dubawnt River, which parallels the main Dubawnt on the east and enters Dubawnt Lake from

the south. There were said to have been six or more families on the Little Dubawnt, where Charles Schweder, the trader at Nueltin Lake (Harper, 1953:5, fig. 3, and 1955:56, fig. 17; also pl. 9, fig. 1, of the present paper), reported many old campsites and graves. The discovery in 1947 of an ancient, half-buried, lichen-covered paddle at a small lake near Windy River suggests their occupation of that area a good many years ago. As with various wild animals, restriction of the Eskimos' range seems to be correlated with reduction in their numbers.

The nomadism practiced by the Kazan Eskimos seemed to be of rather limited extent. I gathered that their normal range extended for only a few miles along the river and about some of the nearby lakes. Further wandering or shifting of campsites is scarcely necessary in years of normal caribou abundance. Their camps were doubtless located, for the most part, in strategic proximity to the points where the caribou were in the habit of converging to cross the river. Their individual traplines in winter may have extended only 10 miles or so, in contrast to the far longer traplines of the whites and the half-breeds. Indolence was said to be a large factor in their limited trapping activity. Furthermore, there was virtually no incentive to pile up wealth in the form of goods that could not be readily carried about in their nomad existence. In times of stress, as when the supply of caribou failed, the Eskimos might move to a considerable distance. For example, in the starvation winter of 1946–47 two families came to the Windy River post and camped there for several months. Apparently only the men and the older boys, as a rule, undertook the brief trips from the Kazan River to the trading post to secure supplies; the number of such trips may have been two to five per year.

Downes (1943:207–218) found three of the Kazan River men in July, 1939, on a trading trip to the "Old Post" on Red River, some 10 miles southwest of Windy Bay on Nueltin Lake. Fred Schweder, Sr., the father of Charles, was then in charge of the post.

The following bits of information concerning the past trading relations of the upper Kazan River folk have been pieced together. When J. B. Tyrrell and R. Munro Ferguson explored their territory in 1894, probably only a small proportion of the inhabitants had ever seen a white man previously. Tyrrell says (1895:440): "About Christmas-time a few Eskimo came in [to Brochet on Reindeer Lake] from the far north, bringing robes and furs to trade for ammunition

and tobacco." He refers specifically to an Eskimo going to trade at Brochet from as far north as Angikuni Lake, on the middle course of the Kazan. Annual trips to Reindeer Lake were still being made up to 1914, at least (Buchanan, 1920:156).[8, 9] According to Birket-Smith (1929*a*:66), eight or nine Eskimos from the vicinity of Ennadai Lake were present at Putahow Lake, west of Nueltin Lake, in 1922. Now that the Eskimos of the upper Kazan River have been removed to the coast of Hudson Bay, it seems doubtful whether any of those living farther down the river resort to a trading post at the south end of Ennadai Lake.

It is noteworthy that the Eskimos should have formerly ventured as far south as Reindeer Lake, in view of their dislike and distrust of the Chipewyan Indians, through whose territory they were obliged to pass. On the other side of the picture, J. B. Tyrrell records (1897:131) a party of Chipewyans from Churchill invading Eskimo territory to a point below Angikuni Lake in 1894, for the purpose of hunting caribou. Their operations in this area dated back at least to Hearne's time (1770).

According to Fred Schweder, Jr. (Harper, 1949:228 and 231, figs.; 1955:34, figs. 3 and 4; and 1956:pl. 6, fig. 1), "Husky" Harris traded about 40 years previously with Eskimos at Ennadai Lake; his post is thought to have been somewhere about the north end. Charles Schweder thinks it was about 1917 that traders or trappers first came to Nueltin Lake, "Husky" Harris being one of the first, if not the very first. At one period he remained in the region for 15 years without going "outside." He then took his Eskimo wife out to Winnipeg.

Jack Hogarth was another of the early traders. He had some buildings at Hogarth Lake, west of Windy Lake, but it is not certain that that was the site of his post. He had been in that general area for 25 years when he told P. G. Downes in 1937 that "the last time the Huskies brought in musk-ox robes was at Windy Lake about seven or eight years ago" (Downes, *in litt.*, June 15, 1957). At the Windy River post I saw a geological hammer and some caribou spears once belonging to Hogarth; they had been bought at Brochet when Hogarth's effects were sold there.

The Kazan River Eskimos began coming down to the Windy River area to trade about 40–45 years ago. One of the trading posts was that of Del Simons, on Simons' Lake, about 10 miles above the mouth of Windy River, which flows in a northeasterly direction into the northwestern extremity of Nueltin Lake. His post building,

sturdily constructed of squared timbers, had been put up originally at Windy Lake by his manager, Alfred Peterson; but eventually it was dismantled and rebuilt at Simons' Lake, where I occupied it for several days in October. Simons' post was in operation about 1927. When I. H. ("Windy") Smith had an establishment in the 1920's on Smith Bay (a northerly arm of Windy Bay, Nueltin Lake), Eskimos came to trade there.

About 1927 the Hudson's Bay Company established a post on Red River about 3 miles southwest of Simons' Lake. At the same period Revillon Frères had a post about a mile lower down the Red River. When Revillon was taken over by the Hudson's Bay Company, the latter transferred its local business to the former Revillon post, and its original post (on "Hudson Bay Hill") was presently dismantled. Fred Schweder, Sr., was the manager of the Hudson's Bay Company post for several years up to 1939; his successor, James A. Trafford, remained for about three years. (Both men appear in the pages of Downes' *Sleeping Island,* 1943:208–271, *passim.*) This "Old Post" is now abandoned and much dilapidated. When the Eskimos traded there, they would come down Little River (a tributary of Nueltin Lake) to a point about 20 miles above its mouth, then proceed overland to the "Old Post." (See Harper, 1955:map 1.)

In 1939 Schweder became an independent trader, with a summer camp at the mouth of Windy River and a winter camp about 10 miles to the northwest, on Four-hill Creek. Since about 1942 his family (or some members of it) had lived the year round at the mouth of Windy River. During 1947 those in residence were three sons: Charles (22), Fred, Jr. (18), and Mike (10) (Harper, 1949:228, fig., and 1955:34 and 35, figs. 3–6). The Kazan Eskimos had continued to trade at this place; there had been, for some years past, no other trading post within many miles.

"The time I have lived with my family in the north among the native Eskimos will always be a pleasant memory to me" (Fred Schweder, Sr., *in litt.,* March 12, 1956).

While the present band had apparently never been investigated by an ethnologist, their kindred on the lower Kazan and about Yathkyed Lake were studied by the Fifth Thule Expedition of 1921–1924, and excellent reports on them have been published by Birket-Smith (1929*a,* 1929*b,* and 1940). These reports cover several neighboring tribes to the north (Qaernermiut, Hauneqtôrmiut, and Harvaqtôrmiut) as well as the Pâdlimiut. The center of the Pâdlimiut

territory seems to lie about Padlei and Yathkyed Lake. Some of this tribe apparently lived about South Henik Lake, south of Padlei toward the Thlewiaza River. Several bands were in the habit of ascending this river from the coast in the fall to pass the winter somewhere below Edehon Lake. Their language is so distinct that it is scarcely comprehensible to a trader (Charles Schweder) who converses very readily with the Kazan people.

Birket-Smith (1940:7–9) remarks on a serious change in conditions for the Caribou Eskimos since the time of the Fifth Thule Expedition (1921–24):

"The railway has been run through to the mouth of Churchill River, and every summer it carries a stream of fur traders up there, to be spread along the coast. It is beyond doubt that this will soon make its impression on the composition and racial type of the aboriginal population, as it has already done in their economy. Accordingly, this short work is not only the first to deal with the Eskimos in the territories west and north of Hudson Bay from the anthropological aspect, apart from a few sporadic observations in earlier times; in all probability it will also be the last to describe the population when it was still free from foreign admixture. . . .

"The census we took gave as its result that the Caribou Eskimos comprise no more than 432 people, children included; there were some other families, however, on the upper Kazan, but we were unable to get particulars of them. The total thus reaches about 500, and of this number about half is represented by the Pâdlimiut. Since the Fifth Thule Expedition, however, the Caribou Eskimos have been visited by a disastrous epidemic of influenza, and it would seem that this small group, occupying culturally an outstandingly interesting position among Eskimos generally, is already practically extinct."

A brief contact by Manning (1948*a*:163; 1948*b*:1, fig. 1) with Caribou Eskimos on the Kazan River in 1945 was apparently at a point some miles north of the normal range of the group under discussion here.

About 1917 the band on the upper Kazan numbered some 40 people; in 1941–42, about 30. At the beginning of the winter of 1946–47 they had become reduced to 27 souls; but by the time the caribou returned from the south during the following spring, eight of these had met a grim end. With characteristic improvidence, the band had gambled on the local occurrence of caribou during the gen-

eral southward migration in the fall of 1946, and had neglected to put up a winter's supply of the abundantly available fish. But they lost this gamble, and with it nearly one-third of their population. It is significant of the Eskimo male spirit of self-preservation that only women and girls succumbed during this period of starvation. Even some of the dogs survived.

Notes were obtained on seven of the men and boys who visited the Windy River post at various times in 1947, and on two of the children who had recently been rescued from starvation and adopted by Charles Schweder, who maintained the trading post. (Charles is of German-Cree ancestry. An account of him as a 14-year-old boy may be found in Downes [1943:208–271, *passim*]; he had reached the age of 22 in the spring of 1947. It is chiefly through him that I have secured the information presented here, aside from that derived from direct observation.)

Anoteelik

The two Eskimo children were Anoteelik (Harper, 1949:228, fig.; 1955:35, figs. 5 and 6, and 56, fig. 15; Life 40(9):cover and 80, fig., 1956), a boy of approximately fifteen, and Kukwik (Harper, 1949: 226 and 228, figs.; 1955:34, figs. 3 and 4, and 56, fig. 18; and 1956:pl. 6, fig. 1), a girl of approximately five. Several years previously their father, Angoliah (rated as one of the better type of Eskimos), had died, and their mother had thereupon become one of the two wives of Hikwa. Although there is apparently little admixture of alien blood in the band as a whole, the mother's father is said to have been a white trapper who visited on the Kazan probably 30 or 40 years previously[10] (*cf.* Marsh, 1947:pl. 8, upper fig.). This mother and one of the teenage daughters of the house, as well as the other wife of Hikwa, did not survive the disastrous winter of 1946–47.

When Charles brought out the news of starvation to Reindeer Lake in February, 1947, the government took prompt action and sent supplies for the Kazan band by air as far as Nueltin Lake. (Thomas Lamb, of The Pas, was the pilot.) Charles thereupon undertook to transport the supplies by dog sleigh to the Kazan, and spent some weeks in the operation, without thought of material reward. Most of the Eskimos' own dogs had meanwhile starved to death; by the following summer there were said to be just seven left, out of a normal number of probably at least 40. These could scarcely have been in fit condition to share in the hauling.

On one of Charles' visits to the Kazan, Anoteelik, who was then in

much reduced condition, begged to be taken to Windy River. Charles not only agreed, but told Anoteelik to bring along his thin little sister. None of the other Eskimos were consulted and none offered any objection. Rita (as the erstwhile Kukwik was now called "for short") reminisced during the following months on how very hungry she had been at the time, and how very little there had been to eat. She would occasionally cry for her mother and older sister, not being aware of their fate.

The children had been at Windy River since March, and I first saw them in early June. By that time they seemed to be in good condition, except for a chronic cough of Anoteelik's. At his age (or earlier) an Eskimo boy evidently assumes a man's full responsibility in hunting, fishing, trapping, driving dogs, and the like. Anoteelik faithfully attended to all such duties, and others besides, such as gathering and chopping wood and curing hides (Harper, 1955:35, fig. 6); he was always ready to smile, and cheerfully performed any task requested of him. Rita, for her part, undertook tasks far beyond the ability of an average white girl of her age—skinning caribou, paddling a canoe, chopping wood, sewing, etc. In general, she was an amiable and exceptionally well-behaved child. Both children were inveterate smokers of pipe and cigarettes—a habit acquired apparently in babyhood in Eskimo land. A pipe was shared between them.[11] (The slightest notion of hygiene is evidently beyond the ken of an Eskimo.)

In summer Anoteelik's clothing consisted mainly of overall pants and jumper, with probably a shirt and perhaps underwear in addition. He apparently gave no thought to changing when soaked with rain. He was much pleased with the gift of a light waterproof U. S. Navy parka. Summer footgear consisted of woolen stockings and rubbers. In addition to these factory-made articles, he had a caribou-skin coat (with hood) and trousers of native manufacture, for use in cold weather. As typical Eskimos, both children were extremely indifferent to cold. In zero weather Rita was capable of running about outdoors in such scanty clothing as would suit a white child at, say, 60° F.

Rita's summer clothing was very similar to Anoteelik's. In the warm weather she was perfectly comfortable with nothing more than a heavy undershirt on the upper part of her body; she also wore overall pants, stockings, and rubbers similar to her brother's. In cool or rainy weather she placed over the other garments a cloth parka,

made for her by Charles. The peak of the hood was decorated with beadwork. In winter she added an extra cloth parka, the hood trimmed with fur. One of the women on the Kazan also made for her a caribou-skin coat, but she had grown to such an extent during the summer that she could not get into it. Doubtless a larger one was then ordered for her.

The winter footgear of these children consisted, I believe, of moccasins of tanned caribou skin, made by Chipewyan Indians at the south end of Nueltin Lake. At home on the Kazan they doubtless would have worn *komik*, of tanned caribou skin, with the fur inside except on the bottom piece of the sole. These make extraordinarily warm footgear.

Through 1947 Anoteelik apparently retained most of the eating habits of his people, while Rita, being so much younger, readily adopted more civilized ways. In the early part of the summer these two carried on their housekeeping separately from the rest of the camp on Windy River. They occupied a little log hut, where a homemade stove (originally an oil drum) was available for cooking. Since they ate their fish raw, and their caribou half raw, segregation from the rest of the camp at mealtimes was understandable. They used the stove for making bannock, tea, and a sort of thick gravy composed of flour and lard. Anoteelik still ate, and liked, raw caribou warbles (the larvae of the parasitic warble fly, *Oedemagena tarandi*), while Rita soon abandoned the habit. In early August, noticing the fresh head of a big Lake Trout in the Eskimo hut, I remarked that I supposed they would boil it. "They eat that raw," responded Charles.

During the summer Rita had an occasional meal with the rest of us in the main cabin; and on several occasions, when all the others were away from camp, she was my supper guest. Though a little awkward with some of the utensils, she acted very nicely. On suggestion, she readily went to the riverside and washed her hands and face before a meal. In the early summer her nose seemed almost constantly in need of something it did not receive—the application of a handkerchief; by autumn, however, she carried a handkerchief in her pocket and showed almost no neglect in its use. Anoteelik did not appear to acquire any regular habit of washing, although at least once he took a sort of half-bath in the river.

In July I spent some days of solitude at Josie's Bay, half a dozen miles by water from the Windy River post. Meanwhile the two pals, Anoteelik and Mike, came by canoe on an overnight visit. When they

secured nothing but Red Suckers (*Catostomus catostomus*) in a gill net, all three of us partook of these fish, although they are ordinarily disdained by the local residents. As the boys were about to depart, I noticed a crudely fashioned wooden spoon that Anoteelik had been using, and I asked Mike if he would ask Anoteelik to let me have it. The latter, evidently having understood the gist of what I said, immediately reached for the spoon, to give it to me.

Windy weather prevented Fred from coming at the appointed time in his 16-foot canoe to fetch me back to the main camp. One evening, however, he appeared in company with Mike and the two Eskimo children. The wind still continuing, they had been obliged to leave the canoe on the opposite side of Josie's Hill, nearly two miles away. As soon as I had packed up the more essential parts of my outfit, we set out in a straggling file across the Barrens to the 500-foot summit above Hawk Cliff, each bearing a load according to his capacity. (Rita carried a Flit-gun.) During a pause at the top of the cliff in the arctic twilight gloom, the boys amused themselves by tossing rocks over the edge.

When we embarked in the overloaded canoe, Anoteelik crouched in the bow to handle one of the paddles; Rita was immediately behind him, rubbing elbows with me and occasionally scratching for cooties. Once she nudged me to point out a couple of screeching Herring Gulls overhead, and now and then she exchanged a few words with her brother.

In the fall, when Anoteelik left for a visit to his relatives on the Kazan, Rita transferred to the main cabin for both eating and sleeping. And when Anoteelik returned in November, he did likewise.

In setting off for the Kazan on September 23, Anoteelik took two dogs with travois (*cf.* Downes, 1943:230); a sleeping bag but no tent; and a little flour and tea. According to Charles, a hunter spurns the idea of taking meat with him at the start of such a trip; he secures it along the way. In the lack of a tent, Anoteelik was expected to utilize several trapping camps along his route. He spent his two months' visit with one of the better Eskimos, Angwokook, rather than with his stepfather.

In the early part of the summer much of Rita's nervous activity went into scratching her head and body to alleviate the itching of anopluran parasites (*Pediculus capitis* and *P. humanus*).[12] One might then have seen her capture a specimen in her fingers, crunch it between her teeth, and swallow it—all in typical Eskimo fashion.

When the government medical inspector (Dr. Robert F. Yule) came on a visit by plane in late July, and took note of the situation, he clipped the long black hair of both children and left a bottle of head lotion to be applied. Thus they obtained a very good measure of relief, even if total eradication may not have been accomplished at once.

