RUSSIAN SURVEYOR TRAVELING WITH REINDEER.
By W. H. Jackson.

55TH CONGRESS, 2d Session. } SENATE. { DOCUMENT No. 30.

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REPORT

ON

Introduction of Domestic Reindeer into Alaska,

WITH

ILLUSTRATIONS,

BY

SHELDON JACKSON, D. D.,
General Agent of Education in Alaska.

1897.

National Institute of Education
DHEW
AUG 16 1974
Educational Research Library

DECEMBER 17, 1897.—Laid on the table and ordered to be printed.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1898.

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DEPARTMENT OF THE INTERIOR,
Washington, December 17, 1897.

SIR: I am in receipt of Senate resolution of the 15th instant—

That the Secretary of the Interior be directed to transmit to the Senate the report of Dr. Sheldon Jackson upon "The introduction of domestic reindeer into the District of Alaska for 1897."

In response thereto, I have the honor to transmit herewith a copy of the report indicated in the foregoing resolution.

Very respectfully,

C. N. BLISS, *Secretary.*

The PRESIDENT OF THE SENATE.

INTRODUCTION OF DOMESTIC REINDEER INTO ALASKA.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION, ALASKA DIVISION,
Washington, D. C., December 15, 1897.

SIR: I have the honor to submit to you my seventh annual report on "The introduction of domestic reindeer into Alaska."

The progress has been satisfactory and an advance has been made during the year.

While no purchases have been made in Siberia, 466 deer have been added to the herds by birth, making a total on June 30, 1897, of 1,466. With your approval, a new station has been established about 60 miles north of St. Michael, Norton Sound. This location is on the north shore of Unalaklik River, about 10 miles above its mouth, and combines a central position, with dry and abundant pasturage, good fishing, timber for building and fuel, with easy access to the ocean. The new station is central for the distribution of the herds either northward to Kotzebue Sound, Point Hope, and Point Barrow; southward to the Roman Catholic and Moravian stations on the Lower Yukon, Kuskokwim, and Nushagak rivers, or eastward to the Episcopal stations and mining settlements on the Upper Yukon Valley, being about the same distance from Bering Straits on the west, Point Barrow upon the north, the Middle Yukon Valley on the east, and the Kuskokwim Valley on the south. Located in the neighborhood of the leading mission stations among the native populations it will be able to draw and educate as herders and teamsters a larger number of the native young men.

At the Teller Reindeer Station no additional buildings have been erected or were needed during the year. Three sod houses 16 by 10 feet in size lined with lumber were erected at the winter quarters for 1896–97 on the Agheeopak River for the shelter of herders and their families. Several smaller sod huts were erected at various places between the Teller Station and Agheeopak as a refuge for the herders while en route to and from the station. A few log dwellings and store houses will this winter be erected at the new station on the Unalaklik River. The buildings at the Teller Station with furniture, boats, sleds, harness, nets, and other property of the Government are in good repair.

PERSONNEL.

Mr. William A. Kjellmann, who resigned the position of superintendent in the fall of 1895, having expressed a willingness to again enter the service, was reappointed to his former position as superintendent.

A. N. Kittilsen, M. D., of Stoughton, Wis., was likewise appointed assistant superintendent and physician, and the Rev. T. L. Brevig continued as teacher.

Herders.—The Lapps continue to justify the wisdom of their importation from Lapland, embodying in their own training and skill the knowledge and methods learned by their people through centuries of experience and observation. Their services in Alaska are invaluable.

In the introduction of reindeer into Alaska and the training of native men in their management and care, it is important that that training should be in accordance with the latest and most improved methods of handling reindeer; that the Lapps possess these above all other nationalities is universally recognized. Their assistance has proved so valuable and is so essential to the immediate future that Mr. Kjellmann has gone with your consent to Lapland this winter to secure and bring over a permanent colony of them. The Lapps now in Alaska were brought over with the understanding that they would be returned at the end of three years; this was the best arrangement that could be made at the time. The limit of service being reached, Messrs. Rist, Somby, Kemi, and Eira, with their families, have returned to Lapland. Messrs. Tornensis, Nakkila, and Larsen have been prevailed upon to remain, with the expectation that they will become herd owners and permanent citizens.

During the winter of 1896–97, Messrs. Rist and Nakkila were detailed to accompany the superintendent on his sledge journey to the Yukon and Kuskokwim valleys. Mr. Aslak L. Somby remained in charge of the herds at Golovin Bay until March, when he returned to the Teller Station and was sent to the Cape Nome herd to relieve Mr. M. A. Eira, whose wife needed the medical attendance of the station physician.

Mr. Frederick Larsen was detailed for a month's service with the herd at Cape Prince of Wales. Messrs. Tornensis and Kemi had charge of the Teller Station herd, except as one or the other made short trips with the physician.

Apprentices.—The school of apprentices consists of the same persons as last year—five married and two unmarried Eskimos. They have shown an alacrity in work, a faithful adherence to instructions, and an effort to understand all parts of the work that augurs well for their future success.

Rations.—During the year a change has been made in the rations, decreasing the amount of American food (such as flower and meats brought from the outside) and increased the amount of native food (such as fish, seal, and oil).

A Bit of the Herd.
By J. C. Widstead.

School.—As the herders and apprentices have been with the herd 60 miles away from the station much of the time, the school has been mostly composed of Eskimo children, resident in the immediate vicinity of the station. Although debarred regular schooling, both the Lapps and apprentices are slowly acquiring the English tongue. The superintendent recommends that some of the young people be given a few years at school in the States to learn English.

Sickness.—Dr. Kittilsen, the physician has attended 60 cases of sickness among the employees or their families and 250 cases among the outside Eskimo, who have in some instances come 200 miles on a dog sled to secure medical attendance. There was but one fatal case at the station, being Mrs. Eira, who remained too long at Cape Nome before applying for help. She passed to her rest May 4, 1897.

HERD.

On the 1st of July, 1898, there were in Alaska 1,466 head of domestic reindeer.

These are divided into four herds, and located as follows:

Government herd at Teller Reindeer Station	525
Congregational herd at Cape Prince of Wales	367
An undivided herd at Golovin Bay controlled jointly by the Swede and Episcopalian Missions	296
One in charge of the Eskimo at Cape Nome	278
Total	1,466

The Government herd was wintered on the Agheepak River 20 miles from its mouth.

In the spring it was driven to the south side of Eaton River as a more favorable place for fawning, and this summer has been kept on the south side of Port Clarence in the neighborhood of Cape Riley.

Fawning.—There were born at the Teller Station 149 living fawn, at Cape Prince of Wales 124, at Golovin Bay 108, and at Cape Nome 85, making an increase for the year of 466.

Sickness.—In the fall of 1895, and again in the fall of 1896, a disease broke out in the herd similar to foot-rot in sheep. With a change of the herd to drier ground the sickness gradually abated.

Breaking.—Special attention has been given to the training of the reindeer both to harness and the pack saddle. During last winter 46 two and three year old deer were thus broken. This makes 73 well broken and trained sled deer in the Government herd. In the herd at Golovin Bay are 18 sled deer, and at Cape Prince of Wales 22.

At the Teller Station the sled deer were kept in constant practice, both on their own account and also for the training of the Eskimo apprentices. Including the trip to the Kuskokwim Valley the aggregate number of miles driven was over 10,000.

This practice will be kept up, preparatory to their introduction into the mining camps for freighting and traveling.

REINDEER FREIGHTING.

The first incentive to the introduction of domestic reindeer into Alaska came as an act of humanity to provide a new food supply for the Eskimo, who were subject to periodical seasons of starvation, their old food supply of whale, walrus, and wild animals having been partially destroyed by the greed of white men. But since the discovery of gold mines in subarctic Alaska and the consequent influx of thousands of miners, it has been found that the reindeer is as essential to the white man as to the Eskimo.

The first thought of the miner in central Alaska is to secure a good "claim;" his next thought is the question of "food supply"—whether he can secure provisions that will enable him to work his claim continuously, or whether for the want of such provisions he will be compelled to leave his claim unworked a portion of the year while he goes where he can secure food—not only losing the profit that would accrue from the claim if worked, but also involving heavy traveling expenses in going to and fro.

With the exception of fish, a little wild game, and a limited quantity of garden vegetables, there is no food in the country. All breadstuffs, vegetables, fruits, and the larger portion of the meat supply must be brought into the country from the outside. A small quantity of provisions is packed on sleds and on men's shoulders and brought over the passes in the Chilkat country of southeast Alaska to the headwaters of the Yukon; there barges or flatboats are built, and with their freight are floated down the Yukon River to the neighborhood of the mines. The great bulk of the food supply, however, is brought in on steamers plying on the Yukon River. These provisions are necessarily left in warehouses on the banks of the great river. But the miners, who are the consumers, need them at their claims, which are from 10 to 100 miles away from the river. Now, it should be remembered that there are no roads in Alaska as they exist in other sections of the United States. And, with the almost illimitable area of bog and swamp and tundra and frozen subsoil, it will be impossible to make and maintain roads, except at a cost that would be practically prohibitive.

In summer the supplies are loaded into small boats which are poled up the small streams or packed on men's backs to the mines. In winter they are hauled on dog sleds. This costs heavily. From Circle City to the Birch Creek Mines, a distance of about 50 miles, the freight is 10 cents a pound ($200 a ton) in winter, and 40 cents in summer ($800 a ton). From Dawson to the Klondike mines, a distance of 15 miles, the freight last winter was 8 cents a pound ($160 a ton), and this summer 25 cents, or $500 a ton of freight 15 miles. In addition to the expense, the carrying capacity is too limited. A load is from 100 to 125 pounds on a sled per dog, a portion of which is food for the dogs, and if the route is a long one, without intervening sources of supply, they can

RUSSIAN CIVIL ENGINEER. RECONNOISSANCE FOR TRANS-SIBERIAN RAILWAY.
By W. H. Jackson.

not carry more food than is sufficient for themselves. So far they have failed in supplying the mines with a sufficient stock of provisions.

Last winter the steamer *Bella* was caught in the ice and frozen up at Fort Yukon, 80 miles distant from Circle City. An effort was made to forward the provisions with dog teams on the ice, but it was a failure. The food could not be moved in sufficient quantities and with sufficient speed to supply the miners of the Upper Yukon, and by spring at Dawson City flour ran up to over $100 per barrel, $50 to $125 per 100 pounds.

A few horses have been brought into the country, but in the absence of roads, scarcity of food, and rigor of winter climate they have not proved a success. At Dawson, although the wages of a man and team are $50 a day, yet even that does not pay with hay at $125 to $150 per ton (and not a pound to be had when I was there in July even at those figures), and the horses fed on bread made from flour ranging in price from $100 to $200 per barrel.

The only solution of the question of reasonable land transportation and rapid communication and travel between mining centers hundreds of miles apart in subarctic Alaska is the introduction and utilizing of domestic reindeer.

The reindeer is to the far north what the camel is to desert regions, the animal which God has provided and adapted for the peculiar, special conditions which exist. The greater the degree of cold, the better the reindeer thrives. Last winter a party of them hauling nine sleds made a day's journey with the temperature at 73° below zero. On a long journey through an uninhabited country a dog team can not haul sufficient provisions to feed themselves. A deer, with 200 pounds on the sled, can travel up and down the mountains and over the plains without a road or trail from one end of Alaska to the other, living on the moss found in the country where he travels. In the four months' travel of 2,000 miles last winter the deer were turned out at night to find their own provisions, except upon a stretch of the Yukon Valley below Anvik, a distance of 40 miles. The great mining interests of central Alaska can not realize their fullest development until the domestic reindeer are introduced in sufficient numbers to do the work of supplying the miners with provisions and freight and giving the miner speedy communication with the outside world. It now takes from fifty to sixty days to carry the mail between Juneau and Circle City. With the establishment of relay stations at suitable distances the reindeer teams will carry the same mail in four or five days.

The reindeer is equally important to the prospector. Prospecting at a distance from the base of supplies is now impossible. The prospector can go only as far as the 100 pounds of provisions, blankets, and tools will last him and then he must return. With ten head of reindeer, packing 100 pounds each, making half a ton of supplies, he can be gone for months, penetrating regions hundreds of miles distant,

his deer grazing wherever night finds him. The possibilities are so great that in the days to come it will be a matter of surprise that the utilization of the deer was not vigorously pushed at the start.

SIBERIAN PURCHASE STATION.

In 1892 the introduction of domestic reindeer into Alaska was undertaken to provide a new food supply for the Eskimo. The new demand that has now arisen to assist the miners in the opening of the country emphasizes the imperative need of some method of procuring the deer from Siberia in larger numbers. To assist in this, last winter permission was secured from the Russian Government at St. Petersburg, through the regular official channels, for the United States to locate an agent at some suitable point on the coast of Siberia for the continuous purchase of reindeer throughout the year. Hitherto the work of purchasing has been confined to five or six weeks in summer.

By extending the time for purchasing through the whole year it is hoped to be able to secure a large number, and have them on the coast ready for transportation during the short summer, when Bering Sea and the adjacent arctic coast are free from ice. Mr. John W. Kelly, who has spent years in arctic Alaska and is familiar with the conditions of the country, was appointed agent. Associated with him are Conrad Siem and Mr. A. St. Leger, both of whom have had years of experience with the natives of the Arctic.

A good opportunity offering, Conrad Siem took passage on the whaler *Bonanza* May 29. Mr. Kelly, with supplies and stock of barter goods, sailed from San Francisco June 9 on the schooner *Volant*, reaching St. Lawrence Bay, Siberia, on July 17, three days after the arrival of Mr. Siem.

When the needs of the reindeer for domestication and transportation are met, early steps should be taken to stock the larger islands of Alaska, especially those in Bering Sea and along the Aleutian group.

In Dr. G. Hartwig's Polar World, page 89, it is stated that—

> In the year 1770 thirteen reindeer were brought into Iceland from Norway. Ten died on the passage, but the three which survived have multiplied so fast, that large herds now (1869) roam over the uninhabited wastes. During the winter, when hunger drives them into the lower districts, they are frequently shot, but no attempts have been made to tame them.

A WINTER TRIP OF 2,000 MILES.

Since the commencement of the herd in 1892 the obstacles that it was predicted would prevent the successful introduction of domestic reindeer into Alaska have either been proved to be groundless or have one by one been met and overcome. Having shown by actual experience that they could be bought, transported, and successfully propagated, it remained to give a practical demonstration of their ability to traverse any part of the country under the most unfavorable circumstances and

REINDEER RIDER, IN EASTERN SIBERIA.
By W. H Jackson.

with a temperature at times lower than experienced by some of the Arctic expeditions.

This was done last winter, in accordance with your directions. At 3 p. m. on the 10th of December, 1896, with the temperature at 15° below zero, Mr. William A. Kjellmann, the superintendent, accompanied by the Lapps Per Aslaksen Rist and Mikkel J. Nakkila, started from the Teller Station with 9 sleds and 17 head of reindeer, to demonstrate the capacity of the hardy and swift animal for winter travel in Alaska. Native trails and well-known sections of country were ignored, to show their ability to go anywhere. The course, while traveled by compass, was a zigzag one, in order to better learn the extent and abundance of moss pasturage. Scaling high mountain ranges, shooting down precipitous declivities with tobogganing speed, plodding through valleys filled with deeply drifted snow, laboriously cutting a way through the man-high underbrush of the forest, or steering across the trackless tundra, never before trodden by the foot of white man; gliding over the hard-crusted snow, or wading through slush 2 feet deep on imperfectly frozen rivers unknown to geographers, were the experiences of the trip.

The second day of the journey, with the temperature 43° below zero, and over a rough, broken, and pathless country, they made a distance of 60 miles.

After celebrating Christmas with Rev. Mr. Hultberg and the Swedish missionaries on Golovin Bay, December 30 found Mr. Kjellmann's party crossing Norton Sound, an arm of Bering Sea, and getting into a crevasse filled with snow, from which they escaped without much damage.

The next day, keeping on the ice along the coast, hummocks were found so steep that steps had to be cut up and over them to enable the deer to cross.

On New Year's day, coming to a flagstaff projecting from a huge snow bank, they found under it, completely buried in the snow, the comfortable home of the Rev. Mr. Karlsen and the Swedish missionaries at Unalaklik. On the afternoon of January 11 and morning of the 12th, 85 miles were made in twelve hours. The native guides at St. Michael being afraid to undertake a winter trip across the country to Ikogmute, the Russian mission on the Yukon River, and affirming that it could not be done, Mr. Kjellmann started on January 19 without them, traveling by compass.

On the 23d, while crossing a barren mountain range, they were overtaken by that dread specter of arctic regions, a Russian poorga.[1] Neither man nor beast could stand against the blast. The reindeer were blown down and the loaded sleds overturned. The men, throwing themselves flat, clung to one another and to mother earth to keep from being blown away. Stones and pieces of crushed ice flew by, darkening the air. A lull coming toward evening, with great difficulty a little coffee was made, after which the storm broke with renewed fury during a night which

[1] An arctic blizzard.

to the travelers, clinging to the earth with desperation, seemed endless. The following day a belt of timber was reached and rest and safety secured. January 25 and 26 found them cutting a way for the deer and sleds through a dense forest, from which they finally emerged to wade through snow and water 2 feet deep and the temperature at zero. On the 31st they encountered a succession of driving, blinding snowstorms while crossing the tundra south of the Yukon delta, being reduced to such straits that they were compelled to cut the railing from their sleds for fuel. On February 5 the storm passed away, leaving the temperature at 73° below zero, causing even the reindeer to break loose from their tethers and tramp ceaselessly around the tents for warmth.

Notwithstanding the severe cold the journey was continued, and at 2 o'clock in the afternoon they found shelter and a warm welcome from the Moravian missionaries at Bethel. On the 10th of March, between the Kuskokwim and Yukon rivers, a lake 15 miles wide was crossed.

The struggle for life commenced, however, on the 11th, when they reached the Yukon, and contrary to information, found no moss for the deer. A push was made up the Yukon to reach, if possible, the Episcopal mission at Anvik. There being no food, the march was kept up all night, plowing their way through loose snow from 2 to 4 feet deep, and on through the 12th with the snow falling fast. That afternoon two of the deer fell dead and were left with their sleds where they fell, while the journey continued uninterruptedly through the blinding snow the second night. On the 13th two more deer dropped dead and were abandoned, as the party with desperate energy pushed ahead day and night for food and life. On the 14th another deer fell in his traces. That evening a native hut was reached and the continuous march of four days and three nights without sleep or rest and without food for the deer was over. Trees were cut down by the Lapps that the deer might browse on the black moss that hung from them, while Mr. Kjellmann, suffering with a high fever, was put to bed by the medicine woman and dosed with tea made from some medicinal bark. On the 17th one of the Lapps, who had been scouring the country, reported moss upon a mountain 60 miles away. The deer were unharnessed and driven to the distant pasturage, while Mr. Kjellmann continued his journey to Anvik on skis. In the hospitable home of Rev. Mr. Chapman he was nursed back to health and strength.

The return journey to the Teller Station was made without any special adventure, except, on the 16th of April, getting into a crack in the ice while crossing Norton Sound and soaking the load with salt water. On the 24th of April the Teller Station was safely reached after a trip of 2,000 miles, the longest ever recorded in any land as made by the same reindeer.

The result of this trial trip has convinced missionaries, miners, traders, and others residing in northern and central Alaska that domestic rein-

deer can do for them what they have been doing for centuries in Lapland. That when introduced in sufficient numbers, they will supplant dogs, both for traveling and freighting, furnish a rapid means of communication between widely separated communities, and render possible the full and profitable development of the rich mineral interests.

A TRIP UP THE YUKON.

During July and August, through the courtesy of the North American Trading and Transportation Company, I was able to take Mr. William A. Kjellmann and make a trip of 1,600 miles up the Yukon River. This trip was made to secure for you the information you sought with regard to the adaptation of the country for reindeer, and the special conditions which will meet the introduction of reindeer freighting. The results of the trip were satisfactory, and I returned more than ever deeply impressed that the great pressing need of the hour is more reindeer and more Lapps.

BRANDING.

As year by year increasing numbers of reindeer are passing into the ownership of the apprentices and missions, and as others are looking forward to ownership in the near future, it is important that rules should be formulated for the regulation and registering of brands that mark such ownership.

I would therefore respectfully recommend the following rules, suggested by the superintendent.

I. Divide Alaska into the following five districts: (1) St. Michael; (2) Upper Yukon; (3) Lower Yukon; (4) Kuskokwim; (5) Aleutian.

II. Divide each district into a number of stations, as follows:

ST. MICHAEL DISTRICT.

Cape Prince of Wales.
St. Lawrence Island.
Port Clarence.
Cape Nome.
Golovin Bay.
Koynk River to St. Michael.
St. Michael to Pastolik.
Buckland Valley.
Selawick Valley.
Kowak Valley.
Noatak Valley.
Kotzebue Sound to Cape Sabine.
Cape Sabine to Point Belcher.
Point Belcher to Ikpikpung Valley.
Colville River Valley.
Franklin Mountains to Boundary

UPPER YUKON DISTRICT.

Tanana Hills to Lower Rampart.
Lower Rampart to mouth of Birch Creek.
Birch Creek to Circle City.
Circle City to Boundary.
Forty Mile Creek Valley.
Upper Tanana Valley.
Boundary to Charley's Village.
Charley's Village to Fort Yukon.
Porcupine Valley.
Mouth of Porcupine to Dale River.
Dale River to Tozikakat River Valley.

LOWER YUKON DISTRICT.

Andreafski to Ikogmute.
Ikogmute to Anvik.
Anvik to Nulato.
Nulato to Yukon Hills.
Yukon Hills to Tozikakat River.
Tanana to Nowikakat River.
Nowikakat River to opposite Nulato.
Opposite Nulato to Anoko River.
Anoko River to opposite Ikogmute.
Ikogmute to Nelson Island.

KUSKOKWIM DISTRICT.

Nelson Island to Bethel.
Bethel to Ugavig.
Ugavig to Kolmankoff.
Kolmankoff to head of Kuskokwim River.
Head of River to Chulitna River.
Chulitna River to opposite Ugavig.
Opposite Ugavig to opposite Bethel.
Bethel to Goodnews Bay.
Goodnews Bay to Kulukak Bay.
Kulukak Bay to mouth of Nushagak River.
Nushagak Valley.
Kvichak Valley.

ALEUTIAN DISTRICT.