With clipped hair, the Mongoloid shape of their heads was striking. Their complexion might be described as pale coppery—about the same as that of an Indian halfbreed child. Their hair was jet-black. Rita's eyes were deep brown. Anoteelik's lips were less thick, and his nose perhaps less broad and flat, than those of the other Eskimos on the Kazan, who were presumably full-blooded.

To an Eskimo mind, an animal or a bird evidently has use only as food or clothing. Anoteelik apparently did not, or could not, comprehend anyone's desire to spare certain individuals (such as Ptarmigan) in the vicinity of camp for the purposes of study and photography. He was amazingly dexterous in hitting objects with thrown stones; he would thus collect ducklings and young Willow Ptarmigan. He would wade into a rapid in early summer and capture spawning Red Suckers with a stick. Once, when out of ammunition or with a jammed rifle, he even attempted to knock down a buck caribou with a rock. The buck turned on him and forced him to climb a small spruce or tamarack, while his 10-year-old hunting companion, Mike Schweder, looked on. This was possibly the first case on record of a man (especially an Eskimo!) being treed by a Barren Ground Caribou, although Birket-Smith (1929*a*:106) mentions an instance of a buck attacking a man on a small island north of Southampton Island. One of Anoteelik's amusements was to keep three stones tossed into the air at once with his two hands (*cf.* Birket-Smith, 1929*b*:119).

In midsummer a favorite pastime with him and his two companions (Fred and Mike) was a game of tag, in which they pursued each other over the roofs of the log huts. The game was generally begun in the evening twilight (when the black flies would be subsiding for a few hours of semidarkness), and was kept up for I know not how long, for I would be retiring soon after the game commenced.[13] They also played "hide and seek" in the long grass (*Calamagrostis canadensis*) of the river meadow. Indoors they were fond of playing "Who's got the button?" or at least a very similar game.

In November Anoteelik began playing a peculiar sort of solitary Eskimo game, known as a ring-and-pin game. He had a slightly curved

piece of caribou antler, 105 mm. long and 24 mm. in widest diameter, with a small hole drilled clear through its middle. At each end a cord was attached, extending vertically, one to the roof of the cabin, the other tied around some steel traps held down with his foot. The cords were stretched taut. (When the game was finally finished, these cords were replaced by a loop of caribou sinew passing through a hole drilled in each end.) In his hand he held a rounded wooden shaft 401 mm. long and averaging about 18 mm. in diameter. A piece of caribou antler, tapering to a point, was fitted to one end of the shaft and fastened with sinew. It is 116 mm. long and projects 43 mm. beyond the shaft. The opposing surfaces of the two parts are pared down diagonally and fit snugly together. One or both pieces of caribou antler are said to have been chopped into shape with an axe! Anoteelik kept thrusting quickly at the target piece, endeavoring to fix the point in the middle hole; but he did not succeed while I watched. (Eventually I secured this game as ethnological material. See pl. 8, fig. 1.) According to Charles, one of the Kazan Eskimos, Ohoto, could plant such a spear in a hole at practically every thrust. A slightly similar game is figured and described by J. W. Tyrrell (1908:154–155); an identical one, by Birket-Smith (1929*a*:275, fig. 103) and by Marsh (1947:96, fig.).

The young folks of the camp, both Eskimos and those of Cree blood, never seemed to want for ways to amuse themselves. In late September I noticed Rita and Mike throwing small rocks to demolish the ice caps on projecting larger rocks in the river's edge. Sometimes the two were hilarious for a considerable period without any visible or comprehensible reason. Rita's low, rippling laughter was one of the commonest sounds in camp. The boys frequently threw stones as far as they could into or across the river.

One September evening, while we were having our "cup o' tea" before retiring, there was talk of Eskimo and other songs. As an inducement to Anoteelik to give us a sample of his musical wares, I first volunteered with "The Flap-eared Mule," a song from the piney woods of Georgia. Presently Anoteelik commenced, as he sat on a trunk in the middle room of the cabin. His song consisted in part of real words, in part of mere musical notes (probably as a refrain). It was a fairly lengthy performance, lasting for perhaps several minutes. Charles, despite his familiarity with Eskimo speech, could not tell the subject of the song except that there was mention of a rifle, hunting, etc.; the song words were evidently more difficult to make out than

ordinary conversation. It was a treat to gain first-hand acquaintance with this primitive music, though it was certainly not particularly melodious.

After a time Rita piped up in the inner room with a low song, so little of the sound reaching me that I could not make much of it. Several evenings later she entertained herself (and the rest of us) with one or more Eskimo songs. It was a monotonous sort of singing, but entertaining enough. It was quite different in theme from Anoteelik's song; but the refrain seems to be the same in most or all of the songs—a sort of yoy-yoy-yoy, yoy-i-yoy, etc.

Drum dances were much in vogue among the Cree Indians on Lake Athabaska in 1914 and in subsequent years as well. But native customs have been changing rapidly in the North, and these affairs seem to be no longer practiced among the Chipewyans of the Nueltin and Reindeer lakes region (*fide* Charles Schweder). (For an account of dances among the Cree at York Factory more than two centuries ago, see Drage, 1748, 1:220–221; and for accounts of those among the Chipewyans, as derived from either the Cree or the Dogribs, see Hearne, 1795:334–335, and Birket-Smith, 1930:75.) Preble (1910:329) gives a slight account of a Cree dance in 1900 at Oxford House in the present Manitoba. It represented, however, a considerable departure from the primitive form, for it was held indoors and fiddles rather than drums provided the music.

Meanwhile the primitive and isolated Pâdlimiut have kept their own distinctive drum dances going (on the coast as well as on the Kazan River). In the latter area Charles has attended them perhaps a dozen times. All took place at night; on one occasion, in summer, a dance continued till one o'clock in the morning. They are conducted indoors at any time of year when there are enough people about to beat the drums and sing. He has seen approximately 20 persons crowd into an igloo for a dance. In winter the igloos are the places of assembly; in summer, the big skin tents, not the small canvas ones. The men take turns, one at a time, in beating the drum, while standing up in the middle of the igloo or tent and apparently performing some sort of a dance (*cf.* Birket-Smith, 1929*a*:268–271, fig. 101; Marsh, 1947:89, fig., and 96; Barnett, 1956:91, fig.). The women sit around in a circle, and merely sing. The girls, even those as young as Rita, sit in the circle with the women and join in the singing. The men awaiting their turn at the drum do not sing.

Charles described the construction and use of an Eskimo drum as

follows. A hoop, usually about 3 feet in diameter, is made of spruce, and a piece of caribou skin is stretched over it (*cf.* Marsh, 1947:89, fig.). A wooden handle, with a notch wide enough to fit over the rim of the drum, is attached. The outer side of the wooden rim is grooved, in order that the braided caribou sinew, holding the skin on the frame, may fit into it. When the drum is not in use, the skin is taken off the frame. When preparing to use it again, one man wets the skin and puts it over the whole frame; then winds the sinew around it, over the groove, two or three times, and draws it as tightly as he can by himself. He then turns the drum upside down, so that the flaps or edges of the skin project upward. Thereupon one or several of the men tighten the skin as best they can with their hands, or with the handle. Eventually about four men take the drum in their hands and turn it around slowly. One man holds the sinew tight as the drum goes around. One end of the sinew is meanwhile hooked on the handle; and finally the other end is tied fast. When all is ready, the flaps of the skin project somewhat beyond the hoop. It takes about three-quarters of an hour to get the skin on.

A round drumstick, about 10 inches long, is made of tamarack or spruce. The distal portion (comprising about two-thirds of the drumstick) is about 2½ inches in diameter; the proximal portion, for grasping with the hand, is about 1 inch in diameter. With this drumstick the rim of the drum is struck on each side of the handle, alternately. Meanwhile the drum is rotated with the left hand, first in one direction, then in the other, with the handle as an axis, in order that the rim may meet the drumstick halfway, so to speak.

A final detail in putting the drum in order, not explained by Charles, was exhibited by Anoteelik after dark one November day, in the cabin on Windy River. Taking a mouthful of water from a cup, he squirted it bit by bit on the stretched skin of the drum, and rubbed it in with the flat of his hand. This operation presumably makes the skin tight and resonant. A day or two previously I had noticed him executing a sort of stationary dance while beating the drum.

This particular drum was made by Charles himself, modeling it after those he had seen on the Kazan River. It was evidently much smaller than the average Eskimo drum, having an inside diameter of only about 16 inches. It was presumably made chiefly for the sake of Rita, who was fond of beating it. However agreeable the sound may be to an Eskimo's ears, and however it may satisfy the primitive natures of these people, I confess it impressed me, when long con-

tinued, as monotonous and even depressing, more suitable for a dirge than for a dance.

Both Anoteelik and Rita seemed to enjoy listening to the radio—probably for the sake of the music, since their familiarity with English was too slight for an understanding of the words.

Once I noticed Anoteelik practicing a custom that is said to be general among his people—striking a match on the teeth. Placing the head of the match behind his upper incisors, he jerked it forward several times, till it flamed. Although the matches used were labeled "not poisonous," one can hardly refrain from speculating on possible harmful results from this custom.

Of course hunting is the prime pastime as well as the livelihood of an Eskimo. As long as caribou were in the vicinity, or expected there, Anoteelik was daily afield with a rifle. In the early fall, when the chief caribou movement was on, he was evidently in his element. He and Mike would go off and camp by themselves for days at a time, at distances up to several miles from the base camp. In their enthusiasm for this sort of life, they spent one night in cold weather with no more covering than some fresh caribou skins. One reason for their staying overnight in the vicinity of caribou carcasses was to guard them against several marauding Black Bears (*Euarctos americanus*), which consumed some 40 of these carcasses during the fall.

Anoteelik would take a .30-.30 rifle when it was occasionally available, but for the most part he utilized a .22 rifle, with which he naturally wounded more caribou than he killed. Whenever he returned from a successful excursion, we could judge the number of animals he had secured by the tongues he would fish out of his pocket. He dried some of the meat obtained in August.

On the last day of August I visited the boys and Rita in their camp (pl. 4, fig. 2) on the far side of Little River, scarcely more than half a mile from the base camp. They were having an orgy of feasting on caribou. At two fires they were enthusiastically frying, roasting, and boiling meat, and apparently eating more or less continuously. One tidbit in a kettle aroused my curiosity; it was apparently an aorta. Rita, who was there on a visit, was nibbling on a half-raw leg. Several caribou bodies had been thrust into the edge of the river, partly for refrigeration, partly for protection from blowflies. Tripe and blood soup are prized delicacies, though I may not have noticed them on this occasion. Some days previously Mike had exhibited on another caribou his technique in securing these portions—something

very likely learned from Anoteelik. After taking out the tripe, he used what appeared to be another part of the stomach as a receptacle into which he dipped with his hands the blood that had collected in the abdominal cavity.

Before I left the camp on Little River, two unwary caribou approached, whereupon Anoteelik stole forth a few rods over the open Barrens and downed them both with successive shots of a .30-.30, at ranges of about 60 and 100 yards. He and Mike dragged the first one into camp, and in a matter of minutes had it stripped of its hide. Much of this operation was accomplished with fingers after the initial cuts had been made with knives.

Anoteelik kept up the ancient Eskimo practice of spearing caribou in the water. For example, on August 25 he secured two fawns in this manner by pursuing them with a canoe on Windy Bay. (Rita proceeded to skin one of them by herself.) Nowadays the spear is a manufactured article of iron secured from the trading posts (*cf.* Birket-Smith, 1929*a*:109–111, fig. 25; Downes, 1943:145; Harper, 1955:49, fig. 15). It has a sharpened head and a hollow base, into which a pointed pole is thrust as a shaft, and secured with a nail (pl. 2, fig. 2).

On a day in early September, Anoteelik secured 13 caribou. On such occasions he would bring in the tongues, then harness up several dogs with travois, and return to the Barrens to fetch some of the meat to camp (Harper, 1955:35, fig. 5). It was amazing how deftly he could cut a carcass apart with a small knife. He and Mike would also use the travois for transporting their slight equipment when going off to camp overnight. These travois were in use by the Schweder family on Windy River, and were occasionally borrowed by their Eskimo friends. It is especially interesting that such a mode of conveyance, employed by the Plains Indians in bygone days, should have found its way in late years to this part of the Barren Grounds. It is said to have been introduced by the late "Eskimo Charlie" (*cf.* Downes, 1943:160–161, 230, 22nd pl. following p. 296), a trapper of apparently Czech nationality, whose headquarters were at Putahow Lake, west of Nueltin Lake.

One day I met with Anoteelik in a spruce thicket a quarter of a mile from camp, where he had laden himself with parts of a freshly killed caribou. The skinned hindquarters were across his shoulders; a leg stuck out in front on each side, and the separate skin was draped over the top. Somewhere he was carrying a .22 rifle in addition.

Anoteelik handled a canoe paddle with exceptional vigor. This was particularly evident when he and Fred, in the canoe together, went in pursuit of some such game as a duck. It would have been very interesting to see him handle a kayak, with a double-bladed paddle (*cf.* Barnett, 1956:81, 86, figs.). According to Charles Schweder, all the Kazan River Eskimos still had kayaks, and canoes as well. Some of them continued to make double-bladed paddles for the kayaks. His brother Fred remarked that, for canoe paddles, they merely nailed a blade to a handle. Dr. Robert F. Yule found kayaks (pl. 10, fig. 1) in use as late as 1954.[14]

Rita

My first glimpse of the Eskimo children came on the morning of June 5, when they had just returned with the two younger Schweder boys from a trip by dogteam to the southern part of Nueltin Lake. At the sight of a *kabloonah* (white man), Rita shyly retreated up the ridge above camp, but Anoteelik kept at his task of chopping wood. Both children were ragged, unkempt, and unwashed. They seemed to stay outdoors most of the day, and Rita apparently took a nap on the bare ridge in near-freezing weather. By the next day she had so far recovered from her shyness as to accept a rubber ball and a piece of cornbread and even to smile at me.

During my six months' residence at Windy River, Rita made considerable progress in her comprehension of English, yet scarcely ventured to utter more than a few single words in that language in addressing me. For the most part she communicated with me in sign language. One day she came into the cabin to tell me something. She indicated a moderately small object by holding her hand a little above a stool, and pointed down the river. Then she waved her arms like a bird flapping its wings, and presently, with an appropriate movement of the hand, indicated that it dove (under water?). The bird she had seen was quite possibly a merganser; or, if the downward movement had been from the air *to* the surface, it may have been a gull or a tern.[15]

Rita and Charles habitually conversed in Eskimo, but he reported her using more and more English words. A very curious feature of her talking with Charles was that she spoke almost altogether in whispers; she did likewise to some extent in talking with Fred. I could not fathom the reason for this habit, and Charles himself could not explain it. I wondered if it could be an indication of affection,

such as Rita might have displayed toward her mother; but on this point I obtained no light.

During the summer, when the resident members of the camp generally slept until the middle of the day, Rita would usually come in from her hut and waken one or more of the sleepers, to the accompaniment of considerable giggling or laughter.

The long, black, unkempt, cootie-infested tresses that had been hanging down over Rita's face up to August, were then shorn by the kindly medical inspector. With a close-cropped head, she exhibited a certain resemblance to photographs of Tibetans. A further step in the civilizing process came about in a few more days, with the acquisition of a clean new outfit of clothes brought in from the trading post at Brochet. Thereafter her face and her clothes were kept cleaner than previously.

Rita was more handy at various tasks than most white children of twice her age. She would wield an axe either in chopping wood (pl. 2, fig. 3) or in cutting up a caribou carcass for dog feed; she would spread out caribou hides to dry and peg them down with nails driven through their edges into the ground. She frequently served as a partner for one of the other members of the camp in using a crosscut saw on firewood. She could paddle a canoe rather expertly, either by herself or in partnership with one of the boys. On frequent occasions she would thus accompany one of them in visiting and lifting the gill nets. I was further impressed with her dexterity in another direction, when I noticed one day how she was amusing herself by taking mouthfuls of water, squirting it into a couple of quite narrow-necked bottles, and scarcely spilling a drop in the process. She would frequently drum on a tabletop with her fingers.

When several of us were skinning one of the first caribou taken on the southward migration, in mid-August, Rita applied herself to the common task with a sharp little knife, and helped appreciably; her technique was first-rate.

Her facility in copying the ways of others, together with a desire to help in the collection of specimens, led her to set mousetraps in the vicinity of camp. She would bring me various mice and small birds thus captured, and would be rewarded for her pains. She was also adept at capturing sculpins (*Cottus cognatus*) and very immature graylings (*Thymallus signifer*) in the river's edge, with no more elaborate outfit than a cup or a tin can. She pointed out to me a nest of Harris' Sparrow (*Zonotrichia querula*) with several callow young

ones, on which I was able to make some observations of interest.

She was fond of wiping dishes after one or the other of the boys had washed them. To open the door of a hot stove, she would pull a sleeve forward over her hand and use that as an insulating pad. Charles remarked on this last as being a regular Eskimo trick. One day, during the absence of the older boys, when Rita suffered a little abrasion on her chin from falling against a stove, she came to me for first-aid attention.