Aleutian Islands.
Shumagin Islands.
Kadiak.
Unimak Pass to Point Haiders.
Point Haiders to Kvichal Valley and Katmai.
Katmai to Iliamna Peak.
Iliamna Peak to Sushitna River.
Sushitna River to Knik Valley.
Kenai Peninsula.
Campbell Point to Copper River.
Upper Copper River Valley.
Lower Copper River Valley.
Copper River to Cape Yaktag.
Cape Yaktag to Mount Saint Elias.

III. Adopt a mark for each district and one for each section, such district and section mark to be cut on the edge of the right ear of each reindeer in their respective districts and sections.

IV. Let each owner of deer select his own personal mark, to be cut on the edge of the left ear of the animal. Such personal mark must be different from any other personal mark in the section.

V. In each district there shall be an officer appointed by the Secretary of the Interior, who shall record such marks in a book kept for the purpose, and issue certificates authorizing the exclusive use of said mark. The above officer shall be allowed $—— for recording the mark and issuing the certificate. Any public officer can be appointed recorder ex officio.

VI. An exact representation of the cuts in both right and left ear shall be entered upon the book of record.

VII. In case of a disagreement between deermen with regard to the ownership of animals, the parties shall bring the matter before the recording officer, who will decide the matter. Anyone aggrieved at such decision can take the matter before a United States commissioner or justice of the peace.

VIII. No reindeer unbranded, or skins thereof without ears, can be sold, bought, or possessed; and the possession of reindeer unbranded or skins without ears shall be considered sufficient evidence that such animal or skin has been stolen.

Miss M. E. Mellor. Teacher, and Pupils. Unalaska.

IX. The penalty for being found with an animal unbranded or skin without ears shall be the full market price of the animal or skin and the sum of $——. One-half of the penalty shall be paid to the informer.

ITINERARY.

Leaving Washington on the 1st of June last, I embarked at Seattle on the steamship *Portland*, of the North American Transportation and Trading Company, on the 12th, reaching Unalaska, Dutch Harbor, on the 21st. Two days were spent at Unalaska visiting the school and attending to school matters.

At 5.30 a. m. on the 23d our steamship sailed for St. Michael. On the 25th we reached the ice and all day skirted the ice floe, reaching St. Michael at 1 o'clock on the morning of the 27th.

On the 28th the Yukon River steamer *Portus B. Weare* arrived, having on board a large number of miners with half a million dollars worth of gold dust from Klondike and the Yukon mines. It was the arrival of this steamer with its treasure on July 17, 1897, at Seattle, that aroused the attention of the world.

The 29th was signalized by the arrival of the cutter *Bear*, Capt. Francis Tuttle in command. The *Bear* had on its upward trip called at St. Lawrence Island, St. Lawrence Bay, Cape Prince of Wales, and Teller Reindeer Station, bringing favorable reports from the several stations; it also brought to St. Michael Mr. William A. Kjellmann, superintendent of the Reindeer Station, whom I wished to accompany me on a trip up the Yukon River Valley, that he might investigate the supply of reindeer moss and ascertain the conditions that must be met in the establishment of future reindeer freighting establishments from the provision warehouses on the river back to the interior mines.

On the 3d of July I transferred from the ocean steamship *Portland* to the river steamer *Portus B. Weare*, and at midnight on the morning of the 5th we left the wharf at St. Michael for the mouth of the Yukon River. Owing to the great quantities of silt brought down in the waters of the Yukon, Bering Sea has so shoaled that ocean steamers at present are unable to reach nearer the mouth of the river than St. Michael, which is 60 miles north of the river on the coast of Bering Sea.

At 10 o'clock the steamer reached Pastolik, where a stop was made to take on firewood. Half an hour later we entered the north pass of the delta and at 11.30 went aground on the bar, where we lay for twenty-four hours, until lifted off by the tide. Although there was a cold, drizzling rain, a number of the passengers went on shore to hunt geese and ducks, which are plentiful at that season of the year. At high tide, July 6, the steamer again floated and, taking on wood near Kutlik, we started up the river.

The Yukon is one of the great rivers of the world. Taking its rise in the mountains of the Northwest Territory of Canada, it flows across the entire width of Alaska from east to west, dividing that great Terri-

tory into nearly two equal parts. Its delta stretches for 20 miles along the sea and extends 100 miles inland, a distance so great that, standing upon one shore of the delta, the table-lands bordering the other can not be seen. This great delta is comparable to that of the Mississippi River in the accumulated silt of years, which greatly extends the area of the land into the sea, shoaling the navigable waters of the sea to such an extent that ocean vessels bound for St. Michael are compelled, while passing the mouth of the river, to make a detour to the westward. Through its whole course the river, like the Missouri, carries a large amount of sediment in its waters, and the extent of its deposits upon its delta will not be wondered at after the observer has traversed its length and seen a thousand miles of banks undermined and ready to be swept away.

Like the McKenzie River of Canada and the Lena of Siberia, which rise in the south and flow northward, the Yukon feels the influence of the warmer temperature of spring first at its source. The ice brought down by the strong freshets of the Upper Yukon is piled upon the firm unbroken ice of the lower stream with the result of accumulating great masses of ice and water until the weight of the ice and the increased pressure of the gathered waters force out a section of the bank. This process is repeated again and again lower down the river. The breaking up of the ice on the Yukon is one of the grand sights of earth, rivaling in interest the remarkable auroras of the winter months in that northern latitude. Upon such occasions, great masses of ice from 8 to 10 feet thick are hurled with Titanic force into the river banks, gouging out yards of soil and uprooting great trees before their momentum is checked. Thus unceasingly through the centuries this great stream goes on leveling down the hills of central Alaska, picking up the soil and carrying it in solution hundreds of miles to the coast, and it is deposited where the fresh water meets the salt of the sea. The trees thus carried out to sea are nature's provision for the Eskimo on the treeless coast of Bering Sea and the Arctic Ocean, driftwood being their only fuel. This vast delta region of the Yukon is filled with marshes and lakes and is liable to overflows; it is also a breeding ground of innumerable wild geese and other fowl.

The river is navigable for light-draft steamers for 2,000 miles to Fort Selkirk and even beyond that point, with short portages around rapids, while its tributaries—the Anvik, Koyukuk, Tanana, Porcupine, White, Pelly, and other rivers—are navigable for from 100 to 600 miles.

A middle-aged lady who was following her husband to live in this wilderness was so impressed with the continuous steaming up this great river day and night, week after week for three weeks without passing a single large town, and only seeing small Indian settlements, or here and there a fishing camp or trader's post, while the great yellow flood seemed to flow on with but little diminution in volume, that she felt as if she had been on the river for ages, and broke out with the exclama-

tion, "Will it never come to an end; must I continue to go on and on forever and ever?" and retiring to her stateroom found relief in a good cry.

At 5 a. m. on July 7 the steamer reached the head of the delta where another supply of firewood was taken on board; indeed, during the whole trip the steamer seemed to stop about every six hours for wood. The river is lined with white pine, which is cut by the natives and piled up convenient for the steamers; this wood costs from $4 to $6 per cord, and the steamer uses from 25 to 30 cords a day. Leaving the head of the delta, low hills begin to appear along the north bank of the river. For 300 miles farther, the river was so wide that in places standing upon one bank the other could not be seen.

At 8.30 a. m. we reached Andreafski, 216 miles from St. Michael, where we stopped for wood, and also for mending our boiler pipes, which were leaking badly. At this village were several well-hewn log houses, back of which were a number of graves, the dead being deposited in boxes laid on top of the ground. All central and northern Alaska, including the Yukon Valley, has a frozen subsoil which never thaws out. This has been dug into 30 feet without getting below the frost. On the banks of some of the streams north of the Yukon, a stratum of frozen soil has been found over 100 feet thick. Yet to look upon the acres of brilliant wild flowers and of grasses waist high, and miles upon miles of white pine, aspen, and willows, with the thermometer above 100° in the shade, it is very difficult to realize that one is under the Arctic Circle.

Owing to the difficulty and almost impossibility of digging graves in the frozen ground with rude native implements, the custom universally prevails of depositing the dead in boxes either on the ground or on platforms above the reach of wild animals.

At Andreafski we first met the birch-bark canoe, showing that this village was on the border land between the Eskimo of the coast and the Indians of the interior—the universal boat of the Eskimo being the skin-covered kiak, and that of the Indian the birch-bark canoe. Andreafski has secured some prominence this season as the point to which provision supplies from St. Michael that could not be taken to the mines on the upper courses of the river were landed for winter use, and also to be accessible to the river steamers in the early spring, the ice in the Yukon River breaking sometimes a month in advance of the ice in Bering Sea. This permits the river steamers to load up in the spring and go to the head waters of the river and return down the stream to the coast by the time that ocean steamers can reach St. Michael through the ice of Bering Sea.

The low shoals which were encountered at the ocean side of the delta gradually increase in size as the river is ascended until, at the head of the delta, they become islands, upon which poplars and willows are found 20 to 30 feet high.

Soon after leaving Andreafski, scattered white pine began to appear. Leaving Andreafski and rounding a bold promontory, we passed the mouth of Andreafski River, a broad stream flowing from the north and passing through a gold-bearing country. Two miners were reported as having been on the stream some months working mines.

At 9 a. m. on July 8 we reached Ikogmute, or, as it is more popularly known, the Russian Mission. It has a population of 150 natives, and is 315 miles by way of the river from St. Michael. At this place Father Belkoff, the former priest of the Oriental Greek Church (now an invalid), built one of the best church buildings belonging to that denomination in Alaska. Father Orloff, the present priest, has an excellent garden on the hill slope in the rear of the parsonage. Just above the village, bold and perpendicular rock cliffs save the village from being swept away by the great yellow floods which sweep along their base, or ice gorges which form each spring in its vicinity. Along the entire village front were racks covered with salmon hung up to dry for the winter. The run of salmon this season has proved very large. A year ago the run of fish was correspondingly poor, and as a result last winter there was great scarcity of food among the people. One woman and a boy actually starved to death.

At 2 o'clock in the morning of July 9 the steamer reached Koserefski (410 miles). This is the location of the largest mission of the Roman Catholic Church on the Yukon River. A number of passengers remained up to visit the mission, but upon going to the buildings found everything securely locked and the teachers so soundly asleep that they were unaware of the presence of the steamer.

After breakfast the steamer reached Anvik (457 miles), where we remained three-quarters of an hour to get wood for the steamer. On shore, chained to posts, were from twelve to fifteen sled dogs belonging to the villagers. These dogs are found in every settlement and fishing camp in Alaska. They are a cross between the dog and the wolf, receiving but little attention from their owners. When not upon their journey they subsist chiefly by foraging and become adept thieves, so that everything eatable, even their own harness, has to be stored away on platforms above their reach. This has given rise to the custom everywhere prevailing along the Yukon River and in northern and central Alaska of erecting small log houses upon platforms elevated 10 or 12 feet above the ground. These houses are used for storing dried fish and other property that needs to be kept beyond the reach of the dogs. Among other things, these dogs are celebrated for their habit of howling at night. Upon the approach of a stranger some dog will set up a howl, upon which all the dogs within hearing will join in. There may not be over a dozen dogs in the neighborhood, but when they commence to howl a stranger would be sure that there were a hundred, if not a thousand, of them.

These dogs are the common carriers of Alaska, dragging sleds in

winter and carrying packs in summer. The average load of a dog sled is 125 pounds. The great drawback to their use is the necessity of carrying food for them on long journeys. A team of dogs carrying freight requires a second team of dogs for hauling food for the two teams, and when a journey is required through an unsettled section of the country dogs become unavailable because of the impossibility of carrying sufficient food or procuring fresh supplies for the teams. This difficulty will be overcome when domestic reindeer are introduced into Alaska in sufficient numbers to dispense with the use of dogs. The reindeer will haul heavier loads and cover greater distances than the dogs and require no transportation of food for their own maintenance. When the day's work is done they can be turned out to graze, even in the severest weather of the winter. The reindeer is to the arctic and subarctic regions what the camel is to the oriental and tropical lands.

Anvik is the first of a series of missions of the Protestant Episcopal Church. The missionaries at this point are the Rev. and Mrs. J. W. Chapman and Miss B. Sabine. Mr. Chapman has under great difficulties erected a neat little chapel, a comfortable residence, schoolrooms, and boarding house for the shelter of the Indian children taken into the home. A small sawmill has also been erected in connection with the mission.

From the mouth of the river to its source, through all the vast Yukon Valley with its tributaries—indeed all over central and northern Alaska—mosquitoes abound in July and August in such numbers as to become a veritable plague. The hot sun of summer thawing the frozen ground for a few inches leaves water standing unable to soak away through the frozen subsoil beneath, converting the whole country into one immense swamp, from which are bred clouds of mosquitoes. They are so great an infliction that some of the teachers declare that the extreme cold of winter (77° below zero) is preferable to the mosquito time in summer, and strong, vigorous men accustomed to hardships have been known to sit down on the ground and cry like children under the torture of the mosquitoes. While the river steamers are in motion the passengers are not much troubled with them, but when a landing is made for putting on freight or taking on wood the mosquitoes swarm aboard in quantities, compelling the use of netting for the protection of the head and face and of leather gloves for the hands. Wild animals sometimes die from the effects of their stings.

On Saturday, July 10, while "wooding up," the passengers picked wild currants just turning red. They also found protruding from the bank of the river ice, which was brought on board. We were now at a point where in winter the natives are accustomed to portage across the country to Unalaklik and thence down the coast to St. Michael. From St. Michael by way of the river is 550 miles, across the portage about 150 miles, making a saving in distance of 400 miles.

At midnight we reached Nulato (648 miles). This village is in the neighborhood of the most remote of the early Russian trading posts,

which was established by Malakoff in 1838, after which he and his party returned to St. Michael for the winter. During the winter the buildings were burned by the natives.

In 1841 the post was reestablished and rebuilt by Deravin. In 1851 it was the scene of a massacre, among the victims being Lieutenant Barnard of the British Navy and a member of Admiral Kollinson's expedition in search of Sir John Franklin. Lieutenant Barnard had been detailed to ascend the Yukon River and ascertain whether the natives could give any tidings of Sir John Franklin's party. Reaching Nulato, he dispatched one of the employees of the fur company and an Indian into the Koyukok Valley for information. The Russian, on his arrival at the native village, fell asleep on his sledge, and in the absence of his servant, who had gone to obtain water, was killed by the natives, the servant himself being afterwards killed. The murderers then gathered a force of about one hundred and started for the Russian post at Nulato. Reaching a settlement of the Nulato Indians, they heaped wood, broken canoes, paddles, and snowshoes in front of the entrance and smoke holes of the native houses, and then, setting them on fire, suffocated almost the entire population, only five or six escaping. The next morning, swarming into the courtyard of the fort, they made an attack, killing the commander, also Lieutenant Barnard and others. No punishment was ever meted out to the murderers, and the reason of their wholesale butchery remains involved in mystery.

This village is the site of a Roman Catholic mission, and Father Monroe, the priest, was at the landing to greet us. At Nulato the Yukon River, which has been running for 350 miles in a northern and eastern direction, turns directly eastward. Just above the village is the mouth of the Koyukuk River, a large tributary from the north. A small steamer has ascended this river some 600 miles, and gold has been found along its course in paying quantities. I gathered from the fur traders that have been in the country for many years, and also from the miners that have been longest in the country, their conviction that when the gold fields of the country are explored and more is known concerning them, that the richest mines in all Alaska will be found along the course of this stream. It is a noticeable fact that the tributaries of the Yukon flowing from the north are clear water while those from the south are muddy like the main river. This is due to the fact that the streams from the south take their rise from the glaciers of southern Alaska, and also that some of them run through a region covered with volcanic ash, which is easily washed away and held in solution. In recent geological times there has been an eruption of volcanic dust in southern Alaska which has covered an area of 20,000 square miles to a varying depth of from a few inches to 50 feet.

On Monday, July 12, we passed, in the afternoon, the abandoned buildings of the old Tanana trading post, and a few miles farther on made a call at Fort Adams, the site of the St. James Episcopal mission.

The missionaries in charge are Rev. and Mrs. J. L. Prevost. A pleasant call was had with the missionaries. Mrs. Prevost had the pleasure of having with her for a visit her mother from the East.

The Tanana trading post having been removed 8 miles from its former position to a point on the north bank abreast of the mouth of the Tanana River, the St. James Episcopal mission is also to be removed to the same neighborhood, the waters of the Yukon having shoaled and made a landing difficult at the old sites. The mouth of the Tanana, 897 miles from St. Michael, bids fair to prove a central and permanent location in the affairs of the Yukon Valley, being midway between the mouth of the river on Bering Sea and the crossing of the international boundary line on the Upper Yukon. This point has been recommended to the United States Government by Captain Ray, U. S. A., as the best location for a military post. If the Territory shall be divided into two districts this point will probably be the capital of the second. It will also probably be the northern terminus of a trunk line of a railway either from Cooks Inlet or Prince William Sound, the railroad ascending to the Sushitna River to the head waters of the Tanana and down the Tanana to the Yukon.

On the 1st of March a meteor fell near the Episcopal buildings. Though the night was dark the whole heavens were lighted up with its brilliancy. Many of the natives were much frightened at the phenomenon. During the past winter Ivan, the great chief of the Tanana, died and was buried in the mission cemetery. His kingdom stretched from Camp Stevens to Novikakat, on the Yukon River; also for 500 miles up the Tanana Valley and across the portage, including the head waters of the Kuskokwim River. From his early manhood he had proven himself the friend of the Russians, and latterly of the Americans. Many years ago the wife of a Russian trader who had a store in the Tanana Valley had incurred the enmity of some of the people, and one of their number was persuaded by the shamans to kill her, which he did by shooting her in her own house. Encouraged by the deed, arrangements were commenced for killing the trader also. At this juncture Ivan reached the scene and interposed to save the life of the trader. This so incensed the shamans that they threatened to kill him also. Drawing himself up to his full height of 6 feet, with flashing eyes he bade them defiance and saved the white man.

The natives of this region are in transition from their own to the white man's way. Old customs are losing their hold upon them, and it is doubtful whether any other leader will arise from among them.

At Nuklukahyet (Mayo's Place at the mouth of the Tanana) a miner was brought on board who had been found by the natives in a starving condition. He had been off prospecting by himself on the Koyukuk River. In running a rapid he lost his footing and all his provisions, saving only his gun and ax. His team of dogs were stung to death by mosquitoes. He struggled across the country for 300 miles, his only

food being a moose which he had shot and on which he had lived eighteen days. When found he was naked, starving, and out of his head.

The Tanana is the largest of the tributaries of the Yukon. Taking its rise among the group of ice-covered mountains in southern Alaska, it flows northward, emptying into the Yukon. It is navigable for several hundred miles from its mouth. Gold has been found along its course. It has a scattered native population of about 1,000, who are under the care of the St. James Episcopal mission. The head waters of the Tanana rise on the high table lands from which also flow the head waters of the Sushnita and Copper rivers into the Pacific Ocean; the Forty Mile Creek and White River into the Upper Yukon. While the steamer lay at the mouth of the Tanana taking on wood and cleaning its boilers, we received a visit from the Rev. J. L. Prevost on his little steam launch, the *Northern Light*. This vessel, 40 by 25 feet in size, was built by the Union Iron Works of San Francisco and equipped with a Roberts safety water tube. It is capable of carrying a wood supply sufficient for 48 hours continuous steaming, and is fitted up with a comfortable cabin for the missionaries. This little launch has proved of great service in visiting the small native settlements on the Yukon and Tanana rivers with their smaller tributaries. Mr. Prevost has the honor of publishing the first newspaper ever printed in the Yukon Valley. His little paper, called The Yukon Press, is practically an annual, but one number being published during last year. This paper, with the Eskimo Bulletin, also an annual, published at Cape Prince of Wales, Bering Straits, by W. T. Lopp, the missionary, are the only papers up to this time that have been published in central or arctic Alaska. As the editors of these Alaskan papers have had but one mail a year it is not to be expected that their papers should appear any oftener.

On the afternoon of July 13 the steamer entered a section of the Yukon Valley known as "Lower Rampart." This was formed by the river in some former age having broken through a range of mountains. The scenery through the canyon was so grand and wild that but few of the passengers were willing to go to bed, but remained up nearly all night.

Early in the morning of July 19 we reached the mouth of Munook Creek (1,075 miles). At the mouth of this creek, on the south side of the Yukon River, a new town has been laid out and named "Rampart City." At the time of our arrival the city consisted of a good log store building, two or three log huts, and half a dozen tents. Twenty-one men were reported at work in the mines along the creek, about 6 miles from the village. A mining district had been established, with Mr. O. C. Miller as recorder, and town lots were sold at $300 each. Nearly a month later I returned down the river; lots had doubled in price, and the population had increased to about 200. A month later the population had increased to 1,000, and corner lots were selling at $200 and $300 in gold dust, and probaby by this time it is the largest city in central Alaska. An acquaintance sank a shaft 4 feet square and 20 feet deep to bed rock, taking out $3,250 in gold nuggets.

The course of the steamer after leaving Rampart City was through the canyon, the hills rising on both sides of the river from 500 to 2,000 feet, making interesting scenery.

On July 15, at 2 o'clock a. m., we reached Fort Hamlin, a new trading post established by the Alaska Commercial Company; and soon after we passed out from the canyon into that portion of the river known as the Yukon Flats, where it broadens out into a lake-like expanse 80 miles wide, filled with many islands, no hills being visible on either side. The flats continue for over 200 miles, at the upper end being situated the mining town of Circle City. In a former period, when the Rampart Mountains stood a barrier to the drainage of this barrier westward, this great plain, comprising an area of 100,000 square miles, more or less, was covered with water, into which the Porcupine, the Pelly, the White, the Stewart, the Birch, and other streams poured their floods, washing down the mountains and the hills and covering the plain many feet deep with sediment. In places where the present streams have cut a channel through this sediment heaps of driftwood were found buried in 200 feet of clay. Geological evidences show the bed of the Porcupine River 200 feet higher than now. If it is true, as reported, that the bed of a great river exists among the mountain ravines of southern Alaska, it may be that it was the outlet of this inland sea. In time, through erosion or rending of the mountain barriers by earthquake or in some other way, an outlet was opened to the westward, and the released waters swept irresistibly to the sea, carrying with their angry flood sediment which extended the land hundreds of miles into the Bering Sea. After the subsidence of the waters this region became the home of the mastodon, the bones and tusks of which are found in large numbers.

On July 16 we met and passed the steamer *J. J. Healy* on its way down the river. Among the passengers was Professor Ogilvie, of the Canadian geological survey. Being anxious to see the old historic Fort Yukon, of the Hudson Bay Fur Company, and the mouth of the Porcupine River, in the neighborhood of which we were on the evening of the 16th, I concluded to remain up all night. At midnight (12.45 a. m.) I saw the sun rise in the north, like a great globe of bright, glowing, red-hot iron in a furnace. About 6 a. m. we passed the fort, without stopping. A large number of natives lined the banks of the river. Besides numerous tents, there were several log houses, among them being a small one surmounted by a cross and belonging to the Episcopal mission. A mile and a half east of the station we passed the site of the old Hudson Bay Fur Company's post, now abandoned. Only a clear space and a few foundations mark the place once occupied by the post. A good-sized cemetery occupies a dry mound back of the ruins, and is a touching reminder of the days when this far-off wilderness spot under the Arctic Circle was the center of life and civilization, with its loves and hates, hopes and fears, strifes and ambitions.

Here the all-powerful Hudson Bay Fur Company met and contended

with the equally powerful Russian-American Fur Company, backed by their respective Governments.

Plucking the brilliant flowers of the fire plant as a souvenir for a friend in New York City, who was born here when her father ruled as the chief factor of the company, I watched the receding spot until a turn in the river hid it from sight.

As yesterday, the scenery continued through an expanse of river widening out into a lake filled with many islands covered with white pine, aspen, and willows, and sand bars so recently out of the water as to be bare of all vegetation.

We had expected to be in Circle City during the night of July 18, but green firewood, swift current, low stage of water, and worn-out boiler flues all conspired to detain us, so that morning found us still 20 miles away. The morning dawned with a cold rain and great discomfort among the passengers. At 10 o'clock we stopped to take on wood. Mr. R. Wilson, who is in charge of the wood yard for steamers, at the same time provides fresh vegetables. As soon as a sufficient number of trees are cut down to let the sunlight reach the ground he loosens the soil between the stumps and roots with a pickax, and sows turnips, rutabagas, and cabbage. Last season, on a quarter of an acre of that uncleared ground between stumps, he raised and sold 3,000 pounds of turnips at 15 cents per pound, besides large quantities of cabbages and rutabagas. The rutabaga seed sown the last of May, this season, now (in less than two months) have a spread of leaves 2 feet across.

At 1 p. m. we reached Circle City. Mr. Kjellman, who had preceded me by another boat, met me at the landing; he had been able to make an overland trip to the mines tributary to the city and had ascertained that the whole region was admirably adapted for the support of reindeer and for the successful running of reindeer expresses and freight lines. Circle City is the largest collection of well-built log cabins that I have seen; at least in a great many years. Four large store and warehouses are made of corrugated galvanized iron. The opera and dance houses and two or three of the more pretentious residences are of hewn logs. The log residence of the North American Transportation and Trading Company is said to have cost $20,000, and that of Mr. Jack McQueston, $15,000. The great majority of the buildings are small one-story cabins built of logs, the spaces between the logs being filled with moss. The roofs are made with poles covered with moss, on which is placed a foot of dirt. A year ago the place had a population of 2,000; to-day there are about 50, and the majority of them are expecting to leave on our boat.

Circle City was founded in the fall of 1894, and named because of its nearness to the Arctic Circle. It is the distributing point for the rich gold placer mines of Birch Creek, which is a river 6 miles east of Circle City and runs a distance of between 200 and 300 miles in a gen-

eral course parallel with the Yukon River. Among the interesting tributaries of Birch Creek is "Preachers Creek," so named because first explored by a missionary in search of fossils, which abound in some portions of the Yukon flats. Gold was first found on Birch Creek in 1893. Since then prospecting has been going on so vigorously that the creek, with its many tributaries, has been definitely proven to be very rich in mineral deposits. Although the rush this present season is to the more recently discovered mines on the Klondike River, yet 400 miners remain at work on Birch Creek, and doubtless in a year or two the now almost depopulated Circle City will be again peopled.

During last winter a successful public school was kept at this place by Miss A. Fulcomer, but in the spring when the miners left for the Klondike they were accompanied by their families and children and the school was broken up.

Leaving Circle City at 9 o'clock in the evening we soon met the steamer *Alice* on her way down the river. Just above Circle City the river leaves the flats and is again bordered on both sides by abrupt hills of sand and limestone with veins of granite and crystalline gneiss which add to the pleasure of the traveler.

During the night we passed a small Indian settlement known as "Charley's Village," 22 miles from Circle City. This community has received the Gospel from the English missionaries, who have been in this region since 1858.

On the evening of July 19 the monotony of the trip was relieved by the discovery on the river bank of a moose doe and her fawn. At once arose the greatest excitement on the steamer—a score of men rushing for their rifles and a fusilade of shots commenced, both animals being killed. The steamer was landed and men, women, and children ran into the bushes to see the game, which was brought on board.

In the afternoon of July 20 we passed the small stern-wheel steamer, the *Koyukuk*, bound for the Klondike mines. The next morning in trying to get at some driftwood for fuel the steamer ran aground, where we remained until about 6 p. m., when we were again afloat.

On July 22 the steamer stopped to "wood up" opposite a remarkable headland showing a beautiful geological formation of folded rock. Frequently during the day masses of loose rock came rumbling down the face of the cliff into the water.

At noon on the 23d we passed two remarkable rocks known as "The Old Man" and "The Old Woman." Upon the top of one of these shaft-like rocks one of the old fort traders has requested to be buried; an appropriate resting place for the sole pioneer white man in that region. At 6.30 p. m. we were startled by the cry of "a man overboard." The accident befell one of the deck hands, who had become insane, and the untrained crew were so long getting a boat into the water that the man drowned. The body was not recovered. At 7 p. m. we passed the mouth of Coal Creek, and soon after sighted on the west shore the wrecked hull of the steamer *Arctic*. She was frozen up in the ice dur-

ing the previous winter, and in order to loosen her in the ice this spring giant powder was used, with the result of blowing her bottom out. Boiler and engines were removed to be placed in another boat. Coal Creek enters the Yukon from the east about 7 miles from Forty Mile Creek and is navigable for a few miles. It flows through a limestone formation. Extensive beds of lignite coal are reported in the neighborhood.

About 9 p. m. Fort Cudahy, at the mouth of Forty Mile Creek, was reached. Adjoining this is a trading post of the North American Transportation and Trading Company. Near by is Fort Constantine, a stockade post occupied by the Canadian Mounted Police, Captain Constantine in charge. On the opposite south side of the mouth of Forty Mile Creek is the village of Forty Mile, which has grown up around the old trading station of Jack McQueston. Down Forty Mile Creek is Buxton, a Church of England mission station, which was established in 1887.

We have now reached the western limit of the wonderful missions of the Church Missionary Society of England in northwest Canada. Commenced in 1822 by the Rev. John West, who settled at a Hudson Bay fur-trading station near Lake Winnipeg, they have extended until now they embrace nearly all the Indian tribes extending from the north boundary of the United States to the Arctic Ocean and from Labrador to the Alaskan line. Through all this wide region the gospel of Christ has been preached in eleven different languages, and thousands upon thousands of Indians have felt the transforming power of His life in their words and lives. This region belongs to the diocese of Selkirk, and was created in 1890 by the division of the diocese of McKenzie River. The Rev. Dr. W. C. Bompas, who entered the mission work in 1865 and was consecrated bishop of the diocese of McKenzie River in 1874, in the division took the bishopric of Selkirk. The diocese of Selkirk has but three or four central stations, Rampart House, on the Porcupine River, being one of them. This station was established in 1882, but owing to the decrease of the fur trade and consequent removal of the trading store and further discovery of gold on the Yukon River, nearly all the natives have left, and it is probable that the station will be discontinued at an early day. Buxton, on the Yukon River at the mouth of Forty Mile Creek, was established in 1887. Being in the center of the newly discovered gold diggings, it is well located to reach the native population. Selkirk was located in 1892 and Dawson in 1897.

Missionaries.—Right Rev. William C. Bompas, bishop, resident at Pelly; Miss M. K. Mellet, assistant. Rev. and Mrs. H. A. Nailor, and Rev. and Mrs. B. Totty, at Buxton. Rev. F. F. Flewelling, Rev. Mr. Bowen, and Mr. G. A. McLoud, at Dawson. Rev. and Mrs. J. Hanksley, Fort Yukon.

No more devoted, self-sacrificing men and women are to be found in

the territories of England, Canada, and the United States, who are hid away from the world's observation in the vast solitudes of arctic and subarctic North America, toiling to bring light and joy of Christ into the darkened homes of these dwellings of the North, than these missionaries. The world never ceases to honor the names of Kane, Hays, Hall, Franklin, Kellett, Ross, Greely, Peary, Nansen, and many others, who in the cause of science spend one, two, and three years in the arctic regions; but few stop to think of and to honor the men and women who, for the sake of Christ and precious souls, are not merely traveling for a few months, but are toiling year after year amid the rigors and privations and loneliness and long months of continuous darkness of the arctic winters. Let the Church be true to herself and honor such consecrated sons and daughters as Dr. and Mrs. Marsh at Point Barrow; Mr. and Mrs. Lopp at Bering Straits; Mr. and Mrs. Gambell at St. Lawrence Island; Mr. and Mrs. Brevig, of Port Clarence, the Swedish missionaries at Unalaklik and Golovin Bay; Messrs. Chapman and Prevost and their devoted wives on the Yukon River, with Bishop Bompas and his assistants in the Northwest Territory.

Forty Mile Creek is so named because it is 40 miles from the old Hudson Bay Fur Company's trading post at Fort Reliance. It is about 250 miles long and has many tributaries, all of which carry free gold, the discovery of which has attracted the attention of the world to the upper Yukon region. The Forty Mile Creek drains the mountainous region between the valleys of the Yukon and Tanana. Near Forty Mile is Miller Creek, which has proven very rich in gold. For two or three years Forty Mile and Fort Cudahy were typical mining towns, with saloons and gambling and dance halls in abundance. In 1894 rich discoveries were made on Birch Creek, and Forty Mile was deserted for Circle City, which after two and a half years of fevered existence has been in turn deserted for the new mines on the Klondike. While the mines tributary to Fort Cudahy and Forty Mile are on the American side, the villages themselves are on the Canadian side of the international boundary line.

Wishing to visit the Church of England missions at Buxton, on Saturday, July 24, I made two attempts to cross Forty Mile Creek in a rowboat, but was unable to accomplish it, owing to the strong current. At Fort Cudahy I found in connection with the North American Transportation and Trading Company's station an excellent garden, in which were growing peas, beans, lettuce, turnips, ruta-bagas, beets, potatoes, celery, and parsnips.

About 5 p. m. the steamer swung out from her landing for Dawson, which place we reached the following morning, July 25th, at 6 o'clock. Nearly the entire population seemed to be at the landing, either to greet friends or from curiosity to witness the landing of newcomers. Capt. John J. Healy, manager of the North American Trading and Transportation Company, was on hand to extend to me the hospitality of his

home during my stay. Although it was Sunday, the two sawmills were running day and night; every kind of business, especially house building, was in full blast. Four thousand people were living in tents, and an arctic winter approaching. The temperature for January, 1896, was 47½° below zero, during the winter the lowest point being 77° below zero. Dawson is 50 miles from Fort Cudahy, on the north of the Yukon and southwest bank of the Klondike River. It is 6 miles above the site of the old Hudson Bay Fur Company's post of Fort Reliance. The town is situated in an undrained swamp and much sickness prevails among the population. The city is about eight months old and is regularly laid out in streets and squares. Lots fronting on the river are selling for $7,000 cash in gold; back of the stream, from $1,000 to $3,000. Lumber is $150 per thousand feet at the mill and $300 a thousand when it reaches the mines. Some of the early lumber sawed by hand cost the miners at the rate of $750 per thousand feet. Salmon and moose were $50 per pound; hay, $125 per ton, and none to be had; wages, $10 to $12 per day, with mechanics at $15; ice, $1 per pound; flour, at $12 per hundredweight; a team of horses and driver, $50 per day. The Canadian Government was erecting comfortable headquarters for the mounted police, and large log warehouses were in process of construction for the two commercial companies. The banks of the river were lined with scows and flatboats in which the population had floated down the river; others of these boats had been covered with canvas and turned into houses. At half-past 2 in the afternoon Rev. Mr. Bowen, of the Church of England, held a service, which I missed, not having been able to ascertain the hour at which it was to be held.

The mines are from 12 to 25 miles up the Klondike River from Dawson. The claims are 300 or 400 feet wide up and down the stream and across the flats. These claims were being held at $100,000 to $1,000,000 each. A quarter interest in these claims was selling at $50,000 each. The claims on the Klondike and its tributaries were all taken up long before my arrival, and weeks before the tidings of their value reached the distant world. Would-be miners, however, can find in the valleys of the Stewart, Pelly, and other streams of the Northwest Territory, in the valley of the Yukon and all its tributaries and their innumerable creeks and brooks gold fields of greater or less richness; indeed, the area of the gold field practically covers four-fifths of the entire area of Alaska, and will furnish claims for many years to come. The newcomer usually pitches a tent, and when he secures employment or a claim erects a small one-story log cabin for shelter. Moss is filled in between the logs, and in winter snow is piled up over the house, making it very comfortable. Ice is usually melted in winter for drinking water, or cakes of ice are drawn to the house and piled outside of the door to be brought in as occasion demands, and melted into water.

At 7 o'clock p. m., July 26, having bid adieu to friends and acquaint-

ances at Dawson City, our steamer swung loose from the landing and was soon racing down the river with a swift current, reaching Fort Cudahy at 10 o'clock, having made in three hours downstream a distance that required fourteen hours to make on the way up.

The following day we reached Circle City, having traveled in twenty-four hours what took us seven days to go up, but our speed and hopes were soon to be blighted. Shortly after leaving Circle City our steamer was caught by the current and swung upon a sand bar, where we lay nineteen days.

On the 13th of August, about 1 p. m., the cry of "steamboat" was heard, and soon after the *J. J. Healy* was made out on her return down the river, and at 6 p. m., after our detention of nineteen days, the passengers were transferred from the *Weare* to the *Healy*, upon which we continued our journey to St. Michael.

On the evening of August 20 the steamer *Hamilton* was met coming up the river. Being the first steamer to carry a search light, it created much interest and some consternation among the natives. The two steamers were tied up together for the night. On the incoming steamer was the first rush of miners that had been able to start from the outside after the tidings had reached them. It was crowded with gold seekers and adventurers, among them being ex-Governor McGraw, of the State of Washington; also many special correspondents of newspapers, including the New York World and Herald, the San Francisco Chronicle, Examiner, and Call; also The Post-Intelligencer and other Seattle papers. A supply of papers was secured and greatly appreciated after being over two months without any news from the outside world.

On the 30th of August the revenue cutter *Bear* reached St. Michael, and through the courtesy of Captain Tuttle I was permitted to move my headquarters on that ship. On the 16th we sailed for a visit to Teller Reindeer Station, Cape Prince of Wales, and the new purchase station at St. Lawrence Bay, reaching Teller Reindeer Station September 18. An inspection of the station was made. Four families of Lapp herders and teachers whose time had expired were taken on board the *Bear* for transportation to Puget Sound enroute to their homes in Lapland. Five young Eskimo girls and one boy were also received on board for transportation to Puget Sound on their way to the Indian school at Carlisle, Pa. On the morning of the 20th the ship sailed for St. Lawrence Bay, Siberia, reaching there on the morning of the 21st. Mr. John W. Kelly, in charge of the station, and his assistants (Messrs. Siem and St. Leger) were found in good health. The new building was about completed and 200 head of deer had already been secured toward the herd which is to be transported to Alaska next season. Sailing the same evening and making a short call at King Island, St. Michael was reached on the 23d. Changing my quarters from the cutter *Bear* to the cutter *Corwin* I was given a passage by Captain Her-

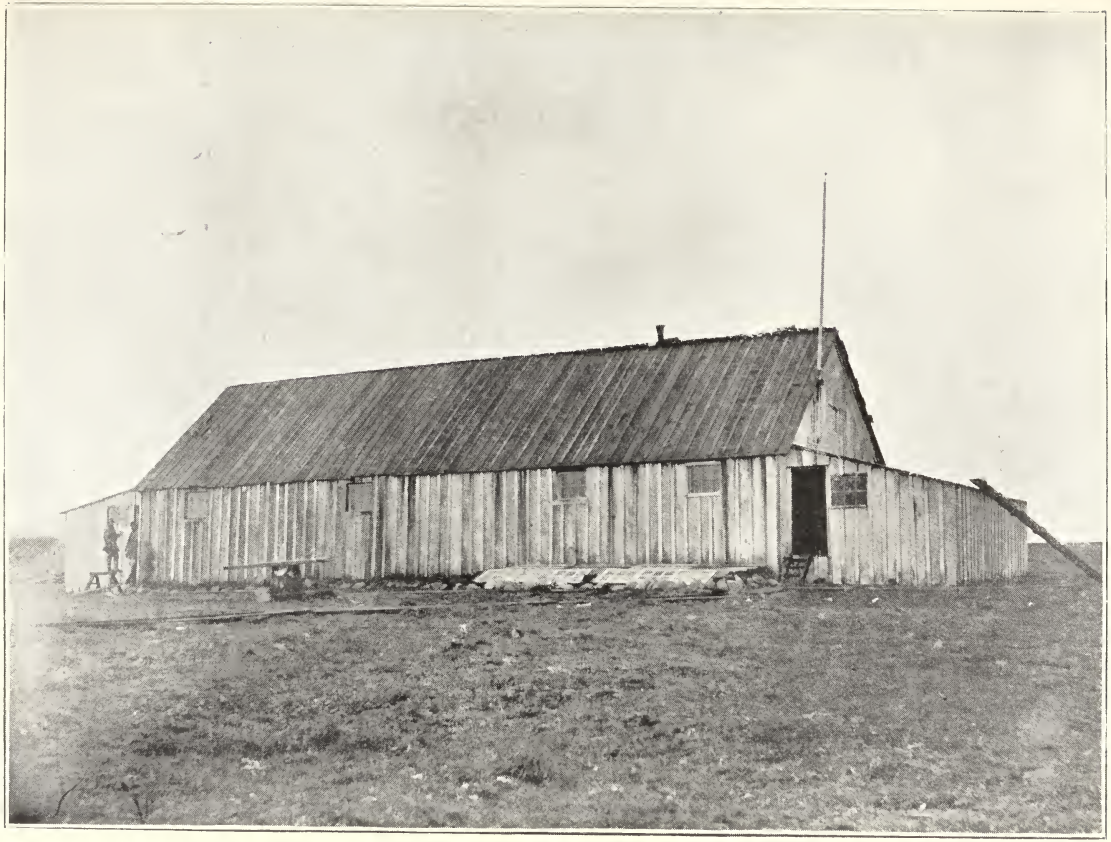
ring to San Francisco. On September 26 the *Corwin* made a landing at St. Lawrence Island and the captain very kindly took on board the teachers Mr. and Mrs. V. C. Gambell, Mrs. Gambell needing to return to the States on account of ill health. On the 30th we reached Dutch Harbor where a stay of two or three days was made for coaling ship. Sailing from Dutch Harbor October 3 we reached San Francisco on the 13th and Washington November 1, thus completing a trip of 21,736 miles.

There are two general ways of reaching the mines in the Yukon and Klondike. The way involving the least hardship is by the ocean and from the Pacific coast to St. Michael by ocean steamer, from thence up the Yukon River by river steamer to the mines.

Distances from St. Michael up the Yukon River.

	Miles.		Miles.
From San Francisco to Unalaska	2,369	Manork Creek	1,075
From Unalaska to St. Michael	800	Stevens Houses	1,144
St. Michael to Pastolik (mouth of Yukon)	72	One Eyes	1,279
Keetalek	77	Mouth of Porcupine	1,344
Keesilvak	154	Fort Yukon	1,353
"Foot of the Mountain"	193	Sonate Village	1,386
Audreafski	216	Circle City	1,394
Russian Mission	315	Charley River	1,456
Holy Cross Mission	410	Seventy Mile Creek	1,516
Anvik	457	Ogilvie's Camp Boundary Line	1,560
Nulato	648	Square Rock	1,584
Kokrinos	800	Fort Cudahy	1,596
Burning Mountain	849	Forty Mile Creek	1,598
Tozamakat	883	Fort Reliance	1,640
Mouth of Tanana	897	Dawson	1,650
Rampart Rapids	1,034	Klondike	1,652

The following stern-wheel steamers were running on the river this summer: Belonging to the North American Trading and Transportation Company were the *P. B. Weare*, *J. J. Healy*, and *C. H. Hamilton;* belonging to the Alaska Commercial Company were the *Alice*, the *Yukon*, a barge *Marguerite*, the steam launch *Beaver*, and *New Racket*, owned by A. Harper; the *Koukuk*, by G. C. Bettles; the *St. Michael*, by the Roman Catholic mission; the *Northern Light*, by the American Episcopal mission, and the *Explore*, by the Russian Catholic mission. The fare from Seattle to Juneau during the summer ranges from $150 to $300 per passenger. The drawback to this route consists in the fact that the miner does not reach the mines until the short arctic summer is half gone. The harbor at St. Michael does not open until from the middle of June to the middle of July, and it is impossible for ocean vessels to reach St. Michael on account of the ice before the middle of June at the earliest, and from the 1st of July to the 1st of August to the mines, according to the ice conditions on the coast. The



SCHOOLHOUSE, ST. LAWRENCE ISLAND, 1897.

more difficult and popular route is that by way of southeast Alaska; a comfortable vessel from Puget Sound to the northern end of Lynn Canal or Chilkoot Inlet, or an ocean steamer to Dyea and Skagway, rival towns 6 miles apart on the head waters of Chilkoot Inlet, in southeastern Alaska.

Those starting from Skagway take what is known as the White Pass, and those from Dyea the Chilkoot Pass. With the present conditions of those passes, the Chilkoot Pass is probably the preferable, but both of them require the undergoing of considerable hardship. The Chilkoot and White passes involve some 30 or 40 miles' climb from the mountains on foot, which brings one to the lakes at the head waters of the Yukon River, where boats, barges, and rafts are constructed upon which the traveler floats down to the mines. To the westward of the Chilkoot Pass is what is known as the Dalton Trail. This pass crosses the mountains at a much lower elevation than either of the others and involves a trip on foot or horseback of 250 miles. This is the trail used for driving over to the Yukon River beef, cattle, and sheep. It is to the eastward of Chilkoot Pass, commencing either at Fort Wrangell and ascending the Stickeen River to Telegraph Creek, thence overland by way of Lake Teslin, or starting from Juneau and going by the Taku Inlet and river to Lake Teslin, and passing down the waters of the same to the Yukon. At present neither of these routes is sufficiently open to make it feasible, as a number of miners found to their great loss during the past summer. The distances by the Chilkoot Pass route are as follows:

Distances from Dyea.