On August 20 I was stationed on a hill ("Pile o' Rocks") a mile from camp, filming a few passing caribou. Meanwhile Rita had accompanied her playfellow Mike, who was hunting caribou with a small-caliber rifle, and both joined me for a time. I let her look through my fieldglasses, and she would point out distant caribou to me. She remained very quiet when any of them approached within photographic range. In walking back to camp over the Barrens, I pointed out to Rita a ripe cloudberry or muskeg berry (*Rubus chamaemorus*), and suggested that she eat it, since the residents in general do so, though the taste is somewhat insipid. I was surprised when, after putting it in her mouth, she made a wry face and spat it out. It occurred to me that perhaps it was merely this individual berry that did not suit her; for I believe I saw her eating cloudberries on a later occasion. On the other hand, this may have been an example of an Eskimo taboo.[16] She and the other children were quite fond of crowberries (*Empetrum nigrum*) and mountain cranberries (*Vaccinium vitis-idaea*), and they frequently went a-berrying for them. Anoteelik and Mike even canned some of the mountain cranberries in glass jars. The children doubtless ate also the better-tasting but less plentiful bog bilberries (*Vaccinium uliginosum*). On the other hand, they disdained alpine bearberries (*Arctostaphylos alpina*).

One evening, while I was sitting in the doorway of the cabin to take advantage of the twilight in making some entries in my journal, Rita was looking over my shoulder (as she frequently did). Presently she nudged me and pointed out a long-horned beetle crawling over the ground at my feet. This desirable specimen was promptly popped into a cyanide bottle.

On a later and similar occasion, after we had had supper together, she nudged me, then patted her tummy with both hands, obviously as a sign that it was pleasantly full.

As an indication of comprehending the nature of writing, she would occasionally point to the writing in my notebook, then to the

printed matter on, say, a package of cornmeal.

By September, Rita had become civilized enough to do her laundry, apparently taking a certain amount of pride and pleasure in it. Her bandana seemed to be washed out every couple of days; larger articles not quite so frequently. By this time she was also learning to sew; among other things, she made a very creditable pillowcase. This year (1947) she probably had the first whole bath of her life. She not only tolerated it, but in the autumn and winter she was practically demanding a hot bath before retiring every night.[17] This was cheerfully provided by her indulgent foster father. It marked a semifinal stage in her transformation, within a few months' time, from an unkempt little child of the Barrens into an engaging and fairly civilized youngster. She was now saying "good morning" to me; there is apparently no such word in Eskimo.

When Charles, Mike, Rita, and I started in mid-October on a week's excursion to Simons' Lake (*cf.* Downes, 1943:223), about 10 miles up the Windy River, Rita alone remained in the canoe to steer it, with competence and assurance, through some strong rapids, while the rest of us towed it from the shore or kept it pushed off the rocks in the river's edge. The 16-foot canoe was so heavily laden that some of us were nearly always traveling on the land. When Rita came ashore for a time, she doubtless had her first experience in riding piggyback on a *kabloonah* across a couple of bogs, where her feet would have gotten wet, since she was wearing low rubbers for footgear. She was exceedingly nimble on her feet, and could trip across the rough tundra at a better rate than I could with a load on my back.

After we had arrived at Simons' Lake and established camp in the abandoned old trading post, Charles and Rita sat outdoors one evening to watch for "flying" (that is to say, shooting) stars. Though the temperature at sunset had been 40° F., Charles was in shirt sleeves and entirely comfortable. Rita was somewhat similarly clad. The Eskimos, according to Charles, call shooting stars the ghosts of birds or animals, while the Cree look upon them as the spirits of dead people.

In early November, when Charles set off for his winter trapline between the Kazan River and Dubawnt Lake, Rita accompanied him. It was amazing how lightly she was clad to face the rigors of an arctic winter while riding on an open dog sleigh—just a thin, unlined canvas parka over not much more than house garments, together with mittens and moccasins. Yet she was doubtless more comfortable

than a white child would have been in garments twice as thick. (She was expected to pick up a caribou-skin coat at the Kazan River; but the maker had not allowed for her rapid growth during the summer, and it proved too small for her. In consequence of this slight miscalculation on the part of Tablo, wife of Angwokook, the coat designed for Rita may now be seen at the Reading Public Museum in Pennsylvania.)

In camp Rita was fond of wearing a headband, consisting of a strip of shiny metal and beads. It was perhaps an inch and a half broad, and rested across her forehead. I did not learn who had made it. I believe Charles said that the wearing of such headbands was common among the women on the Kazan River.[18] (*Cf.* Marsh, 1947:95, fig.; pl. 1, upper fig.; pl. 8, lower fig.; and 1951:65, fig.; Birket-Smith, 1940:pls. 12, 13; Mallet, 1950:24, fig.)

Rita was so devoted to her foster father, and followed him about so closely, that I called her his shadow. When he would go off on a journey, leaving her in camp, she would have a crying spell. (In general, however, she was so little given to tears that I scarcely ever noticed them.)

Rapid as the metamorphosis of this child of the Barrens had been, it was not in any sense a forced process, thanks to the understanding and indulgence of the very exceptional young man who had become her guardian angel.

Pamala

I had begun to hear of Pamala before I left home. Thomas Lamb, airman of The Pas, had written to me, describing him as "a greasy, good-natured Eskimo" living at the mouth of Windy River on Nueltin Lake. This, however, turned out to be a merely temporary abode, to which Pamala had resorted during the starvation winter of 1946–47. He was a member of the band on the upper Kazan River, and had returned there before my arrival at Windy River in late May. He was said to have come originally from the vicinity of Baker Lake, into which the Kazan River empties; but to have been "run out" of that area because of thievery. This record did not prevent him from joining the band on the upper Kazan and becoming their medicine man or shaman (*cf.* Marsh, 1947:93). In fact, it might be said that it fitted him for taking on that role, a prime feature of which seems to be imposing on the other members of the group and requisitioning some of their rightful property.

When the caribou forsook their accustomed course and did not

appear in any numbers on the upper Kazan in the fall of 1946, it meant starvation for the local Eskimos. Charles Schweder then invited them to move to the vicinity of his trading post at the mouth of Windy River, but only Pamala and one other Eskimo (Alakahaw) responded, bringing their families with them. Pamala's household consisted of two wives (probably Kazan or Padlei people) and several children, some belonging to each wife. Pamala was said to consort for the most part with the older one of his wives. The father of one of the children was said to be Hikwa, who lost his own two wives during the starvation winter. The walls of Pamala's igloo, only partly melted, were still in evidence when I arrived at the mouth of the Windy on May 31. (Charles Schweder informed me that he had never seen an igloo of the Kazan River Eskimos constructed entirely of snow; the roof is made with the support of caribou skins[19] [*cf.* Parry, 1824: 358, 428; Hanbury, 1904:75; Stefánsson, 1914:40; Marsh, 1951:64, fig., and 66].)

On August 11 Dr. Robert F. Yule, the government medical inspector, returned to Windy River from a brief visit to the Kazan Eskimos in Thomas Lamb's pontoon plane. As the plane came to anchor in the edge of the river, Alf Noakes, the mechanic, sang out, "We've brought an Eskimo for you!" Not taking him seriously, I scarcely glanced at the figure that had just climbed down to one of the pontoons; I merely thought of him as Fred Schweder, Jr., who had gone on the plane flight as a local guide. In a few moments, however, it was most evidently not Fred, but Pamala! He was in such need of tea, tobacco, gill nets, and a few other trade articles that he had ventured into a plane for the first time, and was planning to walk back overland to the Kazan.

Here indeed was fair game for my cameras. I fairly commandeered Pamala, posing him here and there for both still pictures and movies, in color as well as in black and white (pl. 5, figs. 2–3). Though quite anxious to complete his trading and to be off for the Kazan at the earliest moment, he was good-natured in submitting to the photographic manhandling. At his frequent grins, his leathery face was scored with wrinkles. I rewarded him with a pound of tea from the stock in the storehouse. While there, he spied a can of coffee, pronounced the word (just as if he had read the label!) and intimated his desire to have it. At this point, however, I had to refer him to Fred, to whom the coffee belonged. A little later, noticing a couple of strips of oilcloth that had been spread on the adjacent hilltop for a

plane signal, he made motions of using them for a covering while asleep. He was again referred to Fred, who later admitted that Pamala had had his way in acquiring the several articles.

Pamala was short and squat, the top of his head coming just to my chin; this gave him a height of about 63–64 inches. His age was roughly estimated at 60.

In departing, he borrowed from Fred a dog with a travois for help in transporting his outfit back to the Kazan. However, his nerves were possibly so undone by the photographic ordeal, that he finally started off with his pack slung across his shoulders, rifle in hand, and several gill nets draped over his arm, while the dog was dragging an empty travois! I wondered how many miles he went thus before recovering his wits sufficiently to transfer some of his load to the travois. (The late Prof. Frank G. Speck cautioned me that this was merely my impression of the affair, whereas Pamala may have had his own good reasons for what he did. We know none too much of what goes on in the mind of primitive man.) Several months later Charles informed me that the Eskimos had bestowed upon me a nickname signifying "the man who works so much with his camera." I have little doubt that the name was of Pamala's coinage.

His rifle was protected by a case made of the thin belly skin of a caribou. He was said to be a good hunter and to shoot well. (During the fall migration of 1947 he was said to have secured 85 caribou.) His outfit, other than the rifle, was packed in a dunnage bag, with small ropes passing from one end to the other. These were used as a tumpline, but they passed across his chest rather than across his forehead.[20, 21] Caribou-skin boots (*komik*) were about the only native clothing that I noticed on him; all the rest, including a becoming old slouch hat, seemed to be of civilized manufacture. Presumably he carried a caribou-skin sleeping bag in his pack.

Charles could not tell me how the office of medicine man passes from one incumbent to another. He thought that Pamala realized the false nature of his practice, but the other Eskimos believed in it as genuine and feared to oppose him. Charles seemed to know nothing of his putting on any hocus-pocus to cure sickness or to exorcise evil spirits.

Pamala did impose various taboos on individual members of the band (*cf.* Marsh, 1947:93). For example, when I asked Charles if the Eskimos ate "black berries" (*Empetrum nigrum*) and mountain cranberries (*Vaccinium vitis-idaea*), he answered, "All but Angwokook."

"Why?" "Pamala told him not to." Angwokook was one of the few men who did not bob their hair, but let it grow long. The reason: Pamala told him he must let it grow if he wanted to have a child (which was not yet forthcoming, apparently years after he had taken a wife) (*cf.* Harrington, 1952:232). Pamala also told Rita not to eat the marrow from caribou bones; but she did after her removal to Windy River. Furthermore, he told Anoteelik he mustn't shoot loons; but up at Loon Lake Charles induced the boy to shoot a Red-throated Loon (*Gavia stellata*). This breaking of the taboo seemed to make Anoteelik very quiet after the shooting and at bedtime. Thus there was an undercurrent of conflicting authority between the shaman and the "uncrowned king" of the Kazan River band.

In the latter part of November, Pamala came on another visit to Windy River, this time with a sleigh and a team of four or five dogs (cover). His sleigh was of the usual Eskimo type (which Charles had adopted himself), quite distinct from the Indian toboggan with a carryall and an upturned front (*cf.* Birket-Smith, 1929*a*:173–179; Harper, 1949:231, fig.). The wooden runners of the Eskimo sleigh are made of spruce or tamarack (I don't know which); they are approximately 4 inches high and 2 inches wide (or perhaps a little more in each of these dimensions) and perhaps 12 feet long. They are straight, except that the front end is whittled or planed on the undersurface into a curve for overriding small obstacles, such as rocks. Crosspieces of wood are lashed on top, at intervals of perhaps 15 inches, with cord or perhaps caribou sinew. The wooden runners are shod (at least on Charles' sleigh) with strips of steel. Wet muck is applied to the bottom and, when frozen, is smoothed down with a plane. It stands a great deal of wear and makes for smooth sliding over the surface of the snow. Whereas Charles hitched his dogs to the sleigh in a single line, with manufactured leather harness, Pamala and presumably the other Kazan men fastened a rope (a double one in this case) to the front of the sleigh, and with shorter pieces of rope hitched their dogs to it (alternately?) on each side; presumably only the leader of the team is straight in front (*cf.* Marsh, 1947:94, fig.). Pamala's dogs were frisky and confident, reflecting the good treatment accorded them.[22]

It is apparently not the policy of a trader to offer food or drink in his own domicile to a visiting Eskimo. On this occasion, Pamala was accommodated in a log storehouse, where a homemade stove was hastily set up for him (with an outside temperature of −15° or less).

One evening I found Pamala, Joe Highway (a visiting halfbreed Cree from down toward Reindeer Lake), and Fred Schweder, Jr., chatting there. The first two were also smoking. The next evening, after Joe Highway had left for home, I inquired of Charles as to the possibility of Pamala's becoming lonesome over in the storehouse. He responded that he had just sent Anoteelik over with a pack of cards, and that the two would probably play poker.

It is possibly worthy of note that Pamala made both trips to the Windy River by himself, not in company with any other Eskimos. Does the shaman discourage too much familiarity, holding himself a bit aloof from his fellows? Or was it merely their lack of dogs that prevented others from joining him on the November trip?

Pamala was said to be planning a trip in the near future to the north of Padlei, to fetch a new wife for his neighbor, old Katello. The latter had bargained for the woman three years previously, and had apparently paid the necessary price, but she had not lived up to her part of the bargain. Katello had thereupon secured another wife (his third), who succumbed during the starvation winter of 1946–47. Thus he was now ready for a fourth. What commission or premium may have been due Pamala for his part in the affair, is not on record.

When I showed Pamala a prepared specimen of a Raven (*Corvus corax principalis*), he gave his name for the bird—something like *Aquoila.*

On his last day in camp, I was in need of a partner in sawing stove wood in the dusk, and Charles sent Pamala out to help. (The temperature was about −15° F.) He had probably had previous experience with the thin, wobbly blade of this crosscut saw, mounted on a metal frame, for he knew just how to proceed slowly and carefully until the groove was started straight; he then pulled a hefty stroke, and we had a good pile of wood in short order.

In this wintry weather Pamala was wearing an outer coat and trousers of caribou skin, with the fur outside. Presumably he was garbed with an inner coat as well as the outer coat, with hood, that shows in a photograph (cover). On each side of the coat, near the lower border, was an ornamental bunch of strips of white fur. It occurred to me to ask Charles if they were weasel tails. No, he said; they were strips of white caribou fur, but were called "weasel tails" because of their resemblance to such articles! On his feet were the regular *komik.* At a temperature of −11° (when the photograph was taken), rime adorned his scraggly mustache.

During this visit of Pamala's I heard that he was planning to mix some leaves of the common bearberry (*Arctostaphylos uva-ursi*) with his tobacco, in accordance with a common Eskimo and Indian custom, for the purpose of "stretching" his supply of the manufactured article. I knew of one patch of this plant within 50 yards or so of camp, but of no other within several miles, and I was at a loss to figure how he could possibly locate the plant under the deep snow then covering the land. Presently, however, he had a supply of the leaves and was toasting them in a pot over an outdoor fire. I concluded that he must have known the location of the bearberry from some previous season, when it had not been covered with snow.

When the provisions provided by the government for the starving Pâdlimiut of the upper Kazan in 1947 were brought to them and distributed by Charles, Pamala is said to have presumed upon the power and prestige of his office as shaman to go to the various igloos and to requisition for his own use one-quarter of their flour and perhaps other supplies. Those so victimized were in such awe or fear of him as to make no protest.

Other Eskimos

In the fall of 1947 six of the Kazan men and boys walked overland to the Windy River post, carrying their packs on their backs, since they had lost most of their dogs by starvation during the previous winter. They arrived on October 3, in two separate detachments. They were said to be carrying a small tent, in which presumably all six slept at night; perhaps they broke up into detachments during their marches by day in order to improve their chances of encountering caribou.

First to arrive were Katello (*ca.* 55 years old) and Alakahaw (*ca.* 25), with two boys, Kakoot (*ca.* 14) and Amelook (*ca.* 13). Kakoot, bearing the same name as his deceased father, had been adopted by Pamala. (In 1894 J. B. Tyrrell [1895:443] found one "Kak-kuk" living on the Kazan below Ennadai Lake.) Amelook was a son of Katello. These four were at camp as I returned from inspecting a line of mousetraps. The first of the newcomers to notice and greet me was Alakahaw, a pleasant-looking fellow with a dense thatch of bobbed hair and a small mustache. In civilized clothes and haircut he might, I thought, have passed down Broadway without attracting so much as a second glance from most of the passers-by. Not so with old Katello, who presently came around the corner of the cabin, greeting me with a grin and a handshake; his long, straggly locks,

shriveled-apple face, and somewhat bleary eyes that had faced so many arctic blasts, marked him at once as a specimen out of the ordinary. On the whole, however, he bore such a marked resemblance to Pamala, that for the first couple of hours I mistook him for that worthy and addressed him by the wrong name; only I was puzzled at his possessing more whiskers than Pamala had had a couple of months previously. Eventually he tried to correct my mistake, placing a forefinger on his broad nose and saying "Katello" (*cf.* Jenness, 1922:168; Birket-Smith, 1929*a*:286); even so, it was not until young Fred Schweder came down from the fish camp a couple of miles up the river, that I was finally set aright. Fred remarked that Pamala, Katello, and still another of the band looked very much alike.

Meanwhile Katello began making known his wants in the matter of tea and tobacco; but I could scarcely undertake the trading in the absence of Charles and all the rest of our "family" at the fish camp. However, I invited them to make use of Anoteelik's hut as a bunkhouse. Moreover, on one of his visits into the cabin, Katello wheedled me out of a temporary supply of matches and tea, as well as a hunk of the first and none too successful bannock I had made that season (having always baked cornbread until the supply of cornmeal ran out). Then I conducted him a hundred yards down the river to the remains of a caribou doe that had been utilized as a specimen some days previously, and I indicated that he might have the *tooktoo.* He promptly shouldered the carcass (minus head and hindquarters) and carried it up to the hut.

In approaching the camp soon after the Eskimos' arrival, I had passed close to a gill net hung up to dry, and happened to entangle in it some twigs from an armful of firewood I was carrying. When I sought to disentangle the twigs, several of the Eskimos (Alakahaw, Katello, and Kakoot) fell to and helped. Such a spirit seems characteristic of these people of the Barrens.

Presently Katello and Alakahaw each produced a matchbox stuffed with crude, flat skins of varying lemmings (*Dicrostonyx groenlandicus richardsoni*), ducklings, Semipalmated Plovers (*Charadrius semipalmatus*), and Lapland Longspurs (*Calcarius lapponicus*) —without legs, of course without data, and generally useless scientifically. Having heard of my concern with natural history specimens, they evidently thought they might do a little trading with me. I could only tell them to wait until Charles arrived, when he would explain. Meanwhile I showed them some of my own birds and mam-

mals, stuffed, labeled, and pinned to a beaverboard while drying, in order that they might get a glimmering notion as to the essential procedure with scientific specimens.

After dark Katello came into the cabin to fetch me, holding up two fingers and saying "Hikwa" and another name, doubtless "Angwokook." I followed him with a flashlight to the hut, and there were two additional Eskimos. I was not exactly pleased at having in camp an Eskimo with such an unsavory reputation as Hikwa's. On the other hand, Angwokook, a son of Katello, was a first-rate fellow, he and Alakahaw being rated as the very best in the band.

It may be appropriate at this point to quote the following remarks by Binney (1929:13, 15) on the contrasting characters of Indians and Eskimos:

"The Indian of the woods and lakes differs very widely in character and in mode of life from the Eskimo of the Barren Lands. The one is subtle under the deep shadow of the forests; the other is clear-cut in the open spaces of the tundra. . . .

"It is a curious fact that, in marked contrast to the open countenances of the Barren Land Eskimo, the Pâdlimiuts who dwell on the fringe of the forest country have in their features the reflection of Indian craft and subtlety."

A study of the expressions of the six visitors from the Kazan River (pl. 7, fig. 1) suggests that Hikwa, more than his companions, may exemplify Binney's characterization of the Pâdlimiut. There is also a discussion by J. B. Tyrrell (1897:166–167) of a difference in moods between the Pâdlimiut and their Chipewyan neighbors.

Back in the main cabin, still in the mistaken notion that Katello was Pamala, and for the fun of showing the supposed medicine man a trick that was beyond his own powers, I removed and replaced my "store teeth," whereat he was much surprised and amused. He watched as I wrapped a ptarmigan specimen in cotton and pinned it down on a beaverboard; and then I prepared some sedges for the plant press. Seeing me strip off some of the old basal leaves, he did likewise with another of the plants. Here was one more illustration of an Eskimo's knack for imitation.

After I had finished supper, Angwokook came in, and accepted my invitation to sit down. I told him (without, of course, expecting him to understand) that it was too bad we couldn't talk much; that Charles or Fred ought to be there as interpreters. Meanwhile I showed him some of my specimens and sketches. Angwokook was

wearing a ragged-edged parka, apparently of caribou skin with the fur inside, and with the hood thrown back. His long black hair was hanging down over his ears and neck; he was prevented from cutting it by one of Pamala's taboos, as already explained. His breeches were apparently woolen, and of a military cut. In commenting on a photographic portrait of Angwokook, Prof. Frank G. Speck spoke of the impression it gave of looking through and through one. Who can tell to what far horizons the look of a primitive man may extend?

When Eskimos come indoors, a distinctive and not very unpleasant aroma permeates the atmosphere; it may be derived not so much from their unwashed bodies as from their skin clothing, more or less smeared with fish oil and animal grease.

None of the Eskimos seem to know their own ages. The approximate ages of this group (as estimated by Charles or myself) and their measured heights (with 10 mm. deducted for footgear) were:

Katello (55)	1618 mm.	Alakahaw (25)	1605 mm.
Hikwa (40)	1622 "	Kakoot (14)	1433 "
Angwokook (30)	1595 "	Amelook (13)	1373 "

Thus the heights of the four men varied little more than an inch (between 62¾ and 64 inches). After one or two of the group had been measured in the cabin, the others seemed to come flocking in, as if not to be left out! Or perhaps they just wanted to be accommodating.

The hair of all, including old Katello, was raven-black, and quite unkempt. Katello had the most whiskers. Angwokook's locks hung down on the front of his parka to within about 6 inches of his waist. The hair of the others was more or less trimmed. Alakahaw had an exceptionally thick bobbed thatch, suggestive of one of Kipling's "Fuzzy-Wuzzies." General complexions were distinctly lighter than those of full-blooded Indians. Kakoot's eyes were fairly light brown. Thick lips and broad, somewhat flattened noses were characteristic of the group as a whole. However, the bridge of Hikwa's nose was remarkably narrow (*cf.* Jenness, 1959:708), and his lips were noticeably thin in comparison with those of the others (*cf.* pl. 7, fig. 1). Their lips seemed to be more generally parted than closed—whether from adenoid trouble or something of that sort, I could not say.

The parkas worn by most of the group were of caribou skin (fur inside) with a swallowtail rear. One or two also had parkas of duck (canvas), worn separately or over the skin parkas. The Eskimos did not seem to bother to pull up their hoods during rain. Hikwa

alone had the border of his hood decorated with rows of beads. Katello wore something like a lumberman's plaid shirt beneath his parka. Most of the parkas were provided along the bottom with a fringe consisting of small strips of caribou hide, perhaps four inches long and 1/16 inch wide. Charles Schweder said these strips were of belly skin, and that they originally had the fur on, but this wears off.

The trousers in general seemed to be of overall (manufactured) material. Footgear consisted chiefly of *komik* of tanned caribou skin, with the fur inside; they reached nearly to the knee. (The *komik* for summer use are of raw caribou skin, without the fur, and are more or less waterproof.) The trade price of *komik* varies according to the quality of the hide, not the workmanship. One of the boys (Kakoot) had merely rubber overshoes for footgear. Much of the clothing was worn, tattered, and patched.[23]

These Eskimos do not use snowshoes. During the greater part of the winter the snow is packed so hard by the wind that snowshoes are unnecessary.[24]

Their principal article of diet is obviously caribou meat—not too well cooked. The frozen meat may be eaten quite raw (Marsh, 1947:pl. 2), along with hot tea.[25] The caribou are not present on the upper Kazan River the year round, but merely pass by on their annual migrations. They are normally absent during part of July and from, say, October to April. In good years enough may be killed in the fall to last through the winter.[26]

Fish are doubtless next in importance. The Common Whitefish (probably *Coregonus atikameg manitobensis*) is the principal food fish of the upper Kazan River. Originally the people do not seem to have had gill nets of their own manufacture; but now they use commercial nets. They also use spears, hands, and probably hooks for the capture of fish. These are commonly eaten raw.

Ducks and Ptarmigan are evidently secured as opportunity offers. Tea is an important item in their fare. Flour is used occasionally, and even salt to a slight extent. Charles Schweder sold a 24-lb. sack of flour to the group of six in October, on condition that they would carry half of it to their folks on the Kazan.[27] All, unless under a taboo, eat such wild fruits as crowberries and mountain cranberries. The leaves of the common bearberry are used for mixing with tobacco; their name for the species is "Whisky Jack berry." The primary articles of trade are tea, tobacco, matches, and rifle ammunition (mostly .30-.30); somewhat less frequent are rifles, gill nets, tel-

escopes, watches, and doubtless axes or hatchets. Some of the Eskimos are even said to carry thermos bottles! They have little to offer in exchange except furs, chiefly arctic foxes (*Alopex lagopus innuitus*), red foxes (*Vulpes fulva*), wolves (*Canis lupus hudsonicus*), and caribou-skin clothing. All are said to scratch matches on their teeth.

As an example of their improvidence and gluttony, there is the case of a group of five who consumed 30 pounds of tea in a month, and then probably went for an indefinite period without any.[28]

According to Charles Schweder, the children on the Kazan are "always" engaged in some game or other. On October 4 I noticed Mike Schweder and one of the Eskimo boys playing tag. The latter was so quick and dexterous that, when tagged, he could almost invariably tag Mike back without moving from his position. Later in the day the two Eskimo boys, with Fred and Mike, were amusing themselves at the river's edge, in the rain, by throwing stones. Some they bounced off the larger rocks projecting above the surface, or used as missiles in attempting to hit smaller projecting rocks; others they tried throwing across the river (here 50–60 yards wide). Their expert marksmanship was obvious; it must come from long practice, and perhaps also by inheritance. They also threw stones by means of a sling, which presumably belonged to one of the Eskimo boys. Birket-Smith (1929*a*:116, fig. 29) mentions the use of this implement by the Caribou Eskimos. Charles Schweder states that these people use a sling very commonly, endeavoring to strike such targets as gulls, but he has never seen them succeed in their efforts.

The following day Kakoot and Amelook engaged in a sort of tug of war while sitting opposite each other in the cabin. They had a double loop of strong cord, like small tent rope, and each took hold of an end with one hand, generally pulling down a sleeve over that hand as a sort of mitten or pad. Then each would pull toward himself with flexed elbow, frequently bracing the other hand on his opponent's shoulder. Angwokook joined in a time or two and easily won, strong though his boy opponent was. There is apparently no end to the simple ways in which these children of the Barrens amuse themselves. All games seemed to be played with the utmost good nature.

On one occasion, when Kakoot wandered into the cabin, I invited him to sit on a bench. Presently he began an aimless, tuneless whistling, and kept it up for some time. It was just about such whistling as a white boy of his age might indulge in. Then he sang

a little—perhaps no words, but just sounds (as we do).

On the morning after the arrival of the Eskimos, they were not in evidence when I arose. They were said to have played poker till at least 3 or 4 o'clock in the morning. The next evening Alakahaw was playing checkers in the cabin with Charles Schweder.

Some years previously, Alakahaw had suffered a fracture of his leg near the hip, through the overturning of a dog sleigh on a caribou hunt. He was brought in by one of the other Eskimos, and recovered, but the injury resulted in a pronounced limp. Thus he went by the nickname of "Limpy." He carried a walking stick, the head of which was in the form of a figure 4. Despite his physical handicap, Alakahaw was rated the best traveler in the group after Angwokook.

On the morning of October 6 the group put their packs together and set off for the Kazan. Angwokook had borrowed a dog and a travois to help out with their burdens. Even so they were rather heavily laden. Katello had the biggest pack in the lot, weighing about 50 pounds, and Fred carried it for him the first quarter of a mile. When the old fellow had gotten up from his bunk that morning, he did so slowly, with hands on his knees, as if the latter were stiff. The lot of an aged Eskimo is not an enviable one.

The packs, in general, consisted of sleeping bags, with probably other possessions rolled up inside. They were tied together with small ropes or leather straps, and suspended on the back by means of ropes or straps passing either across the chest or over the forehead, or both ways simultaneously (*cf.* Birket-Smith, 1929*a*:184, fig. 56). Small rope seems to be doubled when thus used. Hikwa shifted his rope tumpline from chest to forehead, and perhaps others did likewise. The chest position seems to be the more habitual one, uncomfortable as it may be. This position doubtless gives a traveling hunter more freedom to move his head about in the constant lookout for game. (I noticed Fred Schweder, Jr., carrying his own pack in this way.)

After proceeding about ¾ mile, the group divided, Katello and Angwokook going by themselves. This was presumably to facilitate hunting during the day's march. I accompanied the Eskimos for about a mile, to secure photographs. Charles said they took seven days for the down journey of about 60 miles; they might easily spend a longer time on the homeward journey, with the additions to their loads. For example, each was carrying 5 pounds of tea (among other trade goods) to the Kazan. Among the supplies were two dolls for

the children. There were about six inches of snow to trudge through. The two boys were bent under loads that seemed bulkier than the average. That was verily a strange, wild scene as I bade farewell to these very primitive representatives of mankind on the snowy Barrens. They set forward, undaunted and uncomplaining, to continue their sometimes unequal struggle for survival in that harsh environment. They knew none other or better; and they were adjusted to it.

The Kazan residents, like other Eskimos, are distinctly friendly, good-natured, likeable people. On the other hand, certain of their tribal traits are far from being in harmony with civilized standards. Personal cleanliness, including bathing or even hand-washing, is apparently beyond their ken. "The most dirty Eskimos I have seen" is Birket-Smith's characterization (1929*a*:223) of the Pâdlimiut. The floors of their dwellings are too filthy to set a dish on—almost to set foot on. When Charles visits and eats there, he holds his cup on his knee, while sitting on a bed of snow, and manages to cook meat in his own kettle on their stoves. The Eskimos cook their meat in a kettle, then put it on a wooden serving tray; they pick out a piece with their fingers, seize one end in their teeth, and cut off a mouthful with a knife right in front of the nose (*cf.* Birket-Smith, 1929*a*:147; Marsh, 1947:90–91), while the onlooker watches to see if a piece of the nose will go, too! The regular place for defecation seems to be in the immediate rear of their tents or igloos.

They pilfer from one another as well as from outsiders. They may complain to a trader about their neighbors' stealing of foxes out of their traps, but say nothing to each other. (They do not maintain individual trapping territories.) In a time of starvation some of the men allow their women and children to succumb, even while maintaining some of their dogs. In fact, there was a dark suspicion of anthropophagy during the winter of 1946–47, when two women and a girl disappeared from one family; no graves were subsequently noticed in the neighborhood, where they would have been located under normal circumstances. When government rations were distributed to an old woman and a child at this time, others deprived them of these rations and allowed them to starve. In recent years there have been a couple of cases of a father destroying a newborn girl baby. In the last case the man had had no children by two previous wives, and only this one by his third wife.

The men buy their wives from the fathers of the latter. In one

case the price was 12 arctic fox skins, at a time when they were worth about $30 apiece. In 1947 one of the men, who had lost both his wives during the previous winter, wanted Charles to intercede for him in obtaining one of the two wives of the medicine man. On the other hand, the medicine man was said to want also the sole wife of one of his neighbors. As far as known to outsiders, there is no temporary sharing of wives by mutual agreement, even in the present shortage of women.

The men's laziness is brought out by Charles Schweder's statement that they sit down cross-legged and drink tea all day, while the women and children do all the work. The wives do not rebel; they would get beaten if they did. Each Eskimo can apparently do what he pleases with his own wife. Half a dozen years previously the elder Kakoot (now deceased) came down to Windy River with the younger of his two wives. On their return to the Kazan, he struck her. In the night she got up, walked away, and was never found. Perhaps her injury had been serious enough to have contributed to her death. On the other side of the picture, Angwokook and Alakahaw are said to treat their wives well; both of the latter survived the previous starvation winter.

A good many of the Kazan people seem to have pulmonary disease. It would naturally spread fast in the utter lack of sanitation.

The present Kazan River group is split up into several different camps. Katello and his son Angwokook generally camp together, as is natural. Charles has seen as many as four families living in one igloo. They do not usually accumulate more possessions than they can move in one trip as they shift from place to place in their nomad existence.

The people do not seem to feel or show any concern over their dwindling numbers. In the preceding twelve years only about three children are known to have been born among them, and only two of these survived.

According to Charles, these Eskimos carry telescopes wherever they go, for use in hunting. Angwokook was carrying his in a little cloth case made of overall material. It was slung over one shoulder and under the other while he was hunting. It was evidently a cheap affair, with no maker's name on it; it was in about four sections, with a length of perhaps 16 inches when extended. The brass ring to Katello's pipe came from a telescope.

A few years previously "all" the Kazan Eskimos had watches. These apparently wore out and were discarded.

Fred Schweder, Jr., said he had known Eskimos to count up to 50, and that they have a word for each separate number (*cf.* J. B. Tyrrell, 1897:199; Stefánsson, 1914:58; Jenness, 1922:229). Charles said they have a name for every bone in an animal's body (or their own); also for the stars (for example, the Big Dipper is a buck). Also that they have imaginary "little men" (that is to say, fairies or rather elves) that live about in the muskegs and peat bogs.

Their word for "Thank you" is *mat-nah'*. Whenever I spoke this this word to one of them, he would generally respond with the same word, as if perhaps it meant something like "You're welcome" as well as "Thank you."

Other Eskimo (Pâdlimiut) words: *tooktoo,* barren ground caribou; *aka-dyuk,* ptarmigan; *komik,* caribou-skin boots; *ooloo,* woman's knife; *pahloot,* mittens; *attigi,* inside coat or parka; *piksiah,* good; *ah'-ho,* enough. Their name for mushrooms is said to signify "caribou food."

When I looked into the face of one of the boys to ascertain the color of his eyes, and made a sign for him to look at me, he opened his mouth! This was probably the effect of the medical inspector's visit a couple of months previously. (He did not go so far as to say "Ahh.")

Some of the Eskimo women do hunting and trapping. One of Pamala's wives has been known to go off for three or four days, by herself, on a caribou hunt.

Katello has had three wives. One, with two daughters, was lost by falling through the ice. Another succumbed during the starvation winter of 1946–47. Angwokook and Amelook are his sons by different wives.