	Miles.		Miles.
From Seattle to Dyea	1,060	Foot of Lake Le Barge	184
From Dyea to the head of canoe navigation	6	Hootalinqua River	216
To the summit of the Chilkoot Pass	14	Cassiar Bar	242
Head of Lake Lindeman	23	Big Salmon River	249
Foot of Lake Lindeman	27	Little Salmon River	285
Head of Lake Bennett	28	Five Fingers Rapids	344
Foot of Lake Bennett	53	Rink Rapids	350
Caribou Crossing	56	Pelly River	403
Foot of Tagish Lake	73	White River	499
Head of Lake Marsh	78	Stewart River	509
Foot of Lake Marsh	97	Sixty Mile Post	529
Head of canyon	123	Klondike	578
Foot of canyon	124	Fort Reliance	582
Head of White Horse Rapids	125	Forty Mile Post	628
Tahkeena River	140	Fort Cudahy	628
Head of Lake Le Barge	156	Circle City	798
		Fort Yukon	839
		Rampart City	1,119

The charges for freight and passage from San Francisco and Seattle to Dyea are subject to constant changes, therefore can not be stated.

Prices at Dawson, Yukon, spring of 1897.

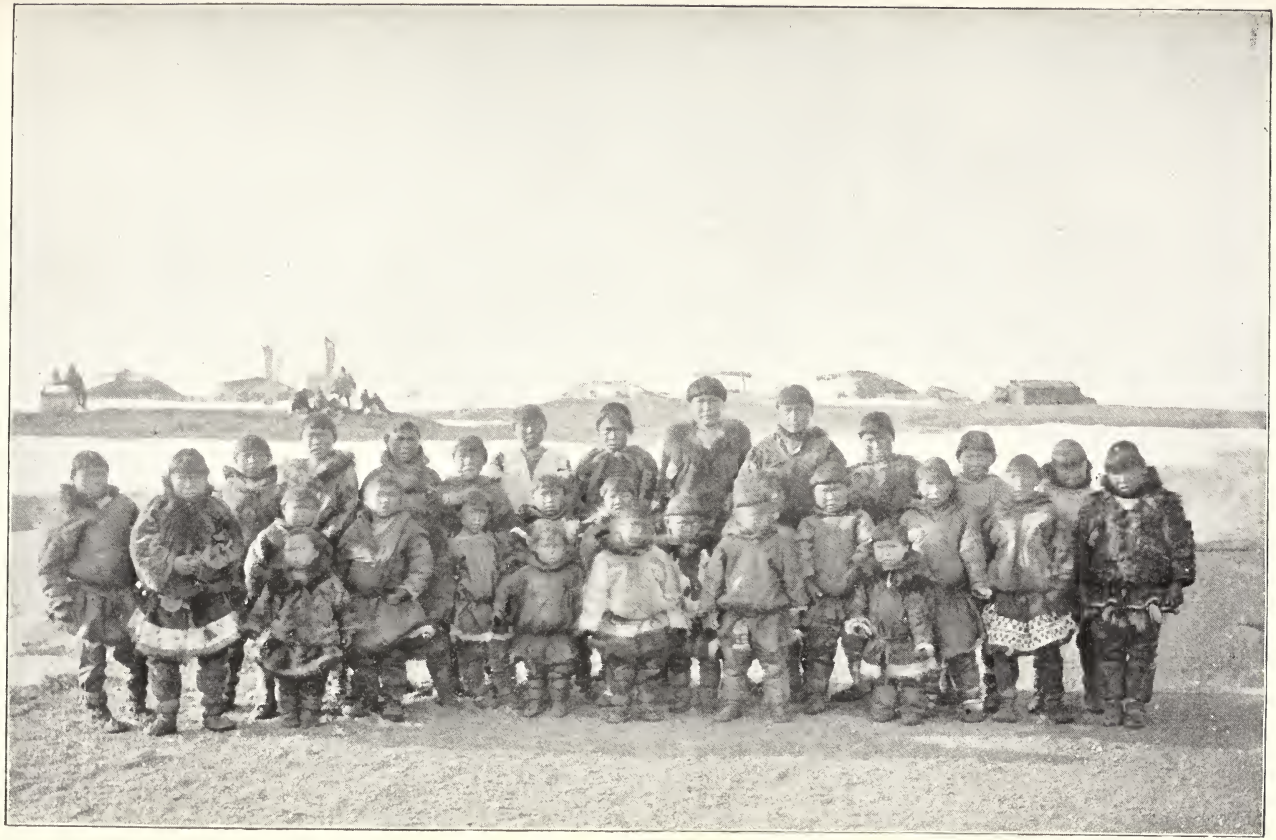
Articles.	Price.	Articles.	Price.
1 cup of coffee and 1 lump sugar	$0.50	Blue overalls	$2.50
1 meal (restaurant)	1.50	Smoking tobacco ..... per pound	2.00
Shaving ($1) and hair cut	1.50	Chewing tobacco ..... do	2.00
Calico dress (washing)	1.00	Ham ..... do	.65
1 garment (apron, no starch)	.50	Alum ..... per ounce	.50
Eggs ..... per dozen	4.50 to 5.00	Butter ..... per pound	.50 to .60
Fresh eggs ..... each	1.00	Candles ..... per dozen	1.00
Whisky ..... per gallon	25 to 34.00	Scott's Emulsion ..... per pint	3.00
Flour ..... per 100 pounds	12.00	Salts ..... per ounce	.25
Condensed milk ..... per can	.50	Coal oil ..... per gallon	1.25
Potatoes ..... per pound	.20	Sarsaparilla ..... per quart	3.00
Canned vegetables	.75	Hostetter's Bitters	3.00
Canned fruits	.75	Castor oil ..... per ounce	.25
Canned cherries	1.00	Cough mixture ..... do	1.00
Cheese ..... per pound	1.00	Pond's Extract ..... per pint	3.00
Pickles ..... quart bottle	2.75	Glycerin ..... per ounce	.50
Sugar:		Small sheet-iron camping stove	35.00
Granulated ..... per pound	.25	Royal baking powder	1.00
C ..... do	.20	Pepper (2 ounces)	.25
Matches ..... per bunch	.25	Rice ..... per pound	.20
Extracts ..... ½-pint bottle	1.00	Nutmegs ..... do	4.00
Bass ale ..... do	2.00	Dried fruits ..... do	.25
Tea:		Dried tongue	.75
Poor grade ..... per pound	1.00	Washboard	2.50
Better ..... do	1.25	Common broom	1.50
Bacon ..... do	.50	Washtub (galvanized iron)	4.00 to 5.00
Vinegar ..... per quart	1.00	Common laundry soap, 6 bars	1.00
Gum boots, hip	12.00	Clothespins ..... per dozen	.25
Beans ..... per pound	.15	Thread ..... spool	.25
Hudson Bay 4 pt. blanket	30.00	Needles ..... package	.25

RELIEF FOR SUFFERING MINERS.

During the summer just passed the water in the Yukon River reached a very low stage, preventing the usual steamer transportation along the mining towns on the upper courses of that river. Large quantities of provisions were landed by the ocean steamers at St. Michael, but owing to the inability of the river steamers to ascend the river these supplies could not be distributed to the points where they were needed; consequently as the close of navigation approached it was found that the miners were facing the long arctic winter without sufficient supplies of food. The destitution was so great that a call was made upon the Government to organize relief. Many plans were suggested to the Government. After weighing these plans it was found that the only possible solution was to take the reindeer trained to harness that were in the neighborhood of St. Michael and with them freight provisions to the settlements on the Yukon. Hence on the 22d of September you sent to William A. Kjellmann, superintendent of the Government herds in Alaska, the following telegram:

By direction of the Secretary of the Interior, Mr. Kjellmann will assemble at once all of the available reindeer trained for harness, teamsters, and sleds, and report at St. Michael to Colonel Randall to transport supplies to Dawson City if necessary. Obtain all deer trained to harness that can be spared from Cape Prince of Wales, Golovin Bay, and Cape Nome, together with apprentices trained as teamsters and willing to go. Promise wages to all teamsters. Deer borrowed from other stations will be replaced. Also consult the United States commissioner at St. Michael.

W. T. HARRIS, *Commissioner.*



GROUP OF ESKIMO BOYS. ST LAWRENCE ISLAND, 1897.
By V. C. Gambell.

Upon receiving the dispatch, which was carried by way of ship to St. Michael, Mr. Kjellman at once secured a boat and crew of Eskimos, which he sent with a copy of the dispatch to Dr. A. N. Kittilsen, in charge at the Teller Reindeer Station. Dr. Kittilsen was directed to drive the herd as soon as possible to the new station established on the Unalaklik River, and upon his arrival there placed himself in communication with Lieut. Col. G. M. Randall, U. S. A., commanding United States military post at St. Michael. Mr. Kjellmann also ordered the building of a sufficient number of sleds, to be ready upon the arrrival of the deer trained to harness. These deer, operated by the War Department from St. Michael, will be able to relieve the destitution as far up the river as Rampart City (1,075 miles from St. Michael by the mouth of the river).

These arrangements were no sooner consummated than tidings came from the Arctic coast of Alaska that eight whaling vessels, carrying crews aggregating about 400 men, had been unexpectedly caught in the ice and the men were in danger of starvation. Many plans were proposed for a relief expedition, but, as in the former case, it was found that no plan was practicable that was not based upon the use of the reindeer. Accordingly the Government, on the 16th of November, issued orders for the revenue cutter *Bear* to proceed north until stopped by ice, then make a determined effort to send Lieut. D. H. Jarvis and two or three men over the ice to the mainland. Having effected a landing, the party are to proceed to Cape Prince of Wales, secure the services of W. T. Lopp, a Congregational missionary, borrow his reindeer herd and also the herd belonging to a native Eskimo by the name of Antisarlook, and with these two herds proceed overland 500 or 600 miles in December and January to Point Barrow, or until the whalers are found and relief afforded.

As the season advanced the accounts of the shortage of food in the Yukon Valley became more and more alarming, and on the 18th of December Congress voted to be expended, under the direction of the Secretary of the Interior, the sum of $200,000, to be used for the taking of relief into the region of the Upper Yukon Valley. As the reindeer in the neighborhood of St. Michael can not be reached at this season of the year on account of ice, and fresh importations can not be made from Siberia on the same account, it is planned to send to Lapland, procure from 500 to 600 reindeer trained to harness and 50 or 60 experienced drivers, transport them across the Atlantic to New York, thence across the continent to Seattle, and from Seattle to Dyea, near the Chilkoot Pass in southeast Alaska. At this point arrangements will be made by means of these trained deer to carry provisions to the mining camps in the Upper Yukon Valley.

Thus when an exigency arose in which hundreds of men were threatened with starvation it was found that the reindeer furnished the only reasonable plan for the relief of the miners. The reindeer are a

necessity for the development of the new mines and the supply of sufficient food for the miners. The more rapidly domestic reindeer can be introduced into that country the more rapidly new sections can be visited and developed.

In conclusion I desire to acknowledge the many courtesies received from the honorable Secretary of the Treasury; Capt. C. F. Shoemaker, chief of Revenue-Cutter Service; Capt. Francis Tuttle, commanding cutter *Bear*; Capt. W. J. Herring, commanding the *Corwin*, together with officers and crews of both vessels; also the North American Commercial Company, their agents in Alaska, and Capt. J. C. Barr, commanding the river steamer *J. J. Kelly*, and Captain Kidtlson, commanding the steamer *Portland;* also to various parties for the photographic illustrations which accompany this report.

Very respectfully, yours,

SHELDON JACKSON,
General Agent of Education for Alaska.

The COMMISSIONER OF EDUCATION.

APPENDIX.

ANNUAL REPORT OF OPERATIONS AT TELLER REINDEER STATION, PORT CLARENCE, ALASKA, 1896-97.

TELLER STATION, *June 30, 1897.*

SIR: I have the honor to transmit herewith my annual report of general operations at Teller Reindeer Station for the year ending June 30, 1897. I also include a report of my winter journey to the Yukon and Kuskokwim rivers, with my diary kept on the journey.

One of the first moves after I had received charge of the affairs last summer was to search for a suitable place inland whereto the Government headquarters, according to your instructions, could be removed.

A party of eight men was chosen from among the herders and apprentices, the necessary tools and lumber for the building of temporary houses, provisions, firearms, tents, etc., were stowed in the whaleboat, and on the 4th of September we left Teller Station with the intention of investigating the Agheeopak Valley. Assistant Superintendent Dr. A. N. Kittilsen was left in charge of the station. The herd was then located on the north side of Grantley Harbor, which gave me an opportunity to inspect the camp and give orders for management until my return.

The next day, the 5th, we continued sailing east through Eaton Channel into Eaton Lake, where the second camp was made on the north shore. In the evening of September 6 we entered the mouth of the Agheeopak River, our whaleboat being the first white man's boat ever to float in its waters.

Three days more of hard labor brought us about 60 miles up this rapid river, much to the surprise of the Eskimos, who had informed us that we could never get up the stream with our loaded boat. The river makes a number of small bends and the current was at places so rapid that eight men with a good foothold pulling the towline made but slow progress.

On the 10th of September we found a suitable place for winter headquarters and started to build the necessary houses.

By the 15th three sod houses, 16 by 10 feet, with lining of lumber, were finished, and on the 16th the return trip was made in steamboat manner, as all that was required in order to make a 7-mile an hour speed was to steer and look out for sand bars.

On September 17 it was reported that a Cape Prince of Wales native had shot a female deer and its fawn, and that the culprit could be found

camping on the north beach of Grantley Harbor. We made for the place at once, found the native, ordered him aboard our boat, and sailed on. When we got abreast of the Government herd a landing was made and I took the thief and a few of our men up to camp, where the case was tried; the man paid for the deer and was set free to tramp back to his family. This is the only case of shooting of deer that has happened during the year, and I am led to believe that even this was done through ignorance and not maliciousness.

The Eskimo population as a whole have given no trouble.

BUILDINGS, ETC.

The Government buildings at Teller Station are in good and substantial condition. All necessary repairs have been attended to, but no new buildings have been added. The furniture, stoves, tools, and other appliances are in good order, also the boats, seines, nets, and other fishing gear.

THE HERD.

The Government herd of reindeer has thrived well at the new winter quarters, where it was driven the latter part of November. During the first days of April, 1897, the herd was again removed from winter pasture at Agheeopak to the fawning ground on the south side of Eaton River. Since the 12th of May it has been slowly moved westward along the south side of Eaton River, lake and channel, Grantley Harbor, and Port Clarence toward Cape Riley, where it will be kept during the summer and coming fall. The object of these frequent moving operations is, in the first place, to bring the herd to a sheltered place where the fawns can be dropped, and to have new and dry grazing grounds; second, to train the apprentices and their families in moving, driving, and a nomadic life; third, as the prevailing winds during the summer are from the south and southwest, it is difficult to land the reindeer imported from Siberia on the north side of Port Clarence, while on the south side shelter is always found for the vessel, and no surf on shore to prevent the landing of the deer. In addition to the above the newcomers have no chance whatever to escape on that side of the harbor, owing to the formation of the land; fourth, Antisarlook (Charley) has often sold to the Government reindeer which have been left in Cape Nome subherd, but which can be more easily collected in the coming fall when the two herds are so near each other.

No subherds have been sent out this year, and unless the importation of reindeer from Siberia during this season to increase the central or main herd is considerable, it will not be advisable to subdivide it during the coming year. The proportion of females in the subherds formerly sent out has been from 75 to 85 per cent, which is a higher percentage than is found in the natural increase, which is about 55 to 60 per cent, if properly paired. The consequence is that the females in the main herd at present is proportionately less than in the subherds. If the

same proportion is to be followed in the future, the central herd will soon be unable to yield the necessary increase for regular distribution.

Soon after my arrival at the Teller Station in 1894, I learned that the brown and white spotted reindeer skins brought 50 per cent higher prices in the Alaska market, and that only a few such reindeer had been imported. The attention of the Laplanders was at once called to the matter and an order given to regulate the herd so as to get more of the much-admired spotted deer. It gives me pleasure to be able to report that of the fawns born this spring more than two-thirds are white or spotted, and if the regulation is kept up the value of the herd can in a few years be raised considerably.

The total loss during the year is about 10 per cent, which is a lower percentage than in former years, owing to the greater proficiency of the apprentices.

Reindeer account.

Date.	Reindeer.	Dr.				Cr.			
		Male.	Female.	Fawns.	Total.	Male.	Female.	Fawns.	Total.
1896.									
July 11	Number in herd					142	168	130	440
	Belonging to apprentices	2	17	15	34				
Sept. 30	Died	3	12	7	22				
30	Otherwise disposed of	2			2				
	Balance	135	139	108	382				
	Total	142	168	130	440	142	168	130	440
Oct. 1	Number in herd					135	139	108	
Dec. 31	Died	2	4	1	7				
31	Otherwise disposed of	15	8	5	28				
	Balance	118	127	102	347				
	Total	135	139	108	382	135	139	108	382
1897.									
Jan. 1	Number in herd					118	127	102	
Mar. 31	Died and lost	8	3		11				
	Balance	110	124	102	336				
	Total	118	127	102	347	118	127	102	347
Apr. 1	Number in herd					110	124	102	
June 30	Died and lost	3	1		4				
30	Otherwise disposed of	1			1				
30	Increase							122	
	Balance	106	123	224	453				
	Total	110	124	224	458	110	124	224	458
June 30	To-day in herd belonging to Government, classified as follows					153	178	122	453
30	In Cape Prince of Wales herd, bought from Kunimuck					1	1	2	
30	In Cape Nome herd, bought from Charley				2	3	3	8	
30	In Golovin Bay herd, left by superintendent				6			6	
	Total belonging to Government				161	182	126	469	

It will be noticed that the above reindeer account only includes the reindeer belonging to the Government in the main herd, together with those bought and left in subherds, and not the apprentices' private deer in the main herd or those in the subherds belonging to the Government, but loaned to missions or other parties for certain periods of time.

Account of died and killed.

Date.	Died or killed.	Cause of death.	Where disease affected.	Male.	Female.	Fawns.	Total.
1896.							
Aug. 17	Died	Hoof-rot disease	Lung	1			
20	do	do	Liver			1	
22	do	do	Heart			1	
24	do	do	Heart and liver.		4		
24	do	do	Heart			1	
27	do	do	do		1		
28	do	do	Lung		1		
30	do	do	do	1			
Sept. 4	do	do	Liver		1		
8	do	do	Liver		1		
10	do	do	Lung and heart.	1	1		
11	do	do	Lung		2		
13	do	do	do			1	
14	Shot by an Eskimo				1	1	
20	Died	Hoof-rot disease	Lung			1	
26	do	do	Liver			1	
	Total first quarter			3	12	7	22
Oct. 1	Died	Hoof-rot disease	Liver		1		
2	do	do	do		1		
6	do	do	Lung		1		
15	do	do	Liver			1	
20	do	do	do	1			
31	do	do	Lung	1			
Dec. 16	Killed		External		1		
	Total second quarter			2	4	1	7
1897.							
Jan. 8	Killed	Hoof-rot disease	Hind leg		1		
11	do	By dogs		1			
15	Died	Strangling		1			
Mar. 13	Starvation during travel on Yukon.			5			
15	Died	Not known			1		
24	do	Heart failure		1			
27	Killed	Partial paralysis	Hind leg		1		
	Total third quarter			8	3		11
Apr. 29	Died	Strangling		1			
May 23	do	Pain		1			
June 1	do	Fawning			1		
4	do		Lung	1			
	Total fourth quarter			3	1		4

Accounts of butchered, sold, or otherwise disposed of.

Date.	Butchered or otherwise.	Cause.	Male.	Female.	Fawns.	Total.
1896.						
Aug. 28	Butchered	For mounting	1			
28	Shipped	A buck, to Dutch Harbor (killed for food).	1			
	Total first quarter		2			2
Oct. 1	Transferred to Cape Prince of Wales herd as apprentices, Kummuk's pay.		2	8	5	
Nov. 20	Butchered	Killed for food	11			
Dec. 8	do	do	1			
8	do	do	1			
	Total second quarter		15	8	5	28
June 1	Butchered	Killed for food	1			
	Total fourth quarter		1			1

From the above tables it will be observed that of the total number that died during the year 27 died directly and 3 indirectly from the effects of the hoof-rot disease the past summer and fall. The disease lasted through August and September and seemed to culminate about August 20, as very few new cases occurred after that date. During the disease all the sick animals were isolated from the herd and were kept in an inclosure made for the purpose, with the attachment of a small pen, where the doctoring was done once a day. The disease increased, and at one time as many as 57 cases were under treatment. The treatment consisted in washing with warm water and soap; then cutting away the affected flesh; washing with medicines, and finally bandaging. Fortunately the disease was of short duration, and through prompt attention the loss was less than it was feared it would be. When these 30 animals that died from this disease are subtracted from the total number, the loss through disease and accidents caused in drilling the apprentices, breaking in the deer, etc., it is found to be but 3 per cent; an unusually low percentage for an experiment and school herd where the animals are used as material for drilling inexperienced herders. When it is remembered that an unusual amount of traveling has been done this winter, it is safe to say that the loss can be brought to even a lower percentage.

PROTECTION FROM DOGS.

We have had no trouble from dogs in the herd, but the sled deer tethered in pasture near the station have on two occasions been attacked by dogs, and resulted in the killing of one deer. On a journey to the Kuskokwim River during the winter I had an opportunity to study the character of the Eskimo dogs, and the conclusion was that they are not dangerous to the reindeer in general. We had several fights with them, but found them to be great cowards and easily frightened away from the deer. It was necessary to shoot only one dog within the four months' travel. With a little activity on the part of the driver, there is little, if any, danger in driving up to the native villages, even where reindeer have never been seen before. This we did a number of times without any fatalities.

FAWNING.

Many of the females did not have fawns this spring, as the result of the hoof-rot disease, the sick failing to pair during the fall season. The natural increase, however, was 133 fawns born, whereof stillborn and died to date amount to 11, leaving the increase of 122. About 70 per cent of the dead and stillborn were fawns of yearlings. These young mothers, many of them still sucking their own mothers, do not take proper care of their young, and as their fawns are very young and tender it is hard to keep them alive when the mother deserts them. The general weather during the fawning season was dry and clear, but cold north and northeast winds prevailed.

CASTRATING.

In adopting the Laplander's method of castrating we have been able to perform it at any season without risk, as no cutting is done; hence no open wounds are to be healed. The American method would be very dangerous in this climate at any season of the year. The proportion of bulls in a herd of reindeer has through centuries of experiments in Lapland been established, as also the age, size, weight, and general appearance of the best bulls. As these results have been gained by practical experiments, we have not made any new experiments in this line, but adopted the rules established in Lapland.