On the first evening of his stay at the Windy River post, after sitting in the cabin for a time, Angwokook went out in the dark and the rain, chopped a lot of wood, and brought in a couple of armfuls. He very thoughtfully attended to the fire in the stove a good part of the next day. Such a good deed seemed characteristic of the Eskimo visitors. During the previous winter Alakahaw and Pamala had hauled a lot of wood to the cabin with their dog sleighs. Alakahaw brought me a red squirrel that he had shot, and I prepared it as possibly the only scientific specimen of that species ever collected by a

Canadian Eskimo! There are few localities where the two occupy the same habitat.

The medicine man, Pamala, was not the only one in the band that imposed on other members. A mere "big shot," the late Kakoot, was a somewhat similar grafter. He got an arctic fox from one of his neighbors, and simply gave a Hudson's Bay calendar in return. It was presumably this Kakoot concerning whom Mallet (1930:83–102, pl. opp. p. 83) has written an interesting chapter.

Charles has heard from Pamala that the Eskimos used to make bows of musk-ox horns (*cf.* Birket-Smith, 1929*a*:103), putting grease on them and holding them over the fire and bending them, until they became nice and springy. They probably also thinned them down. He thinks Pamala said they used two to make a bow. This was said to have been done in Pamala's own time (his age was about 60); and probably at his original home, down toward Baker Lake, not on the upper Kazan River. (An Eskimo reported seeing two musk-oxen at Angikuni Lake on this river several years previously; but Charles remarked that he doesn't believe everything an Eskimo says.) The Eskimos also used musk-ox horns for the lateral pieces on a fish spear (*cf.* pl. 6, fig. 2)—not for the point between them.

I had no opportunity to check personally on a point raised by Stefánsson: that, contrary to many published statements, Eskimo women do *not* carry their babies in their hoods (*cf.* Marsh, 1947:87). However, when I put the case before Charles Schweder, he was rather emphatic in stating that the Kazan River women *do* carry their babies thus, at least up to the age of a year or two.[29] Corroborative information has been received from Dr. Robert F. Yule (*in litt.*, September 18, 1962). Furthermore, a film produced by the National Film Board of Canada, pertaining to Eskimo life in the Chesterfield Inlet area, definitely shows babies being carried in hoods. Possibly there is a regional difference in this custom.

The Eskimo women have a peculiar sort of knife, called *ooloo* (see Birket-Smith, 1929*a*:140–141, fig. 41; Marsh, 1947:95, left-hand fig., and 1951:66, upper fig.; Harrington, 1952:240, fig.). They use it for skinning caribou and for cutting out pieces of hide for footwear and clothing. Little Rita had one that had been made by Pamala. The blade, shaped somewhat like the segment of a circle, was made from an old saw, and its curved edge had been filed down for cutting. A section of caribou horn, placed parallel to the middle of the cutting edge, served for a handle. Connecting the handle and

the apex of the blade was a double strip of aluminum, wedged into the middle of the horn and riveted to the blade with sections of two nails.

On the use of "Eskimo lamps" or "Eskimo candles," with caribou fat for fuel, see Birket-Smith (1929*a*:90–93, fig. 21b–c), Weyer (1932:103), Marsh (1947:88), and Harper (1955:60).

Among the visitors in October, Angwokook alone had an ear pendant (*cf.* Birket-Smith, 1929*a*:229–230, fig. 87d–e; Marsh, 1951:65, fig.). Originally he had a pair, but had lost one. The remaining pendant consisted of three strands of trade beads (white, red, and black), each strand about 60 mm. long, exclusive of a caribou incisor at the tip, with a tiny hole drilled through its base.[30, 31] They were fastened at the top to a thin strip of caribou hide passing through a hole in Angwokook's ear lobe. Charles thought the hole had been made with a red-hot needle, then kept open with a stick until it healed. The pendant had been made by Angwokook's wife. At first Charles thought he better not ask the owner to give it up, but eventually he brought it to me, with the remark that he could get anything he wanted from the Eskimos! When I jokingly suggested to Charles that Angwokook's wife *might* not beat him up when he returned home without the beads, he made it very plain that obstreperous action on the part of an Eskimo wife was rather unthinkable.

Later Angwokook unfastened another bead ornament (pl. 8, fig. 2) from the peak of the hood on his parka, and passed it on likewise. This consists of four strands of white, red, and black beads. Three of the strands average about 70 mm. in length, exclusive of a caribou incisor fastened at the tip. The fourth strand is a little longer and terminates in a small loop, without a caribou tooth. The incisors are fastened to the beads with caribou sinew. Similar bead ornaments are said to be worn on each breast of a parka or a shirt.

Among the ethnological material secured was a pipe shared by Katello and Angwokook—a sort of family affair. It was made by Katello. The bowl is of pipestone, obtained probably between Padlei and the Kazan; the top, about 22 mm. in diameter, is rimmed with brass from a telescope. The bowl had been gotten into very symmetrical shape with a file. Its bottom is wrapped with caribou sinew. The stem is of willow, with the pith twisted out. A brass rifle shell (.44-.40) caps the distal end of the stem. (*Cf.* Birket-Smith, 1929*a*:148–149, fig. 47; Downes, 1943:214.)

Charles eventually gave me a demonstration of the method of

removing the pith from the willow. He took a branch or stem perhaps 20–24 inches long and half an inch in diameter, and he may have peeled the bark from it. Four or five inches from one end he cut a circular groove through the wood down to the pith. He then heated the shorter portion over a fire for the purpose of loosening the pith. When that operation is done properly, the pith may be twisted out by rotating the longer, unheated portion of the branch with one hand while holding the shorter, heated portion in the other. (*Cf.* Manning, 1948*a*.)

Similar pipes were secured from Alakahaw and Hikwa (pl. 8, fig. 2). Alakahaw's was presumably made at his camp on "Yule Lake," northeast of Ennadai Lake. The stem is similar to the others, and wrapped with sinew. It is ornamented with brass from a rifle shell. The top is about 20 mm. in diameter. A hole in the side of the bowl is repaired with a bit of aluminum as an inset. Hikwa's pipe was just being smoked by Amelook. It was made on the Kazan River. The brass rim of the pipestone bowl, 25 mm. in diameter, was from a telescope. The pipestone probably came from the same locality as Katello's. The stem is of willow.

The base of each of the three pipes is formed differently. All are noteworthy for their small capacity. The exposed portions of the stems vary from 70 to 151 mm. in length; they average about 13 mm. in diameter.

A three-pronged fish spear (or "leister," as Birket-Smith [1929*a*: 119–120, fig. 31] calls it), made by Pamala, was secured from him. The broken shaft, of spruce, is now only about 4½ feet long and 1½ inches in diameter. (Charles Schweder has seen spears up to 15 feet in length.) The two lateral pieces were originally parts of a steel fox trap; they are tied to the shaft with braided caribou sinew, and held in place by nails. A backward- and inward-pointing barb in one of them is a piece of iron; it is supported by a piece of caribou horn, riveted to the lateral prong with a nail. The corresponding barb on the other side is lost. The middle point in the spear was probably part of a bucket handle, of galvanized iron; it is inserted in the split end of the shaft. With such a spear (pl. 6, fig. 2; see also Barnett, 1956:80, fig.) an Eskimo would secure any large fish happening to appear in the Kazan River, where the principal species are Common Whitefish and Lake Trout (*Cristivomer namaycush*). He holds onto the spear, not throwing it clear.

The caribou spears seen at Windy River, and used by Anoteelik

(pl. 2, fig. 2), are of minor interest, being of civilized manufacture and secured through the trade (*cf.* Birket-Smith, 1929*a*:109–111, fig. 25; Barnett, 1956:80, fig.). The metal part is about 18 inches long. Its base is a slender, hollow cone, into which a wooden shaft is thrust; a nail driven through a hole in the base holds the shaft in place. The middle portion of the metal is slender and round. The tip is somewhat diamond-shaped, flattened and sharpened. The shaft used by Anoteelik was about 4½ feet long (Harper, 1955:56, fig. 15).

Two drills (pl. 8, fig. 1) were secured from Pamala at his camp on "Yule Lake," northeast of Ennadai Lake. The wooden shafts are 255 and 282 mm. long, and about 20 to 25 mm. in diameter. One has been turned on a lathe, and may have been an old broom handle, picked up at Windy River, or perhaps brought to the Kazan by an aerial survey party several years previously. The other is apparently of native spruce, roughly rounded. The heads are made of nails, flattened and filed into drill points. They project 62.5 and 64 mm. from the shafts. (*Cf.* Birket-Smith, 1929*a*:239, fig. 90; Barnett, 1956:83, fig.)

Another tool, also made by Pamala, might be called a hole-cleaner (pl. 8, fig. 1), since its function is to draw sawdust out of a hole being drilled in wood. The handle is a forked piece of caribou antler, 156 mm. in length, with a base 33 mm. in diameter. Into this, a straight, round piece of metal, perhaps originally a bucket handle, has been thrust; it projects 213 mm. The inner end of the metal has been flattened (evidently by hammering) for insertion into the bone handle. Throughout the rest of its length this metal piece has been nicked (with something like a butcher knife, as suggested by Charles) in numerous places, so that it will catch the sawdust and draw it out.

Single caribou antlers may be put to a peculiar use as brakes for a dog sleigh, when the excited dogs in harness attempt to pursue a caribou (*cf.* Marsh, 1947:94). Such an antler has a notch or groove chopped in it near the base with an axe. A rope, perhaps a couple of feet long, is fastened to this notch at one end and to the sleigh at the other. To halt the dogs, the driver merely presses the downward-turned points of the antler into the snow or against the ice. A specimen, of Pamala's manufacture, was secured at Windy River.

Anoteelik's ring-and-pin game, already described on pages 21–22, was also obtained.

A snow knife, for making igloos and arranging snow about traps, was made by Angwokook on the Kazan River and brought down to

Windy River. The handle consists of a straight piece of caribou antler, planed down. It is 286 mm. long, 50 mm. wide, and 17 mm. thick. One end is cleft for the insertion of the blade. It is wrapped with back sinew from a caribou. The metal blade is part of a sleigh runner. It projects 228 mm. beyond the handle, and it is 51 mm. wide. One side is filed down to a cutting edge, and the tip is somewhat pointed. (Compare Birket-Smith, 1929*a*:78–81, fig. 12.)

There is also another snow knife (pl. 8, fig. 1), made by Pamala for use in setting traps, a short time before December, 1946. The handle is a section of a caribou antler, 248 mm. in length; the main part varies from 25 to 35 mm. in width. It is wrapped with friction tape and riveted to the blade with what appear to be the heads of two nails. The metal blade is 347 mm. long, slightly tapering toward the rounded tip from a base 45 mm. wide. Both sides and the tip are filed down to an edge.

On July 30 Fred Schweder, Jr., found an ancient, lichen-covered, double-bladed Eskimo paddle (pl. 6, fig. 2) at a lake about 3 miles northwest of the Windy River post. "The ground was almost grown over it." Charles Schweder said it was made of spruce, and he estimated its age at 40–60–100 years; he further remarked on its being the first definite evidence that had come to his knowledge of the former occupation of the Windy River area by Eskimos. The paddle is 7 feet 10⅞ inches in length. One of the blades is 25½ inches long and 2¾ inches wide; the other, 26⅛ inches long and 3⅜ inches wide; each is ⅝ inch thick. The distal ends of the blades are rounded; the proximal ends are constricted, and succeeded by a slight circular ridge or boss at either end of the main shaft. The purpose of these, it was said, is to prevent water from running down from the upraised blade onto the paddler's hands. The shaft is roughly rounded, about 1⅛ by 1⅜ inches in diameter.

The following Eskimo clothing was obtained from the upper Kazan River area:

A pair of *komik* or boots, made by one of Pamala's wives, of tanned(?) caribou skin (autumn). The fur is on the inside except on the extra, untanned sole piece, where it is on the outside and wears off rapidly with use. The seams are sewed with back sinew. The tanning(?) process is not known; possibly the skin is only scraped. A thin strip of caribou hide, about 2 feet long, is fastened on each side of the boot, below the ankle, and is used for lacing around the leg

part. The height of the boots is 14–15 inches. (Compare Downes, 1943:215.)

A similar but shorter pair of *komik* (pl. 8, fig. 2), made by Alakahaw's wife.

A coat or parka, with the fur outside (pl. 6, fig. 4), made for a man (a woman's coat extends farther down at the back). This is of tanned caribou skin, apparently a doe or a small buck, and probably secured in September. A hood is attached. There is also a pair of caribou-skin trousers. Both garments were made by one or the other of Pamala's wives.

A girl's parka (made for Rita by Angwokook's wife Tablo, but found too small in view of Rita's rapid growth during the summer on the Windy River). It is made of caribou doeskin (probably secured in September). The back of the hood is of white fur, from the belly. The fringe along the bottom of the parka is made of thin skin (perhaps from the belly), cut into strips with knife or scissors.

A pair of mittens (Eskimo, *pahloot*) (pl. 8, fig. 2), made by one or the other of Pamala's wives from the leg-part of the caribou (probably a November skin, since the hair is long). The thumbpiece, made to fit an Eskimo, is too short for an Anglo-Saxon.

Dr. Robert F. Yule's Reports, 1947

Dr. Robert F. Yule, Medical Superintendent of The Pas Agency, Department of National Health and Welfare, for 15 years until his retirement in 1957, has very kindly allowed me to present the following summary of his reports on the Kazan River Eskimos for the year 1947.

On a trip to Brochet on Reindeer Lake in February of that year, Charles Schweder reported to Dr. Yule on the deplorable condition of his Eskimo friends. Some of those on the Kazan River, being without food, had moved to his little post on the Windy River. Before starting for Brochet on February 7, he had turned over to them all the caribou meat and other food supplies that he felt he could spare. All but three or four of their dogs had died. Charles suggested the immediate need of 700 pounds of flour, 75 to 100 pounds of lard, 25 pounds of baking powder, and a quantity of tea and matches to relieve the distress of the Eskimos.

For his own part, Dr. Yule predicted that within the next five years the caribou would have ceased to be a major factor in the economic life of the Eskimos. In covering a large part of northern Manitoba by

plane flights during recent weeks, he had noted caribou only by tens where they formerly occurred by hundreds, and in large areas he had seen no animals at all. Among the factors in their disappearance, he noted indiscriminate slaughter by all the residents along their migration routes, the large number of unnecessary dogs being fed on caribou, and wolf predation. He stressed the need of some alternative means of support for the Eskimos of Keewatin and for the Chipewyan Indians of northern Manitoba.

On March 12 Dr. Yule set out from The Pas in a plane piloted by Thomas Lamb and carrying 1,100 pounds of food. At Brochet, the next morning, they took aboard Fred Schweder, Sr., as guide and proceeded north. Owing to a limited gas supply, they landed on Nueltin Lake opposite the mouth of Putahow River, unloaded their goods, and then returned to Brochet for more gas. The next day they started north again and landed near the Windy River post. Two Eskimo families were living close to the post, while four others had remained on the Kazan. Charles Schweder offered to take his dog team and fetch the food supplies left near the Putahow River.

Dr. Yule was the first medical man that this group of Eskimos had ever seen. He remarked that they were pagans, and that "the only God they have is this young chap" (Charles Schweder). He did not consider it advisable to supply them with food regularly, since it would result in a tendency for them to "sit around and wait for a handout." If the caribou failed, "they simply could not live in their present habitations in a white man's clothes." Meanwhile he was arranging for Mr. Lamb to take in another full load of supplies in late March (1947).

Alfred Peterson, a trader then residing at Brochet, informed Dr. Yule that there had been a failure of caribou in 1927 and that consequently many of the Eskimos had died of starvation.

On July 31 Dr. Yule flew in once more to the Windy River post in Mr. Lamb's plane, with a load of supplies on board. He was accompanied by Mrs. Yule, who thus became the first white woman to visit Nueltin Lake. At this time Charles Schweder informed Dr. Yule that two trips with dogs had been made to the Putahow River area to bring in the supplies left there in March. He and his brother Fred had then made four trips to carry these supplies northward to the Kazan River to relieve the starving Eskimos there. On his first trip Charles found that three women and one child had died of starvation, and that the others would have soon met a like fate. He

described these Eskimos as selfish and individualistic; the stronger ones take the food and let the women and children die. He also reported them as opposed to being transported to Padlei and as not mixing with the natives there.

His loads had consisted all told of 1,275 pounds of flour, 120 pounds of milk powder, 210 pounds of lard, 100 pounds of beans, 160 pounds of rolled oats, 1 case of ammunition, 20 pounds of tobacco, 2 cases of baking powder, 2 cases of tea, and 24 packages of cigarette paper.

On the next plane trip (August 9 to 11, 1947) Dr. Yule took a supply of fish nets and ammunition for the two Eskimo camps along the Kazan River. On the latter part of the way he was guided by Charles Schweder. At the first camp the people were found to have plenty of caribou meat; but at the second, only a little. In order to accustom them by degrees to medical examinations, he looked them over only superficially on this occasion, finding that they had good teeth, normal tonsils, and no skin conditions. Their appreciation of nets and ammunition was "almost pathetic"; and their general courtesy and thoughtfulness were noteworthy.

Between the two camps a visit was made to the grave of the renowned Kakoot at a lake named for him. This mighty hunter has been memorialized by Mallet (1930:83–102). He had died about three years previously. His body, resting on the ground and wrapped in caribou hides, was surrounded by stones and had been originally covered with a canoe (subsequently blown off). Around the grave were probably $500 worth of goods, consisting in part of two canoes, an outboard motor, household utensils, an Edison gramophone, an alarm clock, and an uncounted number of traps. According to Charles, at no other grave in that area was such an accumulation of material to be found. (See Mallet, 1930:24–26.)

Dr. Yule concluded that lack of essential supplies, such as ammunition and fish nets, had been a big factor in the Eskimos' deficiency of food. He felt that nothing should be given them that they have been in the habit of making out of caribou hides. He suggested that they be supplied with the following articles: needles (with eyes large enough for the insertion of caribou sinew), small axes, gilling twine, rope, small tin stoves (with pipes), ammunition, pots, pans, traps, fish nets, hooks and lines, tea, tobacco, candles, and dogs.

Postscript

The starvation winter of 1946–47 was by no means unprecedented.

"One of the principal causes of [the Caribou Eskimos'] decline is the terrible periods of famine which have ravaged the country. One of the worst is said to have been the winter of 1919; people were then living between Hikoligjuag and Eskimo Point, but this stretch is now almost deserted. . . . The Hudson's Bay Company employees believe that at least 100 people perished that winter; but every winter some people here or there seem to die of hunger and, unless vigorous measures are taken from the outside, the day is not far distant when the Caribou Eskimos will have to be entered on the sad list of extinct tribes." (Birket-Smith, 1929*a*:68.)

It is perhaps no mere coincidence that at approximately this same period there was a catastrophic decline in the vast herds of the Labrador Barren Ground Caribou (*Rangifer caboti*) (Harper, 1961:130, 138). The cause has never been satisfactorily explained; apparently no human agency was appreciably involved. Possibly it was an epizootic that affected the two widely separated species of caribou at this period.

These periods of famine in Keewatin "have doubtless become worse during the lifetime of the last generation, which is perhaps due to no small extent to the introduction of the rifle among both the Eskimos and the Indians, because it is liable to mislead them into heedless slaughter. Probably a great deal of the responsibility must also be laid upon the intensive fox trapping, which makes the Eskimos entirely dependent upon the shop. The man who dies of hunger among fox skins to a value of $500 is hardly an unknown phenomenon. . . .

"During the summer caribou hunting is continued . . . . A lively fishery also goes on in the lakes, particularly since the introduction of nets. The gathering of eggs, and later of berries, must also be mentioned. And yet the Eskimos are by no means safe from periods of starvation even in summer." (Birket-Smith, 1929*a*:135.)

For a further discussion of the relations of *Rangifer arcticus arcticus* to the Caribou Eskimos, see Harper (1955:5, 47–61, figs. 3–6, 15, 16).

Since the 1947 tragedy there has been considerable discussion of the future of these Eskimos. One of the early suggestions was to move them to some other area in the Barrens, such as Padlei—thereby

overpopulating that district; or perhaps even down into the forested country—an altogether unnatural environment for an Eskimo. There was also talk of supplying them regularly with government provisions. These were something less than ideal solutions from the viewpoint of ethnologists. The latter would perhaps be right in maintaining that the only worthwhile Eskimo is one living on his own native heath and providing for himself by his own labors and resources. A blow at his independence has already been made by extending to him the scheme of family allowances.

One means of enabling these natives to survive after a caribou migration during the late summer and autumn had not materialized sufficiently, would be to keep them supplied with fish nets. In any year of caribou failure they would doubtless be aware of the emergency facing them at least several weeks before the "freeze-up." They would then be generally able to put up a sufficient supply of fish (particularly Whitefish) to last them through succeeding months. They could even set the nets beneath the ice to some extent during the winter. Apparently the starvation winter of 1946–47 caught them without a sufficient supply of nets. They do not make their own nets, but depend upon the manufactured article.

Even if the fish as well as the caribou failed them, they could get word of their plight to some trading post or radar station, where it could be passed on to suitable government agencies. In such an emergency supplies could always be shipped in by plane. But the Eskimos will not be benefited in the long run by pauperization; they should be given to understand that they must stand upon their own feet.

Above all, every possible effort should be made to restore the caribou to their former abundance on the Barrens. The restoration of the Eskimos' independence and self-respect would then follow almost automatically. It would be well worthwhile to endeavor to inculcate in them a few elementary principles of caribou conservation. However, they evidently do not see themselves as others see them; they apparently feel no particular concern over their personal or tribal future, dubious as it may be.

After 1947 there were recurrent scarcities of caribou. For example, Charles Schweder wrote from Nueltin Lake on March 15, 1948, that the Eskimos "are getting hungry again." The next spring, however, he reported: "Lots of deer stayed up all winter . . . between Kazan and Nueltin."

On May 5, 1950, Dr. Robert F. Yule, of the Department of National Health and Welfare, wrote: The upper Kazan River band "have been staying near the weather station erected last year at Lake Ennadai. They missed the caribou, so were starving. The Department brought them out [by plane] to Nueltin Lake. There has been a fishing post there this year.

"The caribou came down early and traveled fast last fall. They came farther south than ever before. As a result we had to feed the Brochet and Duck Lake Indians most of the winter. . . . I think that the deer are rapidly decreasing in numbers in the last five years."

During the same season there was starvation and death among the Pâdlimiut of the Eskimo Point and Padlei areas. A grim record of the situation, by word and picture, has been presented by Harrington (1952:199–270).

"Bishop Donald B. Marsh believes sanatoria in the Arctic [rather than in southern Canada] would help in the fight against tuberculosis among the Eskimos. . . .

"Bishop Marsh, who has served twenty-seven years in the Arctic, is a member of a committee that will advise the Federal Government [of Canada] on Eskimo affairs. He says the white man's gifts, including the baby bonus and the old age pension, rob the Eskimo of the spirit of independence that enabled him to survive amid the bleak wastes across the top of the continent." (*New York Times*, April 3, 1953.)

"The Caribou Eskimoes of Keewatin constitute one of the most primitive groups. They number approximately 400 persons, all living inland and being entirely dependent upon the caribou for their livelihood. . . .

"The Caribou Eskimo were . . . visited by missionaries but, on the whole, their culture has been very little modified by contact with the white man and their life continues its simple, primitive pattern. There is no tribal organization. . . .

"The number of caribou needed to support the average family varies widely. Among the more provident, it is about 125 per annum, but others are more wasteful and kill many more animals. The number of dogs to be fed, the skill of the hunter and the number of shells he has available are some of the factors involved. . . .

"The size of the earlier Caribou Eskimo population is a matter of dispute. From the varying reports, however, it must be concluded

that their numbers have greatly decreased since 1900 and they may well be on the way toward extinction. . . .

"Increasing contact with the [white] newcomers in . . . Keewatin . . . threatens these people with the complete loss of their culture if not with virtual extermination. . . . The process of submergence in a new community would lead to extermination. . . .

"The Eskimo people who are still happy, strong, independent and reliable in spite of adversity, should be helped to survive for purely humanitarian reasons. We have a moral obligation to help them since their economy has almost been destroyed by the use of white man's weapons and because their health has been affected by disease and foodstuffs introduced by the newcomers." (Michie and Neil, 1955:33–39.)

In 1954 Dr. Robert F. Yule (*in litt.*, September 5, 1956) made a trip to Ennadai Lake to X-ray the approximately 50 Caribou Eskimos (including our old friends from the upper Kazan) who had congregated there, evidently attracted by the radar station. By that time they had no caribou clothing, but "a conglomeration of clothes sent in by some charity organizations from the south. It appeared to me to be a pathetic sight. Especially for one who had seen them in their native outfits."

"Those Eskimos around Nueltin are just as you left them. Possibly a little more dirt around their tents. Always laughing and good-natured. I always take them up some tobacco and a few fish hooks." (Thomas Lamb, *in litt.*, July 27, 1956.)

"Caribou herds [in northern Canada] are shrinking with alarming rapidity.

"In seven years the herds have decreased almost 70 per cent. Dr. A. W. F. Banfield, Canada's senior mammalogist, estimates that in 1950 the dominion's caribou population was around 650,000, and that today there are only about 250,000. Mortality has been greater than the increase every year since 1949.

"A low rate of calf crops, for reasons not determined, is a factor contributing to the decrease. But the greatest single threat is over-slaughter by hunters." (*New York Times*, July 1, 1958.)

"As far as I can ascertain, the Kazan River Eskimos are at present settled in some houses along the coast. These houses are built by the Department of Northern Affairs for their use. Some of the Eskimos are working at the Rankin Inlet nickel mines. Others have tried their luck at commercial fishing and whaling. Whenever they

fail to make both ends meet, the government stands by to give them a handout. Whether or not this practice will prove beneficial to their well-being, only the future can tell." (Fred Schweder, Sr., *in litt.*, February 10, 1961.)

In discussing the problem of the Eskimos, Nicholson remarks (1959:23, 24):

"How may this changeover [from an earlier state of living to a wage economy] be made without smothering and ruining the dignity and self-confidence of the Eskimos? . . .

"The long-term objectives of all who have the real interest of the Eskimo people at heart must I think be two-fold: the survival of the Eskimo as a people, and their continued domicile as Canadians in the Canadian north."

Nicholson points out that, in 1957 and 1958, 320 of these people were moved from Eskimo Point and Chesterfield Inlet to Rankin Inlet, where 107 of the men found work in the nickel mines. (These mines are at least partly underground.)

On the subject of "Integration or Disintegration?," Bishop Marc Lacroix (1959) gives a sound, thoughtful presentation of the Eskimos' case.

More than a decade ago Philip H. Godsell, with a clear vision of the impending fate of the Eskimos in general, made a most moving plea for their protection against ruthless exploitation by the agencies of "civilization." On the basis of a report by Commissioner Stuart T. Wood, of the Royal Canadian Mounted Police, he stated (1952:57):

"The once self-sustaining people of the polar spaces have been brought to the point where they are forced to depend more and more on a handout from the very people who, by their thoughtlessness and avarice, have destroyed the game and other resources upon which the native population depended solely for their existence."

This tragic theme is further developed by Harp (1959:48–49, 56):

"At the end of this present decade . . . the last regular inhabitants of the Barren Grounds are being evacuated to the fringes of civilization . . . . It is unlikely that the aborigines who dwelt there throughout several thousands of years will soon be followed by other men. . . . The primitive hunters of the Barren Grounds were totally adapted to that environment . . . .

"The recent drastic reduction of the once numberless caribou is now the decisive factor in their gradual extinction and emigration. . . .

"At the cultural level of the primitive, nomadic hunters, the caribou made subsistence there [on the Barren Grounds] not only feasible, but no doubt eminently satisfying for those who knew the necessary way of life. Now, after five or six millennia, the herds have waned to near-extinction, and with them have gone the hunters. The new order of civilization has come to the Barren Grounds, but it makes of the land a vast emptiness."

One of the gravest threats confronting the Eskimos today in the entire Nearctic region is the rapidly lessening chance of survival as a pure race. By unheeding mixture with alien races from many quarters of the globe (as represented particularly by trappers, traders, prospectors, miners, and sailors), they manifest a disastrous lack of racial pride, while the hybrid offspring naturally possess a lesser degree of constitutional and psychological adaptability to the climatic rigors of the Arctic. The Eskimos are further weakened by tuberculosis, syphilis, measles, smallpox, influenza, and other bodily ills bestowed upon them by civilization. Alcohol, tobacco, white flour, and sugar contribute their deleterious effects. Only some of the most remote and isolated groups have enjoyed a comparative immunity so far. When the last pure-blooded Eskimo is gone, the race will have suffered "extinction through dilution."

More or less complete mongrelization of all races is the bleakest prospect now confronting mankind. No wild animal, without the interference of man, will normally degrade itself by hybridizing with distinctly dissimilar animals. Nature herself protects the purity of species by inflicting infertility upon hybrid offspring. Her great failure consists in not visiting the same penalty upon hybrids between such dissimilar representatives of mankind as Caucasian and Bushman, which would rate as distinct species on practically all criteria other than fertility of the offspring of mixed blood.

The possibility that radioactive fall-out may be a serious factor in the progressive decrease of the caribou herds does not seem to have been sufficiently explored. The fact that this decrease coincides pretty closely with the series of nuclear explosions that have taken place during the past dozen years or so may be of direct significance. Kelsall (1960) does not seem to touch upon the subject in his comprehensive studies of the Barren Ground Caribou of northwestern Canada.

Gorham (1958) found a very great increase in the radioactive fall-out in numerous plants of the English Lake District. "The biological

significance of these results lies in the indication that plants which have a low mineral intake and grow on extremely acid soils accumulate radioactive fall-out to an extraordinary degree. The high concentration of strontium-90 in the bones of upland sheep may well be due in part to their reliance on such plants for fodder, especially in hard times." A comparison of plant specimens collected in 1958 with others collected prior to 1947 indicated that the radioactivity of those low in ash had increased as much as fifty-fold over a decade. Gorham mentions specifically the moss, *Sphagnum papillosum.* It would seem especially desirable in this connection to investigate the lichens of the genus *Cladonia,* which constitute a highly important element in the food of the caribou. They grow abundantly on the Canadian Shield, which consists of "mainly acid" Archaean and Proterozoic rocks (Map 1045A, Geological Map of Canada, Geological Survey of Canada).

"It is now well established that radiostrontium-levels in the bones of children are higher than in adults, and this is clearly related to the rate of deposition of 'new' calcium in the skeleton. The rapidity with which the antlers of deer are formed, coupled with the fact that these animals [in Scotland] normally graze on upland pastures which are known to contain relatively high levels of fall-out radioactivity, suggested that antlers might well show particularly heavy contamination with radiostrontium." (Hawthorn and Duckworth, 1958.) These authors state that the antler of a deer shot on the island of Islay, Scotland, in 1957 was found to have a far higher level of radiostrontium than the antlers of one shot in the same area in 1952.

A later paper by Gorham (1959) indicates that the intake of fall-out in lichens is on about the same level as in mosses. He says (p. 391):

"The chief practical conclusion to be drawn from this work is that animals feeding on mosses and lichens may well exhibit high intakes of radioactive fall-out on this account. In this connection a few reindeer bones from Norway have been shown to contain markedly greater concentration of radioactive strontium-90 than sheep bones from the same country."

Findings by Commoner (1961) concerning the effect of fall-out on the caribou and the Eskimos of Alaska probably have more or less equal significance for those of Keewatin:

"Caribou . . . are unusually high in Sr90 content." Their bones

and antlers contain "100–200 strontium units . . . , while bones of domestic animals raised elsewhere in the U. S. average about 25 strontium units. . . .

"Thus, the caribou appears to absorb unusually large amounts of Sr90 from fallout. . . . Apparently caribou . . . have some way of selectively absorbing Sr90, or tend to eat food that is relatively rich in it." (P. 9.)

"A key to this puzzle is provided by the particular food habits of the caribou . . . , and by the unique biology of their major food—lichens. . . .

"Thus one may conclude that because of the unique biological properties of lichens, and because of the fondness of caribou for lichens as food, these animals will tend to absorb Sr90 in unusually large amounts. . . . Measurements of the bones of Alaska Eskimos, who use a great deal of caribou in their diet . . . , show relatively high Sr90 levels." (P. 10.)

According to "the most recent recommendations of the International Commission on Radiological Protection, . . . *any* increase in radiation exposure may carry with it some added risk of biological harm in the form of an increased rate in the incidence of genetic effects, or of radiation-induced disease such as cancer. . . .

"The present levels of Sr90 in caribou bone—about 100–200 strontium units—are probably the highest found in any known food animals, and are, of course, well over the suggested limits for humans." (P. 12.)

Schulert (1962) presents a further discussion of the problem in Alaska:

"Strontium-90 concentrations have been determined in a variety of foods used by the native population. Caribou from the tundra carry 10 to 20 times the level of domestic cattle. Eskimos for whom caribou is a staple in the diet are found to have four times the strontium-90 content of the average for the world populations of the North Temperate zone."

"Lichens were the predominant group" of plants on a fawning ground at Beverly Lake, Keewatin (Kelsall, 1960:35).

"Lichens absorb man-made radioactive fall-out along with the natural nutrients [from the air] . . . . They . . . retain virtually 100 per cent of the radioactive particles which fall onto them. . . . Because of their slow growth lichens now contaminated will probably remain 'hot' for many years." (Pruitt, 1962:25.)

Although the plants commonly grazed by domestic cattle evidently contain a far lower level of fall-out than those consumed by caribou (especially on their fawning grounds), the amount of fall-out transmitted to human beings in cow's milk is sufficient to cause serious concern. How much more dangerous to the newly born fawns must be the high concentration of fall-out in the only food they receive during the early days of their life!

The normal hazards of severe weather, predators, accidents, and disease that always cause a certain incidence of mortality among the fawns are nothing new. The caribou have faced and survived these dangers for thousands of years. Consequently, what likely or possible factor, other than fall-out, can have brought about the sudden and alarming decrease in the numbers of both old and young caribou during recent years?

If information were available concerning the numerical status of Palaearctic Reindeer during the past dozen years or so, and if such information revealed a similar drastic reduction in numbers in that part of the world, it might lend considerable weight to the hypothesis that fall-out is a very important causative factor. For it would be more or less equally operative on both continents.

Should not the reduction, or rather the elimination, of the fall-out hazard be a paramount objective of all who are concerned for the preservation of both caribou and Eskimos? From this hazard, radiation biologists apprehend eventual genetic effects of much greater seriousness than any that have appeared as yet.