BREAKING IN REINDEER.

At the usual time in the fall the herders and apprentices commenced breaking in deer and training them to harness, which work went on during the winter until 46 deer, from 2 to 3 years old, were broken. There are now in the Government herd 73 well-broken and trained sled deer, and they have been in constant use for seven months, hauling fuel, traveling, transporting provisions and camp outfit, etc. The breaking and training of the animals have been accomplished with but few accidents. The training done by apprentices has proven very satisfactory. The sled deer used around the Teller Reindeer Station have been partially kept in a stable and fed on moss gathered and stacked last fall, and partially tethered in a pasture 3 or 4 miles away from the station. The sled deer have also been trained to carry packs. At times the whole camping outfit of herders and apprentices, with their families, amounting to 20 to 30 loads, has been packed on the reindeer in pack saddles and moved wherever the camp was moved.

MILKING.

During the summer of 1896 milking was done in the usual way. The milk was evaporated and made into cheese by the Laplanders. The apprentices did much of the milking, but utilized the milk in its fresh state. Milking was carried on for a short time only, as when the disease broke out in the herd it was thought best to stop the milking in order to make as little disturbance and running about in the herd as possible. As usual, a temporary pen was built of willow brush where the cows were caught and milked, every family having a certain number to attend to. From the middle of June of this year little milking has been done, and only for daily use.

DRIVING.

As soon as the ground was well covered with snow the apprentices began practical driving, and as there was a sufficient number of trained deer they kept at it very steadily. Later in the fall, when most of the old trained deer were taken away from camp for work and travel, the

apprentices kept up the practice by training the newly broken deer. No whips or other means of punishing the animals have been allowed. The distance driven during the year with reindeer belonging to the Government herd is over 10,000 miles, including the journey to the Kuskokwim River.

HARNESS AND SADDLES.

We are still using the same harness, namely, the style now in use in Lapland, and no improvement has been made or found necessary. To an outsider or inexperienced person the harness looks a little too simple, but just therein consists its superiority over any I have seen. The assistant superintendent, Dr. A. N. Kittilsen, on his arrival last fall, suggested many changes, such as the use of thills for single and poles for double driving, two traces, etc. He was encouraged to try the experiment with any new improvements desired. On my return in April from my winter journey no change had been made, and upon inquiry it was found that the assistant superintendent had come to the conclusion that the style of harness in use could not be improved. A single trip from Port Clarence to Golovin Bay convinced him on this point. So far as I know, the same harness is used with all the herds in Alaska. My personal faith in the present harness was strengthened by my winter drive.

I have not seen any description of a pack saddle for reindeer—probably because it is such a simple thing. Still it is as useful and necessary for carrying packs as the harness is for pulling sleds. It is well known that the reindeer is very weak across the back. Consequently no load of any considerable weight can be placed on the back without the most serious injury; but with a saddle arranged so that the weight can rest on the shoulder, a pack of 100 pounds to each deer can be carried at a rate of 20 to 25 miles a day. When the reindeer is well trained to carry packs it is as good and gentle a pack animal as a horse, and is able to climb and descend hills and mountains with ease where a horse would have difficulty. The usefulness of the reindeer for this country as a pack animal, therefore, can not be estimated too highly, when we remember that the gold fields are located inland, mostly far up small creeks, where it is hard for the miners to do prospecting, owing to the difficulty of transportation through an uninhabited country like this. The carrying capacity of the reindeer can be utilized by the miners in procuring food from the country through which he travels, and even after the food supply is exhausted the animal himself furnishes food for the prospector.

It is early to state what changes will be made by the introduction of reindeer in the mining industry of Alaska, but the change will be great, and no doubt rich mines will be discovered through the aid of the deer that would otherwise remain undiscovered. The value of the animals in developing the country, as well as the private comfort afforded by their aid, can not be overestimated. The saddle used for packing consists of two pieces of wood about 2 feet long, 4 inches wide, and from

one-half to three-fourths of an inch thick, slightly bent in the shape of barrel staves, and made so as to lock at the top end when the lower end is kept about 2 feet apart. By placing this triangular instrument across the shoulders of the deer and passing a strap or rope fastened to the lower ends under the belly the lock at the top ends makes it act as a spring, and by pressing the lower ends together the saddle will come to a tight fit on both sides of the animal without touching the top of the back. To this saddle the packs are fastened in such manner that none of the weight rests upon the back but on the shoulder blades.

SLEDS.

Sleds are not used in Lapland, hence the Laplander is ready to condemn their use on account of their heavy draft in deep snow, their liability to break the hind legs of the deer, and catching the trees in driving trains through the woods. Polks, or pulkhas, are used, and found to be superior to other sledding implements, as they float almost on top of heavy snow, never break the legs of the deer ahead or abaft of them, and very seldom catch in driving through the thickest forest. On hard, level snow or ice they run heavier than a sled.

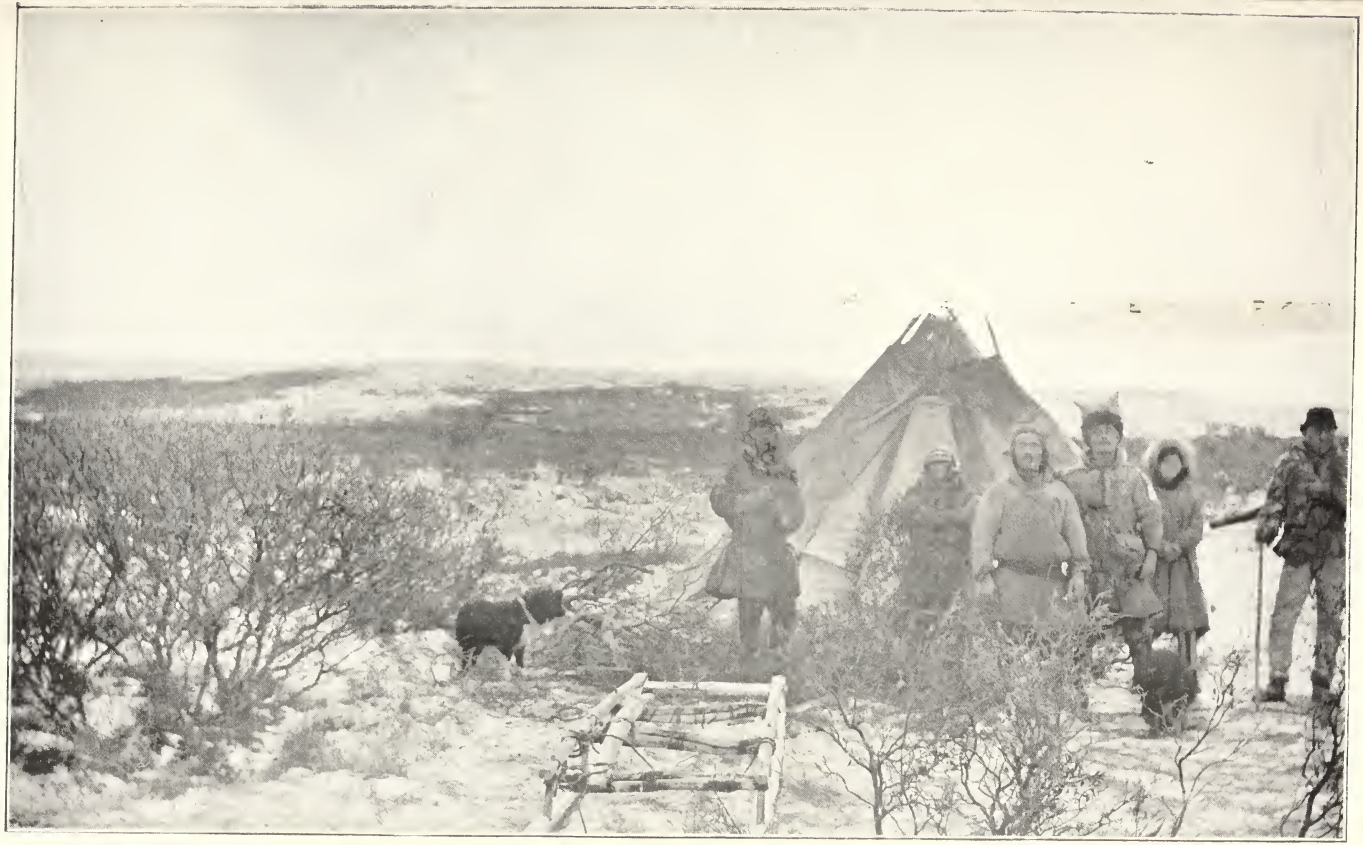
Having given this question much thought, and having had experience with different styles and weights, nothing has been found entirely satisfactory for this barren section. For the interior and timbered districts, as well as what is known as the upper country, the polk will be found satisfactory. Aluminum polks, or rather funnel-shaped tubes, if given a trial, might better answer the purpose, and an experiment will be made with them when opportunity offers. In transportation, the weight, shape, and general condition of the carriage on which the load is placed has much to do with the weight carried, and the experiment is worthy of trial.

In the improvements gained in the carrying capacity and speed of vessels it will be found that not only the power and size of the sails, steam, and machinery are improved, but also the shape and general condition of the body of the vessel. The same is true in railroading and other means of transportation. When this is the case with the large and unlimited methods of transportation, how much more so must it be with the limited power of animals, like the reindeer, and which can not be much improved. I have experimented enough to know that reindeer can haul 50 per cent more on a light, easy-running sled than on a clumsy one; and 50 per cent more freight on a boat is an important item, where freight rates run as high as 15 to 20 cents per pound.

HERDERS.

The seven herders brought from Lapland in 1894 have been distributed as follows:

Per Aslaksen Rist and Mikkel Josefson Nakkila accompanied me on the tour last winter.



PARTY OF LAPPS. WINTER CAMP.
By J. C. Widstead.

Aslak Larson Somby was in charge of the Golovin Bay herd until March, when he returned to the Teller Station.

Mathis Aslaksen Eira was in charge of the Cape Nome herd until March, when he returned to Teller Station in order to get necessary medical attendance for his wife, who died May 4 and left two children for him to care for. As Mathis Eira arrived at Teller Station about the same time as Aslak L. Somby arrived from Golovin Bay, the latter was sent to take the former's place, as the fawning season was coming on and the Cape Nome or Antisarlook's herd needed the attendance of a Laplander more than the Golovin Bay herd, which is in charge of Eskimo apprentices who have spent three years with the Laplanders, partly at Teller Station.

Johan Speinsen Tornensis, Samuel Johnson Kemi, and Fredrik Larsen were in attendance at the Government herd instructing apprentices, with the exception of short periods when one or the other was accompanying the assistant superintendent on his travels, as follows: John S. Tornensis went to Golovin Bay with the doctor on a professional tour in the latter part of December, 1896, in order to attend Mr. N. Hultberg's babe at that place. Fredrik Larsen went with the doctor to Cape Prince of Wales, where the latter was left for a limited time to help instruct the apprentices in breaking in deer. He stayed with the subherd at Cape Prince of Wales about one month only, as the supplies of provisions at that station were limited. When I left the Teller Station last fall, Johan S. Tornensis was put in entire charge of the herd and the drill of the apprentices; but as the assistant superintendent was inexperienced in driving and handling reindeer, a driver and instructor was needed; so Johan was occupied most of the time through the winter in training the assistant; and Samuel J. Kemi had charge of the herd and apprentices until lately, when I had to come to Teller Station on account of his sick wife and two sick children.

The general behavior of the herders has been excellent, and they have attended to their duties in a satisfactory manner. The relation between the herders and apprentices has been the best. This is also true as regards the herder, apprentices, and outside natives. It is remarkable how readily they exchange customs, especially in the style of clothing. This is only the third year, yet many exchanges have been made on both sides.

The Laplanders are civilized and Christianized, but they can not be managed as are other civilized people of the lower classes. Allowance must be made for the fact that they have spent their lives in the mountains, where they had no chance to keep up with our advancing civilization. They are liberty-loving people, taught to be so by the singing birds when as babes they swung in their cradles in the limbs of trees and as boys they pursued the wild beasts, the fleet-footed rabbit, or swift reindeer over the endless plains and rolling hills, or when on their skees or in pulkhas they slid over the snow-covered mountains, leaving

only a smokelike streak of whirling snow behind to tell the looker-on where they went. Born and reared under such influences in old Lapland, where they have had no restraint for the body or mind, no word of command, and where no social customs of civilized life were known, it is but natural that patience must be extended to them. However, from the managers' side they bring the best results.

The Laplander looks with pride upon his skill in herding, training, and general management of reindeer in the same manner that any other artist looks upon his work; consequently he can not easily abandon his knowledge and skill for the new untried ideas of inexperienced managers of herds. By proper treatment the Laplander will adopt and put in practice any suggestion toward improvement; but it is perhaps best that they hold to their heredity and experience, since if abandoned we would get mere machine labor instead of the established customs in training the deer which have been prevailing for centuries in Lapland. If that is what we need, it is only throwing away money and time to induce them to immigrate to this country, for we could get any amount of other labor when paid for, and much nearer than that country. But what we need is the skill and experience of the Laplander in driving and handling, milking, and the general use of the reindeer; and the money spent in getting such knowledge and skill is well spent. We must acknowledge the fact that the Laplander is far ahead in that matter, and they are obtained to teach us and our Eskimos their method of transportation adaptable to the outskirt of the world, and how to get to the valuable gold fields in the mountains and streams and to establish communication between people scattered widely apart, and, as it were, who are hermetically closed to the world by snow and ice.

APPRENTICES.

The apprentice force has not been increased during the year, with the exception of one family from Point Barrow last fall, and none have left or been discharged. I am happy to be able to state that the apprentices have conducted themselves in every way satisfactorily, and no misunderstanding or trouble has arisen with anybody. They are all interested in their work, and seem to enjoy the camp or nomadic life they lead. The conduct of the apprentices has changed so much within three years that it scarcely seems possible to realize they are the same. The first year they were stubborn, unwilling, disobedient, and tried various means to avoid obeying given orders. Now they all seem to be anxious to do right, and the remark has been made, "We would do better if we only knew how." Their improvement has been so great that they will, when their terms expire, become successful herders. The majority of the apprentices are married, and they are reliable and interested in their work. The boys also have made progress and come up to our expectations.

The first impression an observer will get of the women of this country is that they are slaves to their husbands, but a closer study will show it to be otherwise. In most instances the wife and mother control the largest share of the family affairs, as well as business matters, and are the never-failing guiding star for the whole family. They possess more intelligence than they have credit for, and have influence in shaping the character of their husbands and children. The Eskimo women are always awake to the food question and support of the family, as they have the largest share of the supporting to do. This, in connection with the fact that they consider an undertaking more carefully than men, and, when fully considered, go at it in earnest, gives them more ability to guide and keep their husbands at steady and earnest work with the reindeer, in view of the future help it will bring to the family.

Account of apprentices' private reindeer in the Government herd.

	Owned July 1, 1896, in Government herd.						Total remaining in Government herd.			
	Male.	Female.	Fawns.	Total.	Died or lost.	Increase, 1897.	Male.	Female.	Fawns.	Total.
Taootuk	2	6	7	15	.....	11	4	11	11	26
Sekeoglook	.....	5	3	8	2	6	1	6	5	12
Wocksock	.....	2	2	4	.....	2	1	3	2	6
Ahlook	.....	2	1	3	.....	2	1	2	2	5
Electoona	.....	2	2	4	.....	3	1	3	3	7
Dunnak	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ojello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laudlook	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aklarauk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	2	17	15	34	2	24	8	25	23	56

List of persons subject to the instructions and rules of Teller Reindeer Station.

Name.	Age.	Occupation, etc.
	Years.	
William A. Kjellmann	36	Superintendent.
A. N. Kittilsen, M. D	26	Assistant and physician.
Rev. T. L. Brevig	40	Teacher.
Mrs. Julia Brevig	.....	Wife of T. L. Brevig.
Dagny Brevig	1	Their daughter.
T. P. Kjellmann	73	Superintendent's father.
Per Aslaksen Rist	53	Chief herder.
Mikkel J. Nakkila	35	Laplander herder.
Berret Anna	27	Wife of Nakkila.
Johan S. Tornensis	38	Laplander.
Margrethe Tornensis	31	Wife of Tornensis.
Berret Tornensis	4	Their children.
Inger Anna Tornensis	*a* 3	Their children.
Aslak Larsen Somby	51	Laplander.
Britha L. Somby	49	Wife of Somby.
Berret Anna	14	Their daughter.
Samuel J. Kemi	49	Laplander.
Kirsti J. Kemi	30	Wife of Kemi.
Karen Kemi	3	Their children.
Per Kemi	1	Their children.
Mathis Aslaksen Eira	28	Laplander.
Aslak Eira	7	The former's children; mother died May 4.
Berret	1	The former's children; mother died May 4.

a Months.

List of persons subject to the instructions and rules of Teller Reindeer Station—Cont'd.

Name.	Age.	Occupation, etc.
	Years.	
Fredrik Larsen	21	Laplander.
Sekeoglook	26	Apprentice.
Ootoona	.....	Former's wife.
Nowealarook	50	Former's mother.
Taootuk	23	Eskimo apprentice.
Nassokka	19	Former's wife.
Derrsokka	*a* 3	Their child.
Ahlook	19	Eskimo apprentice.
Electoona	20	Do.
Sandlook	16	Do.
Wocksock	30	Do.
Derrick	30	Former's wife.
Aklarauk	11	Their son.
Ablecket	9	Do.
Naktangok	3	Their daughter.
Emanonsah	53	Wocksock's mother.
Dunnak	25	Eskimo apprentice.
Ellockanna	8	Their adopted daughter.
Ojello	41	Eskimo apprentice.
Supponesocktok	39	Former's wife.
Nutak	19	Their daughter.
Gudlello	12	Daughter of Ojello.
Alali	9	Do.
Gakernak	1	Do.
Kommaki	18	Brevig's servant girl.
Krumnase	25	T. P. Kjellmann's servant girl.
Anniak	14	Tornensis' servant girl.
Nobia	40	Kemi's servant girl.
Sagan	3	Nobeeas's child.
Gollearock	24	Eira's servant girl.

a Months.

The total number is 53, but it will be observed from the occupations given that not all are in direct connection with the station so far as work and support are concerned; still, they are all housed at the station and make their living by the reindeer enterprise and are subject to the rules of the station.

HERDING DOGS.

There are 11 trained reindeer dogs and 7 young ones in training at the station. They are of pure breed, except two of them which are half Lap dog and half collie or shepherd dog. These half breeds have turned out very satisfactorily as reindeer dogs, but are rather fast for use in summer season. The speed, however, is regulated by hanging a smaller or larger fork-shaped piece of wood around the neck, which hits the dog on the knees when running too fast. The reindeer dogs can only be kept pure with the utmost care and observance of killing every pup that is doubtful; but as the dogs increase more rapidly than the reindeer, there are always enough to kill such. We have no sled or Eskimo dogs at the station.

RATIONS AND SUPPLIES.

The amount of rations of food has gradually been cut down so far as imported food is concerned. Of course, it need not be explained that the balance of nourishment has been given them in food not imported, but is partially caught and partially bartered for from the natives, such as fish, seal, etc.

Ration list Teller Reindeer Station, 1896-97.

[To be issued every fourth week.]

LAPLANDERS AND THEIR FAMILIES.

Name.	Number in family.	Flour.	Navy bread.	Rice.	Oatmeal.	Matches.	Soap.	Potatoes.	Butter.	Molasses.	Beef.	Pork.	Fish. *a*	Coffee.	Tea.	Sugar.
		Lbs.	*Pcs.*	*Lbs.*	*Lbs.*	*Blks.*	*Lbs.*	*Lbs.*	*Lbs.*	*Qts.*	*Lbs.*	*Lbs.*		*Lbs.*	*Pkgs.*	*Lbs.*
Johan S. Tornensis	4	70	40	5	5	12	1½	40	8	2	30	15	...	.....	.....	.....
Mikkel J. Nakkila	2	70	40	5	5	12	1½	40	7	2	25	15	...	.....	.....	.....
Samuel J. Kemi	4	70	40	5	5	12	1½	40	8	2	30	15	...	.....	.....	.....
Mathis A. Eira	4	80	40	5½	5	12	1½	40	9	2	30	20	...	.....	.....	.....
Aslak L. Somby	3	70	40	5½	5	12	1½	40	8	2	30	15	..	.....	.....	.....
Per A. Rist *b*	....	35	20	3	3	12	½	20	4	1	15	10	...	.....	.....	.....
Fredrik Larsen *b*	....	40	20	3	3	8	½	20	4	1	15	10	...	1	3	3

a Ad lib. *b* Single.

ESKIMO APPRENTICES WITH FAMILIES.

Name.	Number in family.	Flour.	Navy bread.	Rice.	Beans.	Cornmeal.	Matches.	Molasses.	Soap.	Tea.	Sugar.	Fish. *a*
		Lbs.	*Pieces.*	*Lbs.*	*Lbs.*	*Lbs.*	*Blocks.*	*Qts.*	*Lbs.*	*Pkgs.*	*Lbs.*	
Wocksock	6	80	440	12	12	20	16	5	3	6	10	.....
Dunnak	3	40	300	8	8	14	16	3	2	4	8	.....
Taootuk	3	40	240	8	8	12	16	3	2	4	8	.....
Seekeoglook	3	40	240	8	8	12	16	3	2	4	8	.....
Ojello	7	80	560	18	18	26	24	6	4	8	16	.....
Electoona *b*	.....	20	160	4	4	6	8	1½	1	2	4	.....
Ahlook *b*	.....	20	160	4	4	6	8	1½	1	2	4	.....

a Ad lib. *b* Single.

NOTE.—The Laplanders will be given only one-half ration of beef and pork for six months, beginning with the first ration after they butcher their first allowed deer. By order superintendent.

The supplies have held out well and there are some provisions on hand still which will be transferred and used with the supplies for next year.

CLOTHING, BEDDING, ETC.

The clothing, bedding, cooking utensils, and general implements used by herders and apprentices and belonging to the Government have been kept in proper order, wear and tear being replaced from the herders' and apprentices' supplies at the station.

LANGUAGE.

Which language is most used at the station and camps is more than I can attempt to state. At present a language which is called "Lap-Eskimo-English" is used. In using this, when every other fails, one can make himself understood, especially if a little seasoning of Norwegian is put in. But this mixture of languages will soon be replaced by English in this country. The progress made in this direction is satisfactory when the short time English has been used is considered.

Most of the Laplanders understand and learn English as readily as many newcomers do in the States, but it is here more mixed with the Eskimo tongue. However, time and teaching will soon make English the only language used in Alaska. In business matters English is of course used by the officers of the station.

VISITS TO SUBHERDS.

When in December last I passed Golovin Bay I had the opportunity of visiting the herd there, which was found in fine condition. The summer and fall has passed without any serious disease or other disturbance. The Laplander, Aslak Larson Somby, who had been in charge since the winter of 1895–96, was still in charge and camped with his family and apprentices in a snug sod house built for winter quarters about 15 miles from the Swedish Mission station at Golovin Bay. The total number of reindeer in that herd was found at that time to be 194, of which 50 belonged to apprentices, leaving a total of 144 belonging to the Government and the Mission station. The total number of deer sent from Teller Station in January, 1896, was 132; hence the herd had during the first year increased by 62 deer. This is 48 per cent life increase, a very good percentage to start with. In passing Golovin Bay on my return from the Kuskokwin in April I again visited the herd, and it was found in the same good condition. Fawning was then going on. In the meantime A. L. Somby had returned to Port Clarence, and later on M. A. Eira was sent to Golovin Bay to take his place.

On April 28 of this spring I left for a visit to the Cape Nome or Antisarlook's herd, arriving there on the 30th. The herd was found to be in temporary charge of a Laplander who had arrived there about four weeks previously. That herd was in a poor condition. The difference between this herd and that of the Government herd at Golovin Bay was a surprise. In letting our geld deer loose in the herd they could be distinguished at a distance, as they looked like so many horses in a herd of cattle. Through inquiries made it was found that the herd had been kept on the coast near Antisarlook's house, where no moss was to be had, for some time before the Laplander arrived. Only now and then were the deer allowed to go to the mountains to feed, the reason for this being that they had to keep the herd near the ice in order to catch fish for their daily food, as Antisarlook did not give them any, and they had to scratch for themselves. When I arrived the apprentices were feeding on the bark of willows, as the herd was too far from the coast for any fishing to be done. A deer was butchered by my order and the meat left in charge of the Laplander to be issued in a certain amount every day.

Antisarlook and family were camping on the fishing coast about 10 miles farther east. Upon going to this camp I took him to task for the poor condition and treatment of the herd and apprentices. He com-

plained of the hard winter and said he had all he could do to support himself and family; that there had been no catch of seal, and last summer's fishing had failed. In counting the herd I found 193 animals, besides the fawns born during the spring. On the same date in 1895 there were 109 deer in that herd, besides the fawns then born, which makes a life increase of 84 deer in two years, or about 41 per cent, a good percentage when it is considered that 12 deer were destroyed in a snow slide in the winter of 1895–96, and that the hoof-rot disease caused the death of 18 animals, as near as could be ascertained. These losses were mostly among the females, which affected the increase. However, the herd was poor and not well managed. There seemed no danger for the Government deer in the herd. The Laplander was left in entire charge and has since reported 85 fawns alive and the herd picking up in appearance.

The assistant superintendent has visited the Cape Prince of Wales subherd twice during the year, but no counting or inspection was made nor any reports given of operations or results, so far as I know.

VISITORS.

During the winter the following white people have visited the Teller Reindeer Station: Mr. David Johnson, teacher at the Swedish Evangelical Mission at Unalaklik. He was visiting the station when I landed last summer, and again in December in connection with the party that was to bring our physician to Golovin Bay. Mr. W. T. Lopp visited the station and camp January 26 to February 3, 1897. Rev. A. Anderson, from the Swedish Evangelical Mission at Golovin Bay, arrived February 9, and proceeded thence to Cape Prince of Wales with a reindeer team. On the 16th he again visited Teller Station on his return from the Cape Mission. As his dog team had started homeward ahead of him, he was forwarded with a reindeer team from Teller Station to Cape Nome herd, and from there again with reindeer of Charley's herd. Our apprentice, Taootuk, was in entire charge of the transportation. I think this was the first time an Eskimo ever did real passenger transportation with reindeer. The round trip was made in a very short time and without delay. During my travel last winter passengers were often accommodated along the way.

SCHOOL.

Rev. T. L. Brevig has been in charge of the school and teaching. During the fiscal year school has been kept one hundred and sixty days, with an average attendance of 16.23. The attendance has been somewhat less than the year before, owing to moving the headquarters to Ageeopak, which brought the apprentices too far for attendance. But those who have attended have shown greater interest and attended more regularly than before. The progress in school work has been satisfactory. It has been noticed that the Eskimos who have been to the

States one or more times are far ahead of the rest of the Eskimo population in regard to cleanliness, clothing, language, moral conduct, and general good behavior. This does not seem to be the effect of the teaching had in the States only, but also from the impression made by the mass of civilized people with whom they have come in contact. This starts the question whether it would not be in the line of progress to take a number of the young people and bring them to the States to get ideas of civilization through their eyes, which would seem to have more effect than teaching them in a language they have first to learn. There is no doubt that such a movement would have an educational effect of great value. The cost of the plan would not be very much and the benefits to the Eskimo would be great. It has long been established that teaching by observation is the most substantial, and money expended in this line by all nations would be well spent. If this be true with regard to civilized people, how much more so in regard to the Eskimos, who do not understand any civilized language. It would not be advisable to keep the young people of the Eskimos more than one or two years in the States, then taking them back among their own people, with enlarged views of life and its possibilities. Such a course would aid the school and missionary work.

SICKNESS, DEATHS, AND BIRTHS.

The sickness has been more than usual this year, but with the necessary medical attendance of Dr. A. N. Kittilsen the fatality has been overcome. He has attended 66 cases of sickness among the people of the station, of whom but one died, namely, Berret Eira, the wife of the Laplander, Mathis Aslakson Eira. She was taken sick at Charley's Herd, where she could not have proper attention. She died May 4 and was buried on the 7th, her funeral services being conducted by Rev. T. L. Brevig.

There have been two births during the year, one a Laplander, the other an Eskimo.

Besides the sickness among our people, the physician has been of service to others among the white people. He was called to Golovin Bay Mission station last fall to attend Mr. Hultberg's baby. The physician has also been called upon by Eskimos from all parts of the country within 200 miles of the station. Of such cases more than 250 have been attended to during the year. This is the best proof of my view of the matter in 1895, when I recommended the appointment of a physician, and in connection therewith said that the annoyance of the native medicine man would, if a physician were accessible, be put down. When our physician has been called upon so much it proves that the Eskimos are tired of the burden of supporting their heathen medicine men, and that they had rather seek a physician than employ these sorcerers, who are losing more and more the confidence of the people and will soon be a thing of the past.

A TRIAL TRIP WITH THE REINDEER.

Having the opportunity to send mail for the States from Bethel, Kuskokwim, I made out and mailed to you a brief report of my investigation up to that date, together with suggestions. I will not recite the said report here, as there is nothing to be added except details, which can be found in my diary kept on the journey and included in this report.

After the new headquarters were established last fall, I spent my time in preparing arrangements for a journey to the Kuskokwim Valley. Sleds, harness, and camping outfits were made, and suitable clothing, bedding, etc., provided in a careful way. As the country to traverse was unknown to us, and no reliable information to be had, we were obliged to prepare such an outfit as would enable us to go ahead through any kind of country to be found, and for all emergencies and circumstances which we might have to encounter through a four months' journey in an arctic winter. The outfit was made as light as possible under the circumstances, although it proved bulky. To carry this, when we packed our sleds on December 15, we found it necessary to employ five sleds for the purpose. With the three sleds for myself and two Laplander companions, and one sled for a passenger bound for Golovin Bay, we had in all nine sleds. In the afternoon of the same day we started from the station we were joined by Dr. A. N. Kittilsen, who accompanied us about 12 miles, when he returned to the station, of which he was to have charge in my absence. Our way was along the Eaton Lake and Valley, over the Fish River Valley, then down this valley to Golovin Bay, where we arrived December 22. As Christmas was near at hand, we decided to spend the holidays with the white population at Golovin Bay, viz, Mr. and Mrs. N. Hultberg, the manager of the mission station and reindeer herd at that place; Rev. C. Anderson, teacher; and John A. Dexter, the Alaska Commercial Company's trader. The customary entertainments, such as a Christmas tree, meetings in the schoolhouses, and dinings were much appreciated, and were refreshing. The Eskimos, who gathered together from the surrounding country by hundreds, were given a dinner in the schoolhouse, and seemed to be much pleased, as food was scarce among them.

On December 28 we pulled out again and made our way to Cape Dexter, crossed the Northern Bay, and continued our journey until January 1, 1897, on which day we reached Unalaklik. Our investigation being upon the adaptability of the surrounding country for the raising of reindeer, I reported on Kuskokwim and made my suggestions accordingly. At Unalaklik we were welcomed and cared for by Mr. and Mrs. Karlson, the chief manager of the Swedish Evangelical Mission in northern Alaska, and Miss Johnston, teacher at the boarding and mission school.

At noon on Monday, January 11, we left Unalaklik, went by way of

St. Michael to the Russo-Greek Mission at Ikogmute, on the Yukon, where we arrived January 26. At St. Michael, the Alaska Commercial Company's headquarters for the Yukon district and northern Alaska, we were received by Mr. Lyng, the agent, and our stay there was shortened by the kindness bestowed upon us by the white population at the place. I am under obligations to Mr. Lyng for much useful information, which later on in my journey was of great service. At Ikogmute we found no food for the deer, so had to harness up the next day, after having made our abode with Mr. A. Bellkoff over night. Ten days later (February 5) we saw the smoke from the Moravian Mission houses at Bethel, located on the west bank of Kuskokwim River. The nearer we came to this point of our journey the more we felt the need of a rest, having been under a continued strain since January.

At the Moravian mission station we were welcomed and cared for by Dr. and Mrs. J. H. Romig, Mrs. Rev. J. H. Kilbuck, and Mr. and Mrs. Helmick. Reverend Kilbuck was away on a trip down the coast when we arrived, but got home on the 13th of February and joined the others in making our prolonged and unexpected delay by bad weather at the station a perfect rest. After about 900 miles of travel over the barren mountains, wooded valleys, and snowy rivers of Alaska, at a season when most people curl themselves as near the stove as possible, and with an experience such as sleeping out in cold 73° below zero, we needed rest and restoration. During our stay at Bethel I had an opportunity to gather all desired information and facts regarding the country. Rev. John H. Kilbuck, who has been working in the mission field for twelve years, and took the United States census of 1890, in which connection he traveled all through the Kuskokwim district, aided me very much in getting the right view of the country. The only illness I had during the journey was a severe cold, which fortunately attacked me while at Bethel, where I had the attendance of the skilled physician, Dr. J. H. Romig, who is in charge of the Moravian medical mission. Owing to his successful treatment I was able to start, and we left Bethel on the 7th of March, at which time we bade goodbye to the hospitable people there, and felt strong enough to face the hardships in store for us.

The next evening we shook hands with Reverend Weber, in charge of the Moravian Mission at Ugavig. We learned with pleasure that Reverend Weber, who had been ill, was gaining health rapidly. After camping in a native log house at Akkiakjagamuta the night before, our snug quarters in the mission building, with Reverend Weber and Miss Mack in attendance upon our wants, were highly appreciated. On the morning of March 9 we went on farther up the Kuskokwim River to a native village, Ooggaveggamute, where we secured a guide to go with us across the portage to the Yukon River, which river was sighted March 11, in the evening. The Kuskokwim Valley from Ooggaveggamute down to the sea is not suitable for raising reindeer,

nor is the peninsula between the Yukon and the Kuskokwim rivers, from a line drawn from Ugavig, on the Kuskokwim, to Kosereffski on the Yukon River, or from 160 miles west longitude to the Bering Sea. This peninsula and the lower valleys of the two rivers is too wet and marshy in summer. There is, however, sufficient moss to be found of good quality for winter pasture, but the mountain ranges are rather too far apart for summer pasture, and moving is difficult through a dense forest of spruce and basswood with the ever-troublesome, man-high underbrush. The nearest mountain ranges are one on the southeast side of the Kuskokwim River extending toward and ending in Cape Newenham, the other on the northwest side of the Yukon River. These two ranges are from 120 to 260 miles apart, leaving a stretch of at least 25,000 square miles of flat, marshy land, wholly unsheltered by mountains and only partly by forests. The Upper Kuskokwim Valley, as well as the whole tract between the two large bodies of running water east and northeast of the one hundred and sixtieth degree of longitude, is highland, well sheltered and well adapted for the raising of reindeer.

If a mail route to it should be established between Katmai and Nula it could not well be operated by way of the Kuskokwim and Yukon, unless a special, and at places a costly, arrangement is made. The fact that we went through the proposed line is not an evidence that the mail can pass through successfully. We had better equipments than a mail carrier can transport, and unlimited time at our disposal; still we did not come through without the loss of five deer, that died of starvation[1] on the Yukon River between Kosereffski and Anvik during the 12th, 13th, and 14th of March. We plowed through loose snow from 2 to 4 feet deep from the morning of the 11th to the evening of the 14th without finding a mouthful of moss for the deer and without a wink of sleep or rest for ourselves. The dying animals were unharnessed as they dropped dead and were left behind, as were also the sleds they had drawn, while the rest of the caravan was urged ahead without delay. The experience we had during those four days and three nights will long remain in our memory, and I hope will be of value for us in some coming travel. Kosereffski was passed on the 12th in the afternoon; but only about one hour's halt was made, shaking hands with Father Tosi and other missionaries and teachers at the Roman Catholic mission and school at that place.

From the 14th to the 17th our deer were kept alive by eating spruce-wool from trees chopped down for the purpose. On a later date moss was found in a way-off mountain, where the deer were led; the deer were in such poor condition that it was with difficulty, and the utmost care and stimulating, that they were able to reach the mountain. There

[1] It is reported that Mr. Kjellmann misunderstood the directions given him, and that a route a few miles on either side of the one taken would have furnished abundant moss for his animals.

they were able to take care of themselves and restore their strength for coming work. We went on the skees to the Episcopal Mission station at Anvik, where we spent the balance of the month of March resting and restoring ourselves, being heartily assisted by Reverend and Mrs. J. W. Chapman, missionaries at that place.

Some of the sleds and camping outfit that had been left along the river on account of the diminished pulling power were brought up to Anvik by the milling and trading firm of Messrs. Pickarts & Hendriks, who kindly sent two men and a pack of 20 dogs to pick up the goods.

This mishap of striking sections without food for the reindeer was not unexpected; we had been calculating on happenings of the sort in traversing an unknown country, and but for misrepresentations we would have come through the journey without any loss. Through misleading reports made by persons along the route, we should have suffered more had we not been as well prepared as we were to save most of the deer through seven days of starvation, and even using them for work in those seven days. I know of no other animal that would have stood such a task.

On the last day of March the deer were brought to Anvik, and the next morning a start was made up the Anvik River; but as the deer had not been on very good pasture, they were still weak, and we had to travel slowly to give them time to feed. In the Anvik Valley and surrounding mountains and hills we made a thorough investigation in regard to moss and the general adaptability for raising reindeer. This investigation was made because the white people and natives at Anvik were anxious to get a herd of deer, and were ready to offer a contribution of $10,000 from private funds for the purpose of getting a herd of 500 head, as well as to accept reasonable conditions for drilling of apprentices, etc. The Anvik region is well adapted for raising reindeer if the necessary care is given, and by not keeping the deer in the valleys except in severe weather.

On the 11th of April we arrived at Unalaklik again, where we remained until the 16th, when we continued northward along the coast. Our time at Unalaklik was spent in close and thorough inspection of the whole valley and country around for proper food for the deer, for fuel, rafting capacity of the river, timber for buildings, fishing purposes, all in view of the probable removal of the Government station to that place. Some measures were also taken to put up poles and other marks, and we made a rough draft of the ground for the station buildings. The present location, everyone can see, should be changed.

From April 16 to 21 we made our way to Golovin Bay, where we got fresh deer left in that subherd last fall by us and other parties from Teller Station, and on the 23d of April we left Golovin Bay for Port Clarence and arrived there the 25th, at 10 o'clock, after having visited the Government herd located at Eaton River at that time. The drive from Golovin Bay to Teller Station was made in two days and a half,

which broke the record, as well as making a finale to our long and weary journey—the longest ever made by reindeer.

Besides completing our mission as regards investigation of the country, we have directly and indirectly proved: First, that the reindeer is capable of long journeys in a country like Alaska and can endure more hardships than any other animal used for transportation in that country; second, that a mail route between the States and any part of Alaska can be operated in the winter by reindeer, where the necessary lines and necessary investigations are made beforehand; third, that the native dogs in the country are of no danger to the reindeer travel; fourth, that transportation and travel by reindeer are by far cheaper than by dog transportation. Our total expenditures on this expedition were less than $200 in one hundred and thirty days, or about $1.53 per day. If the same amount of traveling under the same circumstances was done, carrying the same weight, with dogs, the cost would have been at least $1,000, at the following low rates: To pull our 9 sleds it would have required 44 dogs, and figuring for food for each dog at 15 cents per day, in one hundred and thirty days would make the sum of $858; by adding to this the provision for the travelers at $200 would bring the cost to $1,058, or $8.13 per day; but no traveler could have come through with that amount, as dog food was high along the route, and at some places not to be had at all. I know that travelers at many places were paying $3 per meal for their teams of 9 dogs, with only 2 meals a day, which cost them 66 cents per day for each dog, or four times as much as allowed in the foregoing calculation.

Allow me to use some figures in connection with the cost of feeding dogs in Alaska:

According to the United States Census of 1890, there were in Alaska a total of 309 settlements, and a total population of 32,052. In cutting the southeastern district, where few dogs are used for transportation, and taking away the whole white population of the other districts and not allowing any increase in the past seven years, we find that the total number of settlements or villages have 21,454 native inhabitants in arctic or subarctic Alaska. These people depend on dogs for transportation. As is known, the natives have small families, as a rule, so when 5 persons is allowed to each family it is rather a too high than a too low estimate, as the 21,454 inhabitants would make 4,290 families. Allowing each family to own 3 dogs—many own from 6 to 7—we find that the natives own 12,872 dogs. Say that business companies, missions, and other white people to the number of 15,000 own 2,128 dogs. Allowing each dog a half salmon to a meal and 2 meals per day, the 15,000 dogs will consume 5,475,000 salmon per year. The commercial value of these amounts to $547,000 (each fish weighing 5 pounds) at the rate of only 2 cents per pound. This would be a large taxation on 25,000 inhabitants in a country like this, where the soil produces all necessary food for reindeer, but which is useless for other purposes.

Again, attention is called to the fact that none of the figures used above come up to the real facts, but those used are so low that they are on the safe side of the calculation.

When the introduction of domesticated reindeer into Alaska ceases, and a stop is put to such waste of national values, and new commercial values and new industries are created, it is surely worth while to spend money to introduce them and distribute them all through the country as fast as possible. There are persons who work against all civilizing of the natives and argue that it is not the business of a government to look after private interests of peoples or their support; but aside from such out-of-date arguments, it is surely the business of a government to look after its national wealth, to prevent wastefulness, and build up new industries. Here is a yearly waste of more than $500,000 worth of commercial values which can be stopped and new industries built up in a few years by the expenditure of a few thousand dollars by the Government. If the United States Government would expend $50,000 a year in, say, ten to fifteen years for the introduction of reindeer and the instruction of the natives in handling them, it would be capital invested at a high rate of interest.

RECOMMENDATIONS.

I will suggest that the proper department of the United States Government be induced to expend the necessary capital to investigate the country between Circle City, on the Yukon, and Haines, at Chilkat, and planning a mail route between the two points, such investigation to be done in the summer season by expert reindeer men.

I would also recommend attention to my last report of February in regard to moving the Government herd and training school to Unalaklik Valley.

The development of the reindeer and the instruction of the natives concerning their treatment is such as to necessitate rules and regulations for the distribution of the deer. The growth and success of the enterprise depends entirely upon the manner of distribution and the regulations for it; therefore I would recommend that the Government have general supervision of all reindeer in Alaska, covering those descended from the Government herds for a period of twenty years. The utmost care should be taken in the distribution and the rules and regulations connected therewith. Much danger otherwise will arise and the regular progress and increase be disturbed.

In expressing these views and my earnest wishes for a rapid development of the enterprise of introducing the domesticated reindeer into Alaska,

I am, sir, your humble servant,

WM. A. KJELLMANN,
Superintendent Teller Reindeer Station.

Dr. SHELDON JACKSON,
United States General Agent of Education for Alaska,
Washington, D. C.

EXTRACTS OF DIARY KEPT ON THE WINTER JOURNEY.

December 15, 1896.—Left Teller Station 3 p. m. Thermometer 15° below zero. Drove 15 miles, and camped in a dugout. Dr. A. N. Kittilsen accompanied.

December 16.—Started at 8.30 a. m., 18° below zero. Dr. Kittilsen returned to Teller Station. Drove to headquarters at Ahgeeapak.

December 17.—Stayed at headquarters. Lassoed some deer, and butchered one for the apprentices. Thermometer 48° below zero.

December 18.—I was up early, as our night quarters were rather cold, which was explained when looking at the thermometer and finding it 51° below zero. Hitched up and left at 9 a. m., with 17 reindeer and 9 sleds. Mikkel Nakkila and Per Rist accompanied me, and Dora, the only passenger. Almost all herders and apprentices went along about 2 miles, where good-bys were spoken, and our course laid east, over very rough ground. Halted at 4 p. m. to have a lunch at the mouth of Aghecopak River. Drove on eastward until 8 p. m., when camp was made at Eaton River, having traveled about 60 miles. Thermometer 43° below zero.

December 19.—Drove up Eaton Valley, and halted at 4 p. m. for half an hour; continued on until 9 p. m., when summit was approached and night camp made. Abundance of moss found all day, also necessary shelter for herds.

December 20.—Harnessed at 9 a. m. Drove eastward over tundra, and passed the head water of Eaton and Fish rivers, the first located to the south of the latter. Met Mr. David Johnson and Aslak Somby coming from Golovin Bay, bound for Teller Station, to bring the physician for Mr. Hultberg's child. They drove four reindeer and were two days out. Camped on the south bank of Fish River at 8 p. m. Fine country. 35° below zero.

December 21.—Made a start at 10 a. m. Drove slowly down Fish River valley, investigating closely. Hard, good ground, with an underlay of lime. 10° below zero.

December 22.—Broke camp at 10 a. m. Drove to Golovin Bay reindeer and mission station, arriving at 12 noon, being welcomed by the Hultbergs and Dexters. Natives gathered in flocks. 5° below zero.