All told, present conditions and future prospects alike are rather cheerless for the Caribou Eskimos. Such are civilization's "gifts" to primitive races. Their lethal effects have rarely been demonstrated so effectively as in the case of the Swampy Cree at Winisk, Ontario, after several years of contact with the personnel of a nearby radar station. That harrowing tale of demoralization and debauchery has been courageously told by Liebow and Trudeau (1962). A similar crisis is evidently confronting the Pâdlimiut, especially since the exhaustion and closing down of the mines at Rankin Inlet in 1962. The conversion of these people into a race of veritable Ishmaelites is not of their own doing; their present degraded state must lie on the conscience of civilization. Details of the generally deplorable condition of life among the displaced Caribou Eskimos at Eskimo Point and at Rankin Inlet in recent years are presented by Van Stone and Oswalt (1959) and by Dailey and Dailey (1961), respectively.

While we are dispensing billions in aid to overseas aliens, would it not be reasonable to provide a tiny fraction of such amounts to save from extinction small groups of worthwhile native Americans—the Eskimos—for whose tragic plight we are directly responsible? A project of immediate urgency would be to keep them supplied with meat products other than strontium-contaminated caribou, until such time as the fall-out concentration may have subsided below the danger level.

The treatment of the inland Caribou Eskimos is the more deplorable in that they have remained, up to the last dozen years or so, among the most primitive, the most isolated, and the least contaminated of all the native peoples of North America. Could not such treatment have been avoided by the exercise of altruism and foresight?

It may be of interest to trace briefly the subsequent fortunes of the members of the household on the Windy River as it was constituted in 1947. Letters from Charles, his father (Fred, Sr.), and his sister Freeda have provided most of the information.

During the next couple of years Charles and Fred gave up their trapping and trading operations in the Nueltin Lake area and established themselves in Churchill. In January, 1949, Charles guided a tractor train of the Royal Canadian Engineers to Ennadai Lake, in preparation for the establishment of a radar station. He then stayed temporarily at his camp on the Kazan 10–15 miles below Ennadai Lake and conducted his trading from there. He also looked over his trapline extending far up toward Dubawnt Lake. Both he and Anoteelik, who had accompanied him, returned to Churchill on one of the tractor trains.

In 1949 and in 1956 Charles worked for the Foundation Company of Canada. In 1952 he joined a party of the Geological Survey of Canada (under the direction of C. S. Lord) that was making a reconnaissance in southern Keewatin. The following year he was at Rankin Inlet, engaged in prospecting and mining activities. In 1956 he was assisting in the construction of the DEW line above the Arctic Circle. During the following year or so he was a foreman in mining operations in western Ontario; he then returned to Churchill, where he has since been engaged in construction work. He was married in Winnipeg some years ago, and had six children by 1961.

Fred, Jr., is married and living in Churchill, where he is engaged

in a taxi and trucking service. How often must his memory revert to those exhilarating days as a young trapper on the wonderful Barrens of Keewatin!

After Anoteelik had spent a season or two in Churchill (where he was employed for a time at the huge grain elevator), the appeal of his native habitat called him back to the Kazan. There he acquired a wife, and a baby boy was born to them in the spring of 1952. The family came to international attention through an illustration (in colors) on the cover of *Life* for February 27, 1956; it portrayed Anoteelik's wife and a new baby as well as himself. By that time he was living at Ennadai Lake or vicinity. His instinctive preference for remaining a genuine Eskimo on the Barrens rather than becoming an imitation white man in civilization would no doubt have the hearty approval of ethnologists. However, in 1961 he was working in the Rankin Inlet nickel mines. Apparently the continued scarcity of caribou in inland Keewatin had rendered that area virtually untenable as a permanent habitat for the Pâdlimiut.

At Churchill Rita had the devoted care of her foster father, attended school, and by 1954 was in the fourth grade. She remained in school for about two more years. In January, 1959, she was in Winnipeg for a time, and a few months later she was staying at the Eskimo settlement in Churchill. In that year she was married, and two years later she was presumably at Rankin Inlet, where her husband was working in the mines.

Notes

[1] "The territories of this tribe [Chipewyan] and the Caribou Eskimos overlap on the southern Barren Grounds. It is true that it was the rule to avoid each other, and this principle was mostly only departed from, when one of the sides felt strong enough to make a victorious attack; but the contact has at times led to peaceful trading." (Birket-Smith, 1929*a*:36.)

[2] "The Caribou Eskimos have always been hostile towards the Indians. In the first half of the eighteenth century they often warred against the Cree, for as the latter ascribed all evil events such as sickness, unsuccessful hunting, etc. to the Eskimos, there was of course enough to be revenged for. The wars entirely consisted of brutal ambushes and attacks against each other. When the Chipewyan later on placed themselves in between the Cree and the Eskimos, the relations between the latter and their new neighbours became no better than they had been with the old ones. . . .

"Franklin says that the fights between them [Chipewyan and Eskimos] had ceased in his time, and they have scarcely been resumed since." (Birket-Smith, 1929*a*:163–164.)

[3] "The timber line may be regarded as the most southerly boundary of the Eskimos in these regions [Keewatin, etc.]. They look upon the forest as being something living, full of magic and weirdness, and no one dares to pitch a tent for more than ten days among trees. At one or two places close to the timber line trading posts have now been established, and they will undoubtedly attract the Eskimos; but even in the most southerly part of the Barren Grounds they formerly moved only with caution, for until a few years ago their hereditary enemies, the Chipewyan Indians, regularly made hunting trips even well up towards the north, for instance to the region around Hikoligjuag [Yathkyed Lake] . . . .

"West of long. 100° W., where the Dubawnt and Thelon rivers meet, Eskimos seldom, or never, live. [But they did, up to the 1950's, inhabit the upper Kazan River, which lies west of 100°.] Hanbury met with the most westerly of the Eskimos at . . . Beverly Lake . . . . Roughly, lat. 65° N. . . . may be put as the [northern] boundary." (Birket-Smith, 1929*a*:29–30.)

[4] "All in all, the Caribou Eskimos have, despite the central situation of their country, remained remarkably isolated throughout time. On the one side they had tribes to which they were closely related in language and race, but whose culture they could only partly benefit from—on the other side nations from which they felt themselves so different in most respects that the tension between them oftenest developed into a state of belligerency. On the west great, uninhabited stretches which were seldom or never livened up by a camp fire—on the east the billows of Hudson Bay. A remote spot off the path of the culture drift, well suited for the retention and preservation of an old type of culture." (Birket-Smith, 1929*a*:38.)

[5] "We have seen how the life of the Caribou Eskimos has been like an undaunted struggle against distances, against climate and against the scarcity of food, and how, in that struggle, they have been victorious over nature by bending to it while undergoing a far-reaching process of adaptation. Their life is founded

upon a primitive technology which, in itself, is very greatly dependent upon what their surroundings can yield and what they require." (Birket-Smith, 1929*a*:231.)

[6] "It is the animal products, and among them again those of the caribou, which entirely predominate in the technology of the Caribou Eskimos. Skin for clothing, bags and thongs, sinews for thread, bones and antlers for various implements, teeth for ornaments, fat for lighting, are all working materials from the same animal, the meat of which also forms the principal food." (Birket-Smith, 1929*a*:232.)

[7] "In contrast to all the others [Eskimos] the Caribou Eskimos are in every respect an inland people, apart from the fact that a third of them every year come down to the sea." (Birket-Smith, 1929*a*:36.)

[8] "In the south the Caribou Eskimos have some knowledge of the forests, which they have acquired by having seen them during their trading visits to Churchill, and, formerly, Reindeer Lake. They also know some of the more prominent forest animals such as the moose, lynx, black bear, and beaver." (Birket-Smith, 1929*a*:155.)

[9] "Within the area of the Caribou Eskimos the Hudson's Bay Company, at the time the Fifth Thule Expedition visited the country, had posts at the mouth of Chesterfield Inlet, Baker Lake, Eskimo Point and Ennadai Lake . . . . Revillon Frères had a post at Nueltin Lake."

The Pâdlimiut "who live more to the south go to Ennadai and Nueltin Lakes." (Birket-Smith, 1929*a*:167–168.)

[10] "There are only very few [halfbreeds] among the Caribou Eskimos. . . . Alcohol has never obtained a footing in these regions. . . . The Caribou Eskimos are practically untouched by [venereal disease]." (Birket-Smith, 1929*a*:33.)

[11] "The Caribou Eskimos smoke tobacco almost from the time when they can hold a pipe, and without regard to sex. It is no uncommon thing to see a mother put a pipe in the mouth of a four or five year old urchin . . . . This much too early tobacco smoking will certainly gradually make its mark upon their skill as caribou hunters, for this occupation requires good lungs." (Birket-Smith, 1929*a*:148–149.)

[12] "There is hardly one Caribou Eskimo that is not infested with lice: *Pediculus vestimenti* [= *P. humanus* L.], *P. capitis* or both. *Phthirius pubis* and fleas on the other hand are unknown." (Birket-Smith, 1929*a*:224.)

[13] "Big children [among the Caribou Eskimos] often run about and play throughout most of the night in summer and sleep by day." (Birket-Smith, 1929*a*:267.)

[14] "Communication by water only takes place to a small extent, because the Caribou Eskimos lack the means of transport for this. Originally the kayak was their only vessel. . . . In the interior some have commenced to acquire canoes of Canadian make." (Birket-Smith, 1929*a*:151.)

In shape and design the local kayak very closely approaches the Netsilik and Coronation Gulf type, but it is very different from the Labrador-Baffin Land type and that among the Polar Eskimos. The frame is of wood, and in the interior of the country the cover is always of unhaired deerskin. The most important use is in caribou-hunting at the crossing-places. No Caribou Eskimo can turn

completely over in his kayak like the Eskimos of Greenland and Alaska. The kayak has been abandoned by most of the other tribes west of Hudson Bay. (Birket-Smith, 1929*a*:185–189, fig. 59.)

[15] Mallet (1930:97) records a story told him by Kakoot, one of the Kazan River Eskimos, about a man being killed by a wolf. The telling was mostly by means of gestures. Later a white trapper, who understood Eskimo well and knew the story, corroborated all the details that Mallet had gathered from Kakoot's pantomime. On the other hand, Birket-Smith states (1929*a*:190): "There is no real sign language [among the Caribou Eskimos] as among the North American Indians."

[16] "Most of the taboo rules only affect the women . . . . Little girls and . . . old women . . . are exempt. Women must not eat the meat of the wolverine, nor eggs, cloudberries or whortleberries." (Birket-Smith, 1929*a*:130.) Cloudberries are not eaten by the Copper Eskimos (Jenness, 1922:97).

[17] "The Pâdlimiut are without doubt the most dirty Eskimos I have ever seen . . . . They never bathe and only few know how to swim; those who can swim dog fashion. . . . Only very seldom are face and hands washed." (Birket-Smith, 1929*a*:223–224.)

[18] "The women often wear a brow band consisting of a brass fillet which is widest in the middle and narrows off to both sides. It reaches almost to the ears and is fastened at the back of the neck with a thong. The brass is hammered out of old telescopes. It is practically only seen now among the Pâdlimiut, but seems to have been the fashion a few years ago among other Caribou Eskimos too." (Birket-Smith, 1929*a*:77, fig. 10, 226, fig. 87*a*.)

[19] "Tent poles from the summer teepees sometimes served as rafters. Caribou skins from the tents were often used for roofing." (Marsh, 1947:88.)

[20] "Besides the dog sledge and the kayak, the Caribou Eskimos also know tump-lines and pack bags for the dogs" (Birket-Smith, 1929*a*:151).

[21] "On [summer] journeys they carry good-sized burdens, the women no less than the men. For this purpose they use tump-lines, which are laid over both forehead and breast." (Birket-Smith, 1929*a*:184, fig. 56.)

[22] The dogs of the Caribou Eskimos "are all of the common Eskimo breed with thick coat, pointed snout and pointed ears, and turned-up tail." These dogs "are slightly bigger than those of the West Greenlanders, but they are thinner and have not nearly so much spirit. They are never heard howling with impatience to start . . . . It is asserted that wolves sometimes mate with bitches in heat. . . . As to disease, distemper is not rare, and sometimes rabies seems to occur.

"The Caribou Eskimos have only a few dogs, one reason being that it is impossible to keep large numbers of them when their feed consists entirely, or almost entirely, of caribou meat. It does not contain nearly as much nutriment as seal or walrus meat . . . .

"The Caribou Eskimos treat their dogs neither better nor worse than other uncivilised Eskimos. . . . They are rarely so directly cruel to them as I have often been told by whites about the sub-arctic Indians. . . .

"The Caribou Eskimos are very poor dog drivers. . . . Their journeys are a steady plodding to the accompaniment of an incessant shouting and use of the

whip." (Birket-Smith, 1929*a*:170–172.)

[23] "In the summer nearly all Caribou Eskimos now wear ready-made clothing; only the boots are of their own fabrication" (Birket-Smith, 1929*a*: 213).

[24] "Snowshoes are an acquisition from the Indians and are only used by a few [of the Caribou Eskimos] in the short period between winter and spring" (Birket-Smith, 1929*a*:151).

[25] "Raw meat is eaten to a rather great extent . . . . Caribou, seal and fish are some times eaten raw and fresh immediately after they have been killed." (Birket-Smith, 1929*a*:141.)

[26] "Caribou meat is the staple food, whilst fish and, at the coast, walrus and seal, (and in former days the musk-ox) take second place. . . . Of less importance . . . are hares, ptarmigan and birds on the whole. Wolves, wolverines, foxes and marmots [= ground squirrels, *Spermophilus*] are seldom eaten. . . . Plant products occupy such a subordinate place . . . that even their dietic rôle is doubtful.

"The almost exclusively animal food does not seem to have any deleterious effect upon the people. It may be assumed that . . . they receive complete protein nourishment, and the fat is eaten in abundance." (Birket-Smith, 1929*a*: 137–138.)

[27] "Since the coming of the white traders the Caribou Eskimos have learned to relish certain foreign foods. So far, however, it is only flour, tea, sugar and molasses which really are of any importance to their food, and as a rule only during the period immediately after a trade journey." (Birket-Smith, 1929*a*:139.)

[28] "Tea has now become the favourite drink of the Caribou Eskimos, and the quantity they consume in a day is almost incredible" (Birket-Smith, 1929*a*:148).

[29] "The back of the [women's] frock is enlarged so much that there is room for an infant child to be inside it. This enlargement is to be seen on the frocks of all women." (Birket-Smith, 1929*a*:214.)

[30] "Sometimes both men and women wear ear ornaments, consisting of several strings of beads knotted together at the top. Frequently only one ear is ornamented in this manner." (Birket-Smith, 1929*a*:229, fig. 87d–e.)

[31] "Ear ornaments of several strings of beads have formerly been worn by the Cree, from whom they seem to have spread to the Caribou Eskimos" (Birket-Smith, 1929*b*:39).

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The six months at Nueltin Lake were made pleasurable and rewarding by the unostentatious but extraordinarily effective hospitality of those remarkable young wilderness dwellers, Charles Schweder and Fred Schweder, Jr. It would be difficult to say enough of their generosity in granting me the privilege of sharing their quarters and their exhilarating adventures on land and water. Those were some of the most memorable days of my life. Charles, in particular, contributed so liberally of his knowledge of the Kazan River Pâdlimiut that he is

virtually entitled to be considered a co-author of this report. The more youthful members of our strangely assorted household on the Windy River—Anoteelik, Mike, and Rita—did their part faithfully and cheerfully in promoting the general welfare; and it is pleasant to recall their many little acts of friendship and kindness.

The seven visitors from the Kazan—Pamala, Katello, Angwokook, Alakahaw, Kakoot, Amelook, and Hikwa—deserve a meed of praise for their patience in being photographed and their willingness to part with some of their possessions to enrich the ethnological collections of the Reading Public Museum and Art Gallery.

That museum, through Dr. Earl L. Poole, its able director and an esteemed friend of many years' standing, provided auxiliary support for the season's investigations. His successor, Mr. Samuel C. Gundy, has generously made and presented photographs of the ethnological material that appears in plate 8.

Dr. Robert F. Yule, of the Department of National Health and Welfare, while on his way to investigate the medical needs of the Kazan River band, gave us the great pleasure of several brief visits. He was accompanied by his gracious wife, the first white woman to reach Nueltin Lake. They came in a plane flown by Thomas Lamb, of The Pas. In the years that followed, Dr. Yule has provided me with some very useful reports on the conditions of life among our Eskimo friends; these, together with several of his photographs, have been gratefully utilized in the present paper.

In expressing my gratitude to the air pilots, John M. Bourassa and Gunnar Ingebrigtsen, who brought me safely to and from Nueltin Lake, it is sad to recall that each of them, within a few years and in widely separated localities, lost his life in arctic or subarctic flying.

Dr. Kaj Birket-Smith, of the National Museum (Copenhagen), has very kindly allowed me to quote a number of passages from his monumental works (1929*a*, 1929*b*) on the Caribou Eskimos, besides supplying a photograph of himself taken on the Fifth Thule Expedition 1921–24 (pl. 9, fig. 4).

Professor Eville Gorham, from two of whose papers on the fall-out problem I have quoted, has very generously contributed further information and suggestions through correspondence. Dr. Douglas G. Humm has also helped in discussing the problem with me.

The Beaver and Dr. William O. Pruitt, Jr., have kindly granted permission to quote a few lines from his recent paper (1962) in that journal.