December 23.—Have fixed our sleds, which were a little out of order. Our deer were staked out in a fine pasture. Eskimos gathered in for Christmas enjoyment. 5° below zero.

December 24.—Aslak Somby's wife and daughter arrived from camp, with some of the apprentices. Christmas tree has been arranged in the schoolhouse.

December 25.—Arose at 6 a. m. and went to meeting. Christmas tree lighted. Rev. C. Anderson held the exercises in English, and they were translated by an Eskimo boy. An old Eskimo rose after the sermon and delivered a prayer in his own language, which surprised me, as it was the first Eskimo I ever heard pray aloud in a meeting.

Had supper with Mr. and Mrs. Dexter. The other guests were Mr. and Mrs. Hultberg and Rev. C. Anderson. Evening service by Mr. Hultberg.

December 26.—Windy, but mild. Five dogs started for our tethered-out deer but were driven back before they got to the deer.

December 27.—Sunday. Service in forenoon by Reverend Anderson and Sunday-school feast in the evening. Clear, calm weather.

December 28.—My Laplander brought in our deer in the morning; left at 10 a. m. Thermometer zero. Gabriel, a boy from the boarding school, was sent along to accompany us to Unalaklik. During the forenoon drove to a fine pasture; in the afternoon no moss was found; got down to the seashore at Devellock village. Camped at 8 p. m. No moss for our deer.

December 29.—Started at 8 a. m.; 5° below zero. Clear and calm. Camped at 5 p. m. where a little moss was found. Passed three native houses during the day.

December 30.—Had an early start. Drove across Norton Sound. Ice very thin; broke through once, but without loss of anything. Found an abundance of good moss on the south side of the sound, where a halt was made to feed the deer. Drove on in afternoon and got to Shaktolik, where we made our night quarters in Evveno's log house.

December 31.—Hitched up at 8.30 a. m. and had a fine going for about 10 miles, when we got into pack ice. Had our sleds broken up; the ice at places had been stacked up so high and steep that we had to make stairway-like passes over it. Got tired of the ice and went to the mountains, where we ran into a heavy snowdrifting; lost our bearing and had a hard time breaking our way through brush and hollows of all shapes, but finally got to the coast again at 4 p. m., when camp was made.

January 1, 1897.—Started at 9 a. m. in a heavy snowstorm; could see nothing at all ahead. Had to feel our way over tundra and mountains until we finally heard a voice and saw a flagstaff sticking up through a snowdrift, which was found to be the seat of the Swedish mission at Unalaklik. Finding the place in such a storm was certainly providential. Reverend Karlson, the principal of the mission, welcomed us and arranged for the deer to be brought to pasture. Spent the rest of the day with Reverend Karlson and had a make-up for our hardships in the forenoon.

January 2.—Has cleared some and can see surrounding hills. Had a call from Mr. Engelstadt. All natives out to have a look at our deer; the first domesticated deer they had ever seen. Had dinner with Mr. and Mrs. Engelstadt. Mr. Dexter arrived from Golovin Bay with a dog team, on his way to St. Michael.

January 3.—Sunday. Clear, calm. Thermometer 10° below zero. Service in the forenoon by Reverend Karlson. Translated into Eskimo by Stefan, a half-breed. Schoolhouse beautifully decorated with green

by Miss Johnston, the teacher; a Christmas tree was still standing in all its beauty in a corner of the room. The congregation was a clean and nice-looking lot of natives, so different from what we are accustomed to that it was easily seen that civilization had set its mark on these people. Sunday school and evening services.

January 4.—I went to the hills to-day and inspected the country north and northwest. Per Rist and Mikkel went up the valley to the southeast station. The country was found to be hilly, with valleys, creeks, and brushwood; some spruce was found farther up the river. An abundance of moss and good shelter for deer were also found. I met Mr. Blatchford, who had arrived from St. Michael the day before. Got the news about Dr. Nansen's successful return from the frozen North Pole.

January 5.—The Laplanders are repairing the sleds. Clear; later wind from northwest; 18° below zero. Martin, one of the Teller Station apprentices, arrived from Golovin Bay. Had a discussion with Mr. Engelstadt on the reindeer question.

January 6.—Still repairing sleds. Tried the coal found near by in a gulch; it worked fairly well in the blacksmith shop. Calm weather. Thermometer 10° below zero.

January 7.—Some deer were brought in this morning, and I went to the Unalaklik River to investigate the valley farther up. Mikkel accompanied me; also Reverend and Mrs. Karlson, and Miss Johnston went along for a drive. The river is somewhat winding, with deep water at places, and has steep bluffs sticking out here and there on the north side. To the south of the river is a wide stretch of tundra, lightly covered with moss. I selected a site for the proposed new reindeer station and training school. The mountain range between Unalaklik Valley and the Yukon is high; rocky hills, with spruce-covered valleys, cutting through the range from south to north.

January 8.—Clear, calm; 12° below zero. Put the last finish on our sleds and went out southeast to inspect the tundra; found it similar to that around Teller Station. Mr. D. Johnson arrived from Golovin Bay and reported severe weather; here the weather was fine for a few days. We like the country better and better every day.

January 9.—Clear, calm; 18° below zero. We packed the sleds. Had a bath in the old Russian style—by steam from heated stones. Mr. Johnson has decided to go with us as far as we go and then send his deer back with us. I measured the water in the river outlet and found 4 feet in the channel; inside the outlet from 8 to 12 feet.

January 10.—Sunday. Clear, calm in the forenoon. Service by Mr. D. Johnson. In the evening I assisted in operating a magic lantern.

January 11.—Our deer were brought in and we started at 10.30 a. m.; had fine going; at 6 p. m. we got up to three dog teams which had left Unalaklik in the morning at 4.30, having a head start of seven hours. Camped at 7 p. m. Good moss for our deer.

January 12.—Started at 9 a. m. Got to St. Michael at 12.30, after having gone 85 miles from Unalaklik in twelve hours. We were met on the ice by Mr. Lyng, the Alaska Commercial Company's agent, who guided us to the town. All people out to welcome us. The three dog teams got in at 3 p. m., after an actual drive of twenty hours over the same distance.

January 13.—Fine weather, but a breeze blowing from the north. I went on Skees in afternoon and found good winter pasture on the island, but too low and wet for summer grazing. Mr. Engelstadt got in from Unalaklik.

January 14.—We intended to start this morning, but weather is unfavorable. Gave Mrs. Lyng and children a drive.

January 15.—A north gale with snow drifting. No guide could be had, so decided to wait for clear weather and find our own way.

January 16.—Stormy and snow thick. Wind from northeast.

January 17.—Sunday. Storm continuing from northeast. No Sunday service as no minister is present. Spent the evening with Mr. and Mrs. Lyng in company with Mr. Endreas, the Unites States customs officer at St. Michael, the physician, and Mr. Engelstadt.

January 18.—Stormy and drifting worse than before.

January 19.—Clear, calm. We left at 11 a. m. and laid our course south-southeast for the Russian mission on the Yukon. Worked heavily through deep, loose snow. At 10 p. m. camped with a river running south-southwest; could not find it on our chart.

January 20.—Drove the whole day through deep snow and at places through water on the river; very slow progress made. In the afternoon we passed dense forests on both sides of the river. Fine feed for the deer. Course east.

January 21.—Broke camp at 9 a. m.; made for the mountains at once; got to the top on the east side of the river at noon. Drove south in the afternoon and got to another river, also running south-southwest. Camped at 6 p. m. Snow deep and loose; 20° below zero. We have traveled over some of the finest country for reindeer raising that I ever saw. Hills and valleys dry and partly covered with spruce. Antlers of wild deer were frequently found.

January 22.—Changed our course south. Drove up and down hills and found the same fine country in every direction, with an abundance of moss as well as forest.

January 23.—Course south-southeast this morning. Crossed the river running southwest not found on our map. Passed some fine hills and saw a native's deer trap. At 1 p. m. we were out of the forest and on barren hills. The wind was increasing from the east. At 3 p. m. we were in a hurricane-like storm. The deer were thrown over as well as our sleds. Were obliged to stop. Small stones and flakes of ice crashed and hurled by in clouds. Tried to pitch tent, but had to give it up. Later in the evening we made coffee while four

men held the tent. After a meal was had every one put on full suits ready for what would come if we should blow away. The storm abated a little but came up again heavier than before. Had a fearful night.

January 24.—Sunday. Started early in the morning, driving with the wind. Could see nothing. Course south-southwest. Barren hills and tundra were passed until a river and a belt of forest were found, where a halt was made for lunch. Got down in a valley. Fair weather. Shifted course south-southeast. Got into a dense forest at 6 p. m., when camp was made.

January 25.—Started at 9 a. m. Made our way through the dense forest by cutting down the trees. One man ahead making a road. Very deep and loose snow. Found moss at 8 p. m. and camped.

January 26.—Broke camp at 10 a. m. Continued yesterday's work. Found no moss during the day. We were getting close to the Yukon. Got on a creek overflowed and had to plow through a mixture of 2 feet of snow and water—not very pleasant traveling. This creek is what Schwatka calls Taku River. We followed it the whole of yesterday and until noon to-day, when we struck the Yukon just where Lieutenant Schwatka had his sixty-fourth camp. Drove down the Yukon and arrived at Ikogmure, the Russian mission. We were welcomed by Mr. A. Bellkoff, the trader, who had nearly tried his rifle on our deer. Natives had told him that they saw deer coming up the river, which caused Mr. Bellkoff to run for his rifle, but when he came on the bank and noticed our sleds and persons behind the deer he did not shoot. Father J. Orloff and Father Bellkoff paid us a visit. We went to church to-night. No food for the deer.

January 27.—Left Ikogmure at 11 a. m.; 10° below zero and blowing, but we had to go. Went down the Yukon until moss was found, at 3 p. m., and camped for the night.

January 28.—East-northeast snowstorm. Stay in camp.

January 29.—Still stormy. Camp in a sheltered place, which I named Davids Cove.

January 30.—Broke camp at 11 a. m. When wind ceased drove down the Yukon; passed two villages. Course southwest. Met one sled with two dogs ahead pulling and a third dead in the sled. One of the boys got scared of the deer and took to the woods. At 1 p. m. left the Yukon, laying our course south-southeast for Kuskokwim River. Camped at 6 p. m. Good pasture, lowland, with numberless lakes and creeks.

January 31.—Sunday. Started at 9 a. m. and drove south. Met three sleds during the day. Have traversed the same low tundra, lakes, and creeks. In afternoon terrible snowstorm. Camped at 8 p. m. No fuel to be had, so we burned the tops of our sleds. Good pasture.

February 1.—Still stormy; we can not see 10 rods ahead. Course south by west, one-half west. Found a fish cage. At 2 p. m. changed

course to south; drove on until 6 p. m., when camp was pitched. More of our sleds go in the stoves. Have no idea of where we are. Same flat tundra. Courage is getting low with some of the party. Plenty of moss.

February 2.—Snow hurling about in clouds and with such force that we can not face it. Broke camp, and kept southern course, hoping to strike some people to give us a bearing. Passed several fish traps, and at noon found a village (somewhere). Got a guide to take us to a trader, whom we engaged at 3 p. m. Here we saw Nicolas Bellkoff, from Ikogmute. Weather bound.

February 3.—Storming. Stay at this place. We visited a native performance in the cabin, given for our entertainment. Natives as well as houses terribly dirty.

February 4.—Pulled out at 10 a. m. Still stormy, but not so hard drifting. A guide was secured to take us to Bethel or Momt-rel-agamute. Some flat tundra. Passed two villages. Clearing up; 40° below zero. Pitched camp at 9 p. m.

February 5.—Felt a little shaky this morning when we got out of our sleeping bags, and found it to be 73° below zero. Our deer broke loose in the middle of the night and kept up a running around the tent, in order to keep warm, I think. Arrived at Bethel this afternoon at 2 o'clock. Were welcomed by Mrs. Kilbuck, Dr. and Mrs. Romig, and Mr. and Mrs. Helmick.

February 6.—Mr. D. Johnson left to-day on his way to the coast, bound for the States.

February 7.—We left the Moravian at Bethel this afternoon at 3, and are now making our supper at Akkiakjagamute. Moss not found near by.

February 8.—Drove on up the Kuskokwim and arrived at Ugavig. We were welcomed by Reverend and Mrs. Weber at this place.

February 9.—Left Ugavig this morning, and had somewhat heavy going. Got to Oogaviggamute, where a guide was secured to go across the portage to the Yukon. Camped at 8 p. m. Fine pasture. Passed whole day.

February 10.—Drove on northward, following the foot of a mountain range running north and south. Crossed a lake of about 15 miles. I felt ill, and we had to camp at 3 p. m. Abundance of good moss.

February 11.—It rained this forenoon and cleared in the afternoon with a north breeze. We got to the Yukon about 4 p. m. Left our guide and continued up the Yukon in deep and loose snow. I felt somewhat better. Could find food for the deer, so kept them in harness.

February 12.—Keep on plowing through the snow, and still more is coming down. Kosereffski was passed in the afternoon. Two of our deer died and were left behind. No moss.

February 13.—Have been on the go all night and day. Two more deer dead. Snowing all the time. No news.

February 14.—Clearing up in forenoon. Kept up courage and went ahead night, and to-day we got to a native house, where we stopped, as it was said that no moss could be found for 60 miles up the river. We are chopping down trees, and the deer eat the wall. One more deer dropped off and died in the forenoon.

February 15.—I am in bed sick with fever. An old Indian woman boiled some roots and gave me the juice to drink. It made me very hot. Laplanders keep on chopping down trees.

February 16.—Still sick, but better. One of the Lapps reports moss in a far-off mountain. I walked to Anvik on skees.

February 17.—Deer taken to the mountains, and Lapps arrive at Anvik. I am in bed most of the time.

February 18.—I am gaining in health through the tender care of Mr. and Mrs. Chapman.

March 31.—Our deer were brought to Anvik and fed overnight on moss carried along.

April 1.—Left Anvik at 10. In the forenoon drove up the Anvik River, but found no moss in the valley, so we went to the hills, where we found moss. Had a hard pull the whole day. Wind from northeast.

April 2.—We moved only about 5 miles to-day and changed again. I was out the whole day on skees, investigating the country.

April 3.—Made a start at 7 a. m., going down to the valley and southeast for two hours, then turned to the west. At noon made a halt, and in the afternoon we drove in zigzag between the foothills on the east side of the river to the foothills on the west side. Camped at 6 p. m. on the river bank, feeding the deer on moss carried in our sleds.

April 4.—Had an early start; drove north-northwest, west, and south, changing course as we saw hills that we would investigate. In the afternoon we found moss and left our deer on top of a hill when we camped in the woods on the river bank.

April 5.—Stay in camp. Have been around in all directions. Find fairly good pastures.

April 6.—I had a morning spin of about 14 miles on my skees. We broke camp at noon, but did not go far, as Per is sick and we must camp.

April 7.—Did not break camp, as Per was very sick. He, however, reported in the evening that he would try to travel, and a start was made at 8 p. m. Drove for two hours, then halted until 4 o'clock in the morning.

April 8.—We hitched up and drove in all directions until 4 p. m., when we again made camp. Fine weather. Fine deer country.

April 9.—Drove on up the valley and got above timber line. At 11.30 p. m. made a halt and slept in our bags without setting up tent, as no wood was near.

April 10.—We crossed the summit of the mountain range between the Yukon and Norton Sound. Had a splendid view of the country

sloping down on all sides. Drove north to the hills toward Norton Sound, where we arrived at 3 p. m. Went along the coast a little and camped at Tolstoi Point.

April 11.—Had an early start this morning; drove along toward Unalaklik, where we arrived at noon. To-day I received letters from Teller Station written February 15.

April 12.—I went up the Unalaklik River with Mikkel to-day, in order to investigate details about moving and building a new training school. We camped about 25 miles up the river and had a spin around.

April 13.—Mikkel and I went out this morning in different directions and got back to camp at noon. In the afternoon we went together down the river and returned at 8 p. m. to camp.

April 14.—Mr. Stefan Ivanoff arrived on his way down the river with Rev. Karlson's dog team, so we moved our camp to another district farther down the river. In the afternoon I went to the selected site, took some measurements, put up poles, and drew a temporary plan of the building grounds. I named the place Eaton in honor of Hon. John Eaton, who, as Commissioner of Education, had done so much for Alaska.

April 15.—We made some close investigation in regard to pasture for sled deer near the place. At noon Rev. Karlson arrived from the mission station and had a look at the place. His remark was: "You have surely found the best spot in the valley." We packed our camp and went down to Unalaklik with Mr. Karlson.

April 16.—We packed all surplus supplies and handed them over to Rev. Karlson's care. At 6 p. m. we bade goodbye to the hospitable people at Unalaklik. Drove along the coast northward. I drove into a crack and had my sled soaked with water. Camped at 10 p. m. Fine weather.

April 17.—Broke camp at 6 a. m. Drove around some steep capes where only a very narrow strip of ice was remaining. Halted at noon about two hours. In the afternoon continued and got to Shaktolik.

April 18, Sunday.—We moved only a few miles to get better pasture for our deer.

April 19.—We crossed Norton Bay this forenoon from Point Engelstad to Cape Dexter. In the afternoon we progressed westward on the ice until 10 p. m., where we crawled into our bags and slept in the sleds, leaving our deer feeding on moss brought along from Point Engelstad.

April 20.—Started up at 4 a. m. Drove on until a point was reached where moss was found. Halted there about three hours and continued till 5 p. m., when we camped on the east side of Cape Darby.

April 21.—Broke camp at 8 a. m. Drove across to Golovin Bay, where we arrived at 3 p. m. I visited Mr. and Mrs. Dexter in the evening.

April 22.—We drove to the herd in company with Mr. Hultberg, lassoed our deer, and staid over night in the apprentices' camp.

April 23.—Left the Golovin Bay herd at 4 o'clock this morning. Mr. Haltberg accompanied us about 20 miles up the Fish River Valley. We halted for three hours at noon. At 10 p. m. we pitched camp on the summit between Fish River and Eaton River Valley.

April 24.—Had an early start; drove down the Eaton River Valley; halted two hours at noon and began looking for the Government herd, as we supposed it would be somewhere near. After making some swings we found the herd and camp. Johan Tornensis and Samuel Kemi are in charge. I inspected the herd and had a chat with herders and apprentices. At 9 p. m. we started across Eaton Lake to Buiblock, where we halted over night.

April 25, Sunday.—Started at 6 a. m. Drove through Eaton Channel, where many Eskimos were fishing. They cheered us as we passed by. At 10 o'clock this forenoon we had been seen from Teller Station, where the flag went up, and a few minutes later we shook hands with the people again, after having been away four months and ten days.

I end this diary by declaring our journey a perfect success and the longest ever made by reindeer.

WM. A. KJELLMANN,
Superintendent Teller Reindeer Station.

REPORT OF THE REINDEER HERD AT CAPE PRINCE OF WALES, ALASKA, THE PROPERTY OF THE AMERICAN MISSIONARY ASSOCIATION.

W. T. Lopp, *In Charge.*

Dear Sir: This has been an average winter, exceptional only in the absence of southerly winds, making favorable conditions of the snow for grazing. Our herd now numbers 367. Of these, 188 are owned by our herders and 22 by other Eskimos. During the year 4 deer have been killed for food, 3 by dogs, 2 from broken legs, 1 died from a scabby disease, and 1 from an unknown cause. Of the 124 living fawns born only 3 died at the time of calving. Five more fawns died after they were several weeks old from the following causes respectively: Diseased liver, joint trouble, drawn neck, intestinal trouble, and unknown, leaving at present 116 living fawns. The loss of fawns and old deer for the year is 4.2 per cent. Many of the yearlings, as is their habit, calved in June, and are included in the count.

Kumuk, with his 15 deer, was transferred from the United States Teller Reindeer Station in October. We discharged him for drunkenness. When Kumuk became an apprentice at Teller Station in 1893 he was considered a Kivyearzameet (lake and river back of Port Clarence), where he had lived many years, and not a representative of the Cape Prince of Wales tribe or mission, as stated in the report of 1895.

Our herders still continue to throw the deer down when they milk them. The cup or bottle into which they milk is held a few inches away, so as not to receive hair and other matter, which necessarily falls into the milk when milking the deer while standing. Our method insures clean and palatable milk. Straining it through a cloth reveals little or no sediment. This method does not make the deer wild, as one would suppose. Many things could be said in favor of and against either method. For our own experience, however, we would prefer the milk taken from the deer while held down. From some of our cows we have been able to obtain a quart at one milking.

Our herders have seemed interested and have proved faithful. Ituk, a young man about 18 years of age, was added in January to reenforce our five original herders.

Most of the year the herd has been kept 25 miles away. Besides the necessary driving to and from camp several deer have been broken to harness, so that we now have 22 sled deer.

Very truly,

W. T. Lopp.

Sheldon Jackson, D. D.,
General Agent of Education, Washington, D. C.

REINDEER AND ESKIMO HERDER, CAPE PRINCE OF WALES.

By W. T. Lopp.

REINDEER HERD REPORT.

GOLOVIN BAY, ALASKA, *June 21, 1897.*

DEAR SIR: It affords me pleasure to report the reindeer herd in my care to be in the most promising condition. It has yielded an increase this year of 108 fawns, alive at this date. The number of deaths, etc., you will find in the accompanying tables.

We have had no difficulty in herding, the country being well suited to the work. I have had no trouble from dogs. Visitors have left their dogs miles away and walked to the herd. The people show much interest in the deer, but as they are not yet able to comprehend fully the benefit they will be to them in the future, they do not show the interest desired.

The herders consist of three Eskimos besides the Laplander family. They all lived in tents during the summer; in the fall a house was erected in the woods, where they had lived through the winter, which, compared to the tent, was very comfortable. I made a large sheet-iron stove, which they have used in the house. The Lapp many times said he wished they were able to be as comfortable at home in Lapland. The camp was 20 miles from the station.

We have 18 deer broken to harness. Considerable milking was done toward the fall of last year by the native herders and Lapps. The number of cows milked can not be given, but there was quite a large number.

The traveling with reindeer during the winter is worthy of special notice, and will be of interest throughout the country when we consider the small number of sled deer we have to travel with. The long successful trip of Mr. W. A. Kjellmann this winter, as well as my own experience, has proved the favorable statements made as to speed, endurance, and sustenance to be true. We have made the trip to Port Clarence twice this winter, first in December to see the physician for our baby boy, and the trip was made in six days going and five days coming, with the same deer. The second trip was made in March, when the Lapp family left the station. Mr. David Johnson has used two deer for taking out the mail; they were brought back by Mr. Kjellmann in fairly good condition. Okilkon made a trip to Unalaklik in January with two new deer, came back the same month with a 75-pound chest of tea, bedding, tent, and provisions, besides himself on the sled, driving double for days on the way. As far as I know, he is the first Eskimo that has been trusted to make such a trip alone. We have made two trips for birchwood this winter: hauled some logs over the Chinenk road, and at least two trips between the herding camp and station every week with provisions and reports from the herd, and

some wood has been hauled for fuel. To see what the deer could stand, I accompanied Mr. Kjellmann from here to Port Clarence in April, as far as above Chaugriakpak, with two sleds and three deer. Returning, I went along the river around the White Mountain, and made a distance of nearly 100 miles on one run. It was surprising to see the number of miles driven with our deer; but as it is guesswork, and might be considered an exaggeration, I will not state any exact number. Had we understood the deer better we might have made more trips, but the Lapps threw impediments in the way. I now know that the deer is capable of enduring a great deal of hard travel, and my experience with them has greatly increased my interest in the work.

In driving we have used the Lapp's methods and harness. We have also used common sleds. The pulks are not favorable for this region, but where there are woods covered with deep, loose snow they are practicable.

The native herders have done good work, especially since the Lapps left. Okitkon deserves especial praise. He is much interested in the work, faithful and willing, and content; very handy, active, and industrious. Since the Lapp left, he has had charge of the herd. He has made several sets of harness. He was married in November, 1896.

Tatpan is not so handy; he is childish, and can not be fully trusted. I think he will improve with time, and may have to be sent away before he really can understand his duties. Martin was discharged in December, not for neglect of work, but for stubbornness, disobedience, and discontent. He may be taken on after a time by himself. His deer remain with the herd. Tauktuk, about 30 years old, was taken in place of Martin. He is tall, healthy, and strong; is willing and thoughtful, and is well liked by the boys. He belongs to Saktolik. He is married and has a boy 9 months of age. Constantine (Apararuk) was taken at the Lapps' departure. He is the best qualified man we have for the work; is about 18 years of age, speaks English fairly well, has a good understanding and good moral character. He belongs to Agarvik. He stopped here the first winter the station was established. The Lapp, Aslak L. Somby, wife and daughter, were with the herd until the 16th of March, when they asked to leave. As yet we have not missed them. We have four trained Lapp dogs at the herd, but unfortunately they are all females, and no increase can be expected.

Your favor of the 3d of September, 1896, was satisfactory, as you say that Rev. Mr. Prevost will retain the deer originally allotted to him with their increase. It is but right and proper. But as the Lapp had only temporary marks put on Mr. Prevost's herd, and they were taken off after your visit the 25th of July, 1896, it was impossible to mark properly those that belonged to him. I concluded to let them go and divide the herd in two the day Mr. Prevost came and let him choose one of the two sets. Last year there were two calves less born to his herd than to ours; one more died and one cow died during the calving season. Moses has lost one sled deer, and later on, as far as we could

MILKING REINDEER AT THE SWEDISH MISSION STATION, GOLOVIN BAY, ALASKA.
By P. H. Anderson.

track them, there were six animals less in his herd than in ours, so he will gain a few deer by this arrangement. The only report, therefore, that I can make of his herd is that just half of the number belongs to him. I hope that both Mr. Prevost and yourself will be satisfied with this.

We had a visit from Mr. W. Kjellmann at Christmas on his way down the country. His few days' stay were very cheering, as we were depressed on account of our baby. He proceeded on his journey the 28th of December. In the evening of the same day Dr. Kittilsen arrived, in company with Mr. D. Johnson, who went before Christmas to see him for our baby. We feel under obligations to Dr. Kittilsen for his kindness in not hesitating to make the trip in the middle of the winter to assist us.

The mild weather has made the winter more bearable to the natives around here. In January and February they got a large number of small seals. The hardest time was in the latter part of March, when the cold was terrible. I have not found it necessary to kill any deer for them, as you allowed in your lettter of September 3. But as much flour as could be spared was distributed among them. No doubt the time seemed hard to them, very hard; but I have heard of no death by starvation. As no furs have been taken about here during the winter, many have been compelled to move to distant places for clothing. Some have gone to St. Michael for work, others have migrated northward for seal and deer hunting.

The school work will be reported by Rev. Ag. Anderson, who taught the school this winter.

June 17 our baby died, aged 9 months and 15 days. It was a hard blow to us, but as he had been suffering ever since November we should be thankful to God for his deliverance.

There is nothing more of importance to report, and I remain,

Yours, very truly,

N. O. HULTBERG.

Dr. SHELDON JACKSON,
General Agent of Education in Alaska.

Reindeer account, June 21, 1897.

	Dr.				Cr.			
	Male.	Female.	Fawns.	Total.	Male.	Female.	Fawns.	Total.
Old deer and last year fawns:								
Standing of herd Aug. 11, 1896					29	89	88	206
Died and killed to June 21, 1897	7	3	8	18				
Balance	22	86	80	188				
Total	29	89	88	206	29	89	88	206
Last year fawns taken up among the old deer					58	130		188
Born this year							115	115
Died			7	7				
Balance	58	130	108	296				
Total	58	130	115	303	58	130	115	303

Statement showing the number of deaths in the herd from August 11, 1896, and the cause.

Date.	Disease.	Old deer.		Last year fawns.	
		Male.	Female.	Male.	Female.
1896.					
Sept. 30	Intestinal disease			1	
Sept. 26	do	2			
Sept. 28	Butchered by Lapp and reported "heart disease	1			
Oct. 6	do	1			
Oct. 18	Disease of the joints				1
Nov. 7	Butchered, and reported sick			1	
Nov. 25	Fighting (meat used by Lapps)		1		
Nov. 25	Sick in the leg			1	
Dec. 12	Butchered by Lapp	1			
Dec. 16	Strangled	1			
Dec. 24	Butchered for native herders and part for station			1	
	Total Jan. 1, 1897	6	1	4	1
1897.					
Feb. 2	Strangled (meat used by the Lapps)	1			
Feb. 27	Internal sickness			1	
Mar. 5	do				1
Mar. 18	Kind of convulsion		2		
May 29	Inflammation of bladder			1	
	Total June 21	7	3	6	2

Statement showing number in herd belonging to each individual owner.

Owner.	Males.	Females.	Fawns.	Total.
Golovin Bay mission	21	48½	40	109½
Fort Adams mission, Yukon River	21	48½	40	109½
Moses	6	14	11	31
Martin	3	9	7	19
Okitkon	5	5	5	15
Tatpan	2	5	5	12
Grand total	58	130	108	296

Of the calves dead during this calving season were two that belonged to Martin.

CORRESPONDENCE RELATIVE TO REINDEER IN ALASKA.

DEPARTMENT OF STATE,
Washington, D. C., March 13, 1897.

SIR: Referring to your Department's letter of December 8 last, in regard to the purchase of reindeer in Siberia, I have, by direction of the Secretary of State, the honor to quote for your information the following telegram received to-day from our minister at St. Petersburg:

Permission respecting purchase of reindeer granted. Our agent can address Ispravnik, of Petropavlovik, for facilities required at more distant points.

Respectfully, yours,

W. W. ROCKHILL,
Assistant Secretary.

The SECRETARY OF THE INTERIOR.

[Translation.]

IMPERIAL RUSSIAN LEGATION,
Washington, March 18/30, 1897.

Mr. CHIEF OF THE DISTRICT OF PAVLOVSK:

The United States of North America are sending their agent, Mr. Kelly, to Siberia, and also to Pepiro Pavlovsk, to purchase reindeer. In view of this the imperial legation in Washington, in introducing to you Mr. John W. Kelly, most respectfully requests you to lend to this official of the United States such cooperation as may be consistent with existing laws and your own instructions.

KOTZEBUE, *Minister.*

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., March 26, 1897.

SIR: I have the honor to acklowledge the receipt of your letter of the 22d instant, requesting that Dr. Sheldon Jackson, general agent of the Bureau of Education to Alaska, be afforded accommodation on the United States revenue cutter *Bear* in her cruise to the Bering Sea and Arctic Ocean during the current year, and that the commanding officer be directed to extend to him such facilities as may be convenient; also that there be transported on the *Bear* 30 or 40 head of reindeer and

attendant herders from Port Clarence to St. Michaels on one of the trips of the vessel between these places and on the return trip to receive a few Lapp herders who may desire to return to Lapland, and to allow Dr. Jackson to land, for use of the Government, Siberian reindeer in Alaska from private vessels at the reindeer station at Port Clarence without first entering at the custom-house at Unalaska.

In reply I have the honor to inform you that instructions will be given the commanding officer of the *Bear* in relation to carrying out your request, so far as it can be done without interference with the regular duties of that vessel.

Respectfully, yours,

L. J. GAGE, *Secretary.*

The SECRETARY OF THE INTERIOR.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., March 30, 1897.

SIR: I have the honor to acknowledge the receipt of your letter of the 22d instant, requesting that the commander of the United States revenue cutter *Bear* be instructed to render such protection as he can to the teachers in schools under the supervision of the Bureau of Education in Alaska, and to prevent as far as he can the destruction and unlawful killing of domestic reindeer by the Eskimo, and to impress upon the native parents that they will be punished to the full extent of the law for killing their infant children, and stating that a warning from the commanding officer of the *Bear* would help to break up the custom.

In reply I have respectfully to inform you that instructions covering the request and suggestion contained in your letter above referred to will be given to the commanding officer of the *Bear* prior to her departure for Alaska, and copies of the same furnished to the Department of the Interior.

Respectfully, yours,

L. J. GAGE, *Secretary.*

The SECRETARY OF THE INTERIOR.

REPORT OF JOHN W. KELLY, PURCHASING AGENT.

ST. LAWRENCE BAY, SIBERIA, *August 31, 1897.*

SIR: We had selected Mechigme Bay, Siberia, as the place for landing our expedition for the purchase of domesticated reindeer for Alaska.

Neither Mr. Siem nor I had ever been to Meshigme, and as the schooner *Bonanza* was going into the Bering Sea it was decided between us that Mr. Siem should go up in her and select a location

where there was fresh water, a suitable place for landing stores and shipping deer.

On the *Bonanza* we placed $500 worth of merchandise to buy our fur clothing, fresh meat, and pay our necessary personal expenses, as there is no money in Arctic Siberia, and everything goes by barter. To this we subsequently added a whaleboat and Mr. Siem's half of the mess stores. I was sorry afterwards that I had my part of the mess goods on the *Volant*, as that gave rise to a story that we had a lot of private trade goods on her.

The charterer did have $1,000 worth of trade goods on board, and it was probably made to appear by would-be meddlers that this was ours.

Mr. Siem sailed in the *Bonanza* on May 29, ten days before I departed with the Government expedition on the *Volant*.

Fortunately for us, the United States steamer *Bear* and the *Bonanza* met near Mechigme Bay. Captain Tuttle and Lieutenant Jarvis, of the *Bear*, did what they could to assist Mr. Siem in his investigation. Lieutenant Jarvis, in command of one of the *Bear's* boats, took Mr. Siem into the bay.

Mechigme was found to be an unsafe anchorage and an impracticable place for a sailing vessel to enter, owing to the narrow, winding channel and swift-flowing current.

Rock-bound, wind-swept hills surround the bay, devoid of vegetation or anything that deer could live on while awaiting shipment.

Upon consultation with Captain Tuttle and Lieutenant Jarvis, Mr. Siem decided upon Port Lütke, in St. Lawrence Bay, 60 miles northeast of Mechigme. Mr. Siem wrote me a note informing me of this change and dispatched it by the *Bear* to St. Lawrence Island. It was most opportune, as I arrived at St. Lawrence Island the very next day, and received the letter, together with others from Missouri and Texas friends. Mr. Gambell, the teacher, informed me that the *Bear* sailed away immediately after leaving my mail.

Port Lütke is a safe harbor in all winds, easy of access and a splendid shipping point for deer. Many years ago the Arctic whaling fleet rendezvoused here. It was here that Captain Bremerhoff was enticed on shore and killed. The United States steamer *Rodgers* was burned in the harbor, and the natives say that the Russian cruiser on her annual visit to the Arctic always calls here for water. A glacier-fed stream runs down the hillside into the bay, from which good water may be easily and quickly obtained.

Before leaving San Francisco, being very uncertain about the time the *Volant* would reach the Bering Sea, I gave Mr. Siem written instructions to use our private goods in any way he could to further our enterprise, maintain himself and native help till I should arrive with the Government goods.

The captain of the schooner *Sailor Boy*, which arrived in the Bering Sea with coal for the steam whalers, informed Mr. Siem that I had sailed June 3 from San Francisco, and was coming via Petropavlovski.

If that was a fact, it would be September before I could reach my destination. Feeling that a house was needed at once, Mr. Siem purchased one already cut out and framed from Captain Tilton, of the steamer *Alexander*, paying $450 freight for it. Capt. Sam Smith, of the *Bonanza*, brought Mr. Siem and our private goods into St. Lawrence Bay in good shape three days before my arrival. Mr. J. B. Vincent, second mate of the *Bonanza*, assisted Mr. Siem and the natives in getting the house started.

I was not as fortunate on my trip. There were many hitches and difficulties in getting away, much telegraphing and correspondence with officials of many degrees. State, Federal, and city officers took a hand, all along the line, from the Chief of the Bureau at Washington down to police and patrol wagons of San Francisco.

On board the *Volant* were five teachers for Arctic Alaska—Miss Hunnicutt, Robert Summers and wife for Kotzebue Sound; Miss Alice Omekejoak for Unalaska, and Rev. P. H. Anderson for Golovin Bay, all going into the land of polar snows to civilize the natives and spend their lives in doing good. The most of the others of the ship's company were the antithesis of them. There were fights on the vessel before leaving the dock in the city, fights and dissensions on the way up, and fights in the harbor here after I left.

The teachers were provided with a folding organ, a guitar, and a violin. On calm, sunny days they played and sang on deck, and of evenings in their cabin. But with the dissensions on board, the instruments, too, seemed to lose harmony.

However, if the men were stormy the elements were mild. We had light favorable winds all the way up; we never had to reef a sail or take one in, nor was there any need for a rack on the table to keep the dishes in place. Sea gulls followed us for 150 miles from San Francisco, when they abandoned us to the care of the goonies. Not being thrown at, these birds soon become as tame as chickens, and would swim in swarms up to the ship's side, waiting for the cook to empty his slop bucket. One Sunday when the teachers had their organ on deck and were playing and singing, the goonies swam close alongside, hushed their hungry cries, and listened with eagerness and attention. On our trip we passed through 300 miles of scattered nautilus, then 400 miles of clear waters, then 500 miles of sea that was literally covered with them. After this we passed through 300 miles of nautilus, all dead, where the sea was covered with oil that had exuded from their decaying bodies. Then we passed through 200 miles more of small living nautilus that were strewn in windrows as if they had been raked into that formation. Farther north we passed pieces of driftwood, and then we came to floating mats of kelp that indicated an approach to land. We reached Unimak Pass July 4, when the goonies all left us, and ducks and gulls became our future companions. There being no wind, we drifted through the pass on a flood tide.

NATIVES WITH CODFISH. ST. LAWRENCE ISLAND, AUGUST, 1897.
By V. C. Gambell.

Unimak Island was covered with snow, and both Unimak and Ugamuk were crowned with fog. Never having seen any pictures of either island, I exposed three plates, which I send to you.

Ten days later we arrived at St. Lawrence Island, where I met Mr. and Mrs. Gambell and child, the sole Caucasian inhabitants among a horde of very dirty natives. The Gambells have their private apartments fenced in with barbed wire, which I know is a great saving of temper and muscle, as it acts as an effective barrier against over-inquisitive natives. The appearance of the Gambells and their genial good nature make it very evident that they are arctic dwellers who consider life worth living. "Cleanliness is next to Godliness and soap a means of grace," according to Henry Ward Beecher, and I would like to add that a barbed-wire fence in the Arctic regions is a conservator of moral principles, for no Arctic station stands higher in the estimation of arctic visitors than the Gambells. In the wholesome recess of a bay window, the only one in arctic Alaska, was the Gambell's only trouble—a small one—a papoose, born last April.

From St. Lawrence Island Captain Hanson manfully sailed the *Volant* direct to St. Lawrence Bay, though advised not to do so. On arrival here the crew of the *Volant* refused to work. But we were in Arctic waters and in a foreign harbor ready for work. So we called on the assembled natives to discharge the vessel, Mr. Siem keeping watch to see that nothing was passed out that did not belong to us. There were 14 canoes and 210 natives employed. The people climbed and fell over each other in their eagerness to get the stuff off. Lumber, barrels, boxes, and coal went flying over the side. A man had to be an expert dodger to keep from being hit; the ship people fled into the rigging or down below, out of the way. It was like emptying a Pacific mail steamer of Chinamen and their baggage before the restriction law was passed. The crew still being on a strike, the captain employed the natives to get water and ballast for him. It seems that the captain's orders to feed and pay the natives for their labor were not carried out, and to get even they began to steal everything movable about the vessel, the deck load included. These natives will work like beavers for any one who feeds and pays them, but once they find a person they deem a mean man, the signal "bad medicine" goes forth, and in an instant the whole horde is converted into thieves and highbinders. After our freight had been taken out, I was glad to see the discord-laden *Volant* sail away.

Mr. Siem, who had landed three days ahead of me, had the house purchased from the *Alexander* near enough completed to shelter the stores as they came ashore from the *Volant*, thus insuring the goods from possible pilfering and damage from rain.

I landed here Saturday, July 17, and on the following Monday began the foundation of the station house, assisted by about twenty natives. The building progressed rapidly. I expected to have cuts, bruises, and

splinters in my hands, but it took all my time to show the natives what to do and where to start. It was their first effort in house building, and they did it better than could have been expected. On July 28 the last partition was up and the house finished, and then rain began to pour down. We hurriedly placed our belongings under shelter, set up the cook stove, and lighted a fire. It was a stroke of good fortune that we had the house ready for occupancy as soon as we did, for it has been raining and storming ever since. The whole country has been converted into a quagmire, worse than Port Clarence was last year. To get away from our door it is necessary to have plank laid to where we desire to walk.

On Sunday, July 25, Captain Tuttle brought the *Bear* into port, with some trade goods taken on board at Seattle and Port Clarence. We took the goods off in native canoes, as the beach in front of the house is rocky, and in the swell then running on the beach the *Bear's* boats would have been broken.

Captain Tuttle, Lieutenant Jarvis, and Dr. Call visited us. Some of the officers brought their cameras ashore and photographed the house, then nearly completed.

On August 1, Mr. Siem had the natives prepare a small garden on the south side of the house; radish, lettuce, and turnips were planted. The garden was covered with spare windows to keep the cold air out and let the warm sunlight in. The seeds have sprouted and show leaves above ground, but the weather has been too cold and raw for them to grow much. Some mornings there is half an inch of ice on the hothouse windows.

A canoe full of natives from Kings Island, Alaska, called here on their way to Indian Point. They had furs, oil, wooden bowls, and seal and walrus hide rope to exchange for deerskins. When they returned from Indian Point they sailed direct from South Head toward Kings Island across the trackless sea.

A circus coming to town would not create more of a sensation than our advent into arctic Siberia. Canoes arrive every day that the sea is smooth enough for boating. Men come 40, 50, and 60 miles, bringing their wives, children, and relatives to see the sights. During the past month there have never been less than 15 natives present; some days there are from 100 to 200 visitors, the average being 45. We have reserved the eastern half of our house for ourselves, while the western half is fitted up as a reception room for the natives. Should we allow them in our private apartments they would line the walls, cover beds, stores, and tables. This would be inviting the fate of De Windt at Indian Point, or the man who was killed at Plover Bay. In pioneer days in arctic Alaska a native would never go out when told to get out, but would have to be thrown out. So far these people keep out on being told, but each native must be told at least three times a day. A graphophone set up over the door that would sing out, "Hurrigan," "Move on," "Get out," night and day, would be of the greatest service.

STATION, ST. LAWRENCE BAY.
By J. W. Kelly

Killing a man excites a little more interest than killing a seal, but not as much as killing a deer. Among the Eskimos, a good man is one who can commit a wrong without detection and who will never tell on any other offender. Nearly the same idea prevails here. An applicant for a job was recommended as having experience and enterprise. He had been hired as a herder to go to Port Clarence, where he had been discharged for inefficiency. He had sold his Asiatic wife and stolen another from the Eskimos and had kidnaped a boy to do his drudgery.

Quarters in our house go by ship terms: "Down below" is our private rooms; "On deck," the native room. Seeing that we had an alleged cook, but no "cabin boy," "Rainbow," a North Head native, brought a young man, whom he recommended for the position, because he was too stupid to be a man. He was the dirtiest and most forlorn of his tribe, but soap, water, and clothing brightened him up a little. "Boy 1," said Mr. Siem, "take this bucket out and empty it!" Like Handy Andy, he took the bucket to the door and heaved it out, water and all. Among our 160 camp kettles, one had accidentally got a little soap stuck in it. Mr. Siem told the "boy" to wipe it off. The other 159 kettles had no soap on them to wipe off, but the "boy" lost no time in getting a bar of soap and putting it on them. When Mr. Siem next went that way the "boy" had nearly all the kettles soaped and wiped a nice alkali color. But the "boy" is improving, and if our patience lasts we will make a first-class herder out of him. I send you his picture, entitled "Our first Siberian employee."

Little Rainbow, who has been on whale ships and has made a trip to San Francisco, is very useful as interpreter. North Head Sam seems to have the most brains of any. He was chief factotum in putting up the station house; he badly bruised one of his feet in putting up the rafters. John Kinmok, from South Head, presented a letter of recommendation from a shipmaster, which he thought ought to entitle him to equality and fraternity, but after a few hours he subsided into an ordinary native. Am Gott, is a whiskered Pandour from Lorin. He has many prototypes in the United States, and were he a resident there, he would be a walking delegate, an agitator, or a colonel in some "industrial army." Another interesting character is old I Hoe So, who is the only surviving native who assisted in caring for the officers of the burned steamer *Rodgers*. Then there is the fellow who fell off our house and says he hurt his foot. At first he asked for a pension, but last week he came down to a pipe. Among the eccentricities I must not omit to mention the "land owner." The day after I landed an individual put in his appearance who claimed Port Lütke as his private property. At first he was inclined to be ugly. After waiting awhile I gave him a pocketful of nails and Mr. Siem promised to buy boots from him. This brought him to terms.

An experienced Siberian beggar will ask for some article of small value that he thinks he will stand a reasonable