To the Royal Canadian Air Force I am greatly indebted for permission to include among the illustrations an air photograph of the Kazan River country (pl. 1); and to Freeda Schweder, for the opportunity of presenting photographs of two important members of the little household on the Windy River (pl. 3, fig. 3, and pl. 9, fig. 1).

The Library of the University of North Carolina has been my principal resource in consulting the literature on the subject of this investigation.

All photographs, unless otherwise specified, were taken at or near the mouth of Windy River, in the year 1947.

Literature Cited

BARNETT, LINCOLN.
1956. A Mesolithic age today. Caribou Eskimos illustrate its culture. Life 40(9):80–83, 85, 86, 88, 91, 1 pl., 18 fig.

BINNEY, GEORGE.
1929. Hudson Bay in 1928. Geog. Jour. 74(1):1–27, 4 pl., 1 map.

BIRKET-SMITH, KAJ.
1929*a*. The Caribou Eskimos. Material and social life and their cultural position. 1. Descriptive part. Rept. Fifth Thule Exped. 1921–24, 5, pt. 1:1–306 + [4], 116 fig., 1 map.
1929*b*. The Caribou Eskimos. Material and social life and their cultural position. 2. Analytical part. Rept. Fifth Thule Exped. 1921–24, 5, pt. 2:1–420, 5 fig.
1930. Contributions to Chipewyan ethnology. Rept. Fifth Thule Exped. 1921–24, 6(3):1–115, 38 fig.
1940. Anthropological observations on the Central Eskimos. Rept. Fifth Thule Exped. 1921–24, 3(2):1–123, 32 pl., 24 fig.

BUCHANAN, ANGUS.
1920. Wild life in Canada. Toronto:xx + 264, 16 pl., 1 map.

COMMONER, BARRY.
1961. Biological risks from Project Chariot. Nuclear information 3(4/7): 9–12, 20, 2 fig.

DAILEY, ROBERT C., AND LOIS A. DAILEY.
1961. The Eskimo of Rankin Inlet: a preliminary report. Northern Coordination and Research Centre, Dept. Northern Affairs and National Resources, Ottawa:[x] + 106, 12 pl., 10 fig., 2 maps.

DOWNES, P. G.
1943. Sleeping Island. New York:vii + 296, 24 pl.

[DRAGE, THEODORUS SWAINE] ("CLERK OF THE CALIFORNIA").
1748. An account of a voyage for the discovery of a North-West Passage by Hudson's Streights, to the Western and Southern Ocean of America. Performed in the year 1746 and 1747, in the ship California, Capt. Francis Smith, commander. London: 1:vii + 237, 2 maps; 2:1–326 + [18], 4 maps.

GODSELL, PHILIP H.
1952. Is there time to save the Eskimo? White man's exploitation of the Arctic is reducing the once independent Eskimo from sturdy individualism to pauperism. Nat. Hist. 51(2):56–62, 10 fig.

GORHAM, EVILLE.
1958. Accumulation of radioactive fall-out by plants in the English Lake District. Nature 181:1523–1524, 2 fig.
1959. A comparison of lower and higher plants as accumulators of radioactive fall-out. Canadian Jour. Botany 37(2):327–329, 1 fig.

HANBURY, DAVID T.
1904. Sport and travel in the northland of Canada. London and New York:xxxii + 319, 38 pl., 2 fig., 2 maps.

HARP, ELMER, JR.
1959. Ecological continuity on the Barren Grounds. A preliminary report of field research supported by the Arctic Institute of North America. Polar Notes 1:48–56.

HARPER, FRANCIS.
1949. In caribou land. Nat. Hist. 58(5):224–231, 239–240, 12 fig., 2 maps.
1953. Birds of the Nueltin Lake Expedition, Keewatin, 1947. Am. Midland Naturalist 49(1):1–116, 8 fig., 1 map.
1955. The Barren Ground Caribou of Keewatin. Univ. Kansas Mus. Nat. Hist. Misc. Publ. 6:1–163, 28 fig., 1 map.

1956. The mammals of Keewatin. Univ. Kansas Mus. Nat. Hist. Misc. Publ. 12:1–94, 6 pl., 8 fig., 1 map.
1961. Land and fresh-water mammals of the Ungava Peninsula. Univ. Kansas Mus. Nat. Hist. Misc. Publ. 27:1–178, 8 pl., 3 fig., 45 maps.

HARRINGTON, RICHARD.
1952. The face of the Arctic. New York:xiii + 369, illus.

HAWTHORN, J., AND R. B. DUCKWORTH.
1958. Fall-out radioactivity in a deer's antlers. Nature 182:1294.

HEARNE, SAMUEL.
1795. A journey from Prince of Wales' fort in Hudson's Bay, to the Northern Ocean . . . in the years 1769, 1770, 1771, 1772. London: xliv + 458, 9 pl.

JENNESS, DIAMOND.
1922. The life of the Copper Eskimo. Rept. Canadian Arctic Exped. 1913–18, 12:1–277, 9 pl., 69 fig., 2 maps.

KELSALL, JOHN P.
1960. Co-operative studies of barren-ground caribou 1957–58. Canadian Wildlife Service, Wildlife Management Bull., ser. 1, 15:[3] + 145, 10 maps.

LACROIX, MARC.
1959. Integration or disintegration? Beaver, outfit 289 (spring):37–40.

LIEBOW, ELLIOT, AND JOHN TRUDEAU.
1962. A preliminary study of acculturation among the Cree Indians of Winisk, Ontario. Arctic 15(3):191–204, 2 maps.

MALLET, THIERRY.
1930. Glimpses of the Barren Lands. New York:1–142, 7 pl.
1950. Exploring the Kazan. Beaver, outfit 280 (March):22–25, 4 fig., 1 map.

MANNING, T. H.
1948*a*. Pipestems of the Caribou Eskimos. Am. Anthropologist 50(1): 162–163, 1 fig.
1948*b*. Notes on the country, birds and mammals west of Hudson Bay between Reindeer and Baker Lakes. Canadian Field-Naturalist 62(1):1–28, 8 fig., 1 map.

MARSH, DONALD B.
1947. Canada's Caribou Eskimos. Nat. Geog. Mag. 91(1):87–104, 8 pl., 8 fig., 1 map.
1951. Life in a snowhouse. Nat. Hist. 60(2):64–67, 6 fig.

MICHIE, GEORGE H., AND ERIC M. NEIL.
1955. Cultural conflict in the Canadian arctic. Canadian Geographer 5:33–41, 7 fig.

NICHOLSON, L. H.
1959. The problem of the people. Beaver, outfit 289 (spring):20–24, 1 fig.

PARRY, WILLIAM EDWARD.
1824. Journal of a second voyage for the discovery of a north-west passage from the Atlantic to the Pacific; performed in the years 1821–22–23, in His Majesty's ships Fury and Hecla. . . . London: [6] + xxx + 572, clxxv–cccx, 30 pl., 16 fig., 9 maps.

PREBLE, EDWARD A.
1910. Across the Barren Grounds to Hudson's Bay. [Fifth instalment.] Sports Afield 1910 (October):323–329, 2 fig.

PRUITT, WILLIAM O., JR.
1962. A new "caribou problem." Beaver, outfit 293 (winter):24–25, 2 fig.

RICHARDSON, JOHN.
1852. Arctic Searching Expedition: a journal of a boat-voyage through Rupert's Land and the Arctic Sea, in search of the discovery ships under command of Sir John Franklin. New York:iii–xi, 13–516, 8 fig. (Orig. ed. published in London, 1851.)

SCHULERT, ARTHUR R.
1962. Strontium-90 in Alaska. Alaskan Eskimos for whom the caribou is a dietary staple have a high strontium-90 concentration. Science 136:146–148, 1 map.

STEFÁNSSON, VILHJÁLMUR.
1914. The Stefánsson-Anderson Arctic Expedition of the American Museum: preliminary ethnological report. Anthrop. Papers Am. Mus. Nat. Hist. 14, pt. 1:[1] + 395, 95 fig., 2 maps.

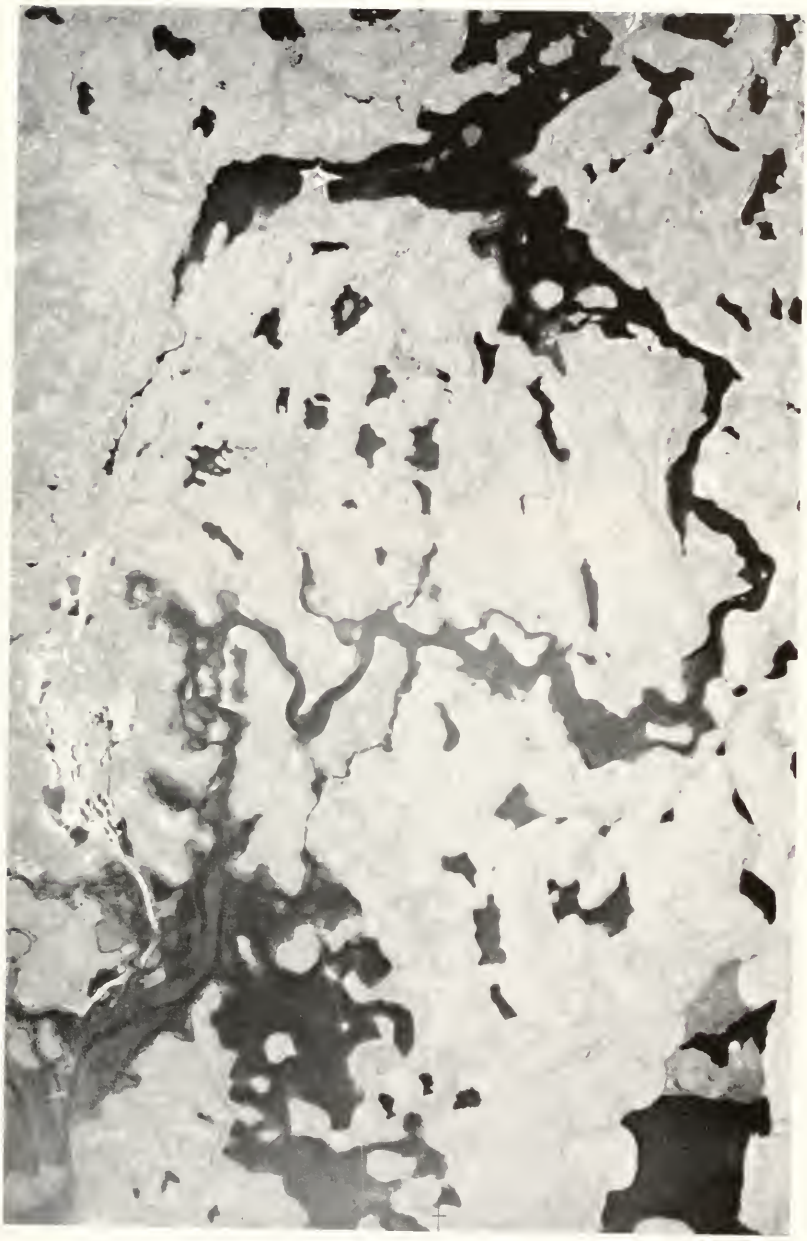
TYRRELL, JAMES W.
1908. Across the sub-Arctics of Canada. Ed. 3. Toronto:i–viii, 9–280, 18 pl., 66 fig., 3 maps.

TYRRELL, J. BURR.
1895. A second expedition through the Barren Lands of northern Canada. Geog. Jour. 6(5):438–448, 1 map.
1897. Report on the Doobaunt, Kazan and Ferguson Rivers and the north-west coast of Hudson Bay, and on two overland routes from Hudson Bay to Lake Winnipeg. Ann. Rept. Geol. Survey Canada 9 (n. s.), 1896, rept. F: 1–218, 11 pl., 3 maps.

VAN STONE, JAMES W., AND WENDELL OSWALT.
1959. The Caribou Eskimos of Eskimo Point. Northern Co-ordination and Research Centre, Dept. Northern Affairs and National Resources, Ottawa:[3] + 33.

WEYER, EDWARD MOFFATT, JR.
1932. The Eskimos: their environment and folkways. New Haven: xvii + 491, 6 fig., 23 maps.

PLATE I



Eskimo country along the upper Kazan River at approximately lat. 61°22′ N., long. 100°36′ W. The area shown is about 5 × 3.2 miles in extent. A vertical photograph from an altitude of 18,000 feet above sea level, July 5, 1949. (Courtesy of Royal Canadian Air Force.)

FIG. 1.—Anoteelik and Mike. July 26.

FIG. 2.—Anoteelik fastening the head of a caribou spear to its shaft. Mike looking on. September 7.

FIG. 3.—Rita chopping wood. September 15.

FIG. 1.—Rita and Fred sitting within an ancient tent-ring (Eskimo or Chipewyan?) on a promontory. July 21.

FIG. 2.—Rita at the doorway of her cabin. July 24.

FIG. 3.—Rita with husky dogs, Churchill, 1950. (Courtesy Freeda Schweder.)

FIG. 1.—Mike, Rita, and Anoteelik setting out on an overnight caribou hunt. August 31.

FIG. 2.—The young caribou-hunters in camp on Little River. August 31.

FIG. 1.—Charles and his adoring ward. September 19.

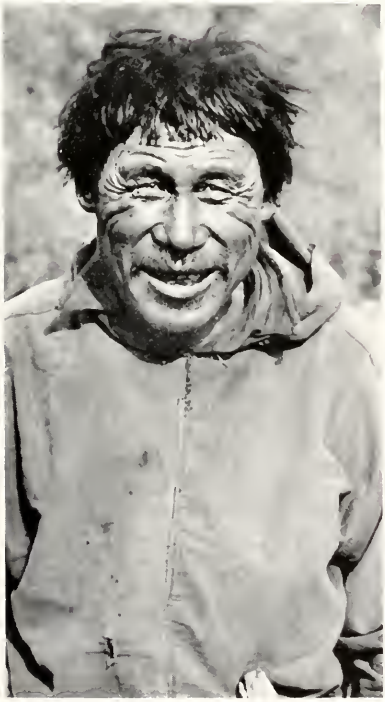


FIG. 2.—Pamala, the genial shaman. August 11.

FIG. 3.—Pamala with pack and rifle. August 11.

Fig. 1.—Angwokook. October 6.

Fig. 2.—Kakoot (with paddle) and Amelook (with fish spear). October 6.

Fig. 3.—Alakahaw, resting on a march across the Barrens. October 6.

Fig. 4.—Caribou-skin clothing; "modeled" by F. H. while wielding an ice-chisel at a water-hole. December 3.

FIG. 1.—Eskimos in the Windy River post. Left to right: Angwokook, Katello, Kakoot, Alakahaw, Amelook, Hikwa. October 5.

FIG. 2.—Eskimos setting out across the snowy Barrens for their homes on the Kazan River. Front to rear: Hikwa, Angwokook, Alakahaw, Amelook, Katello. October 6.

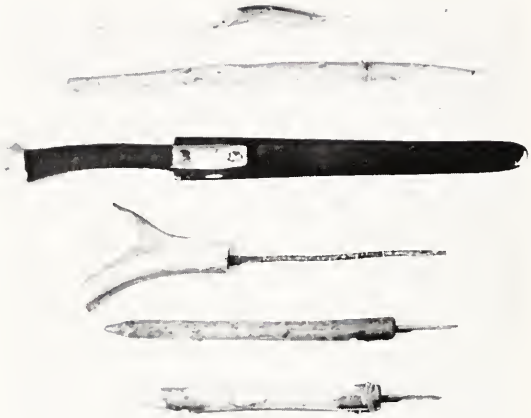


FIG. 1.—Beginning at top: two parts of Anoteelik's ring-and-pin game; Pamala's snow knife; hole-cleaner and two drills made by Pamala. (See pages 21–22, 49–50.)

FIG. 2.—Pipes of Alakahaw (above) and Hikwa (below); Angwokook's ear pendant (left) and hood ornament (right); palm side of caribou-skin mitten made by one of Pamala's wives; one of a pair of caribou-skin boots (*komik*) made by Alakahaw's wife. (See pages 47–48, 51.)
Caribou Eskimo ethnological material.
(Courtesy of Reading Public Museum and Art Gallery.)

FIG. 1.—Charles Schweder, an outstanding man of the Keewatin Barrens and authority on the Kazan River Eskimos. Churchill, 1954.
(Courtesy of Freeda Schweder.)

FIG. 2.—Dr. Robert F. Yule and an Eskimo couple. March, 1947.
(Courtesy of Dr. Yule.)

FIG. 3.—J. Burr Tyrrell (1858–1957), a pioneer explorer of the Barren Grounds, in an Eskimo suit worn on a tramp from Churchill to Lake Winnipeg, 1893 (see pages 9–10). (From J. W. Tyrrell, 1908: pl. opp. p. 202.)

FIG. 4.—Kaj Birket-Smith (1893–. . .) on the Fifth Thule Expedition, 1922; author of *The Caribou Eskimo* (1929); chief keeper of the Ethnographic Department of the National Museum (Copenhagen).
(Courtesy of Dr. Birket-Smith.)

Fig. 1.—Two Eskimo youths and a kayak. One with a double-bladed paddle; the other a deck passenger. Ennadai Lake, July, 1954. (Photograph by Dr. Robert F. Yule.)

Fig. 2.—Eskimo women and a four-year-old nursing child. Ennadai Lake, 1954. (Photograph by Dr. Robert F. Yule.)

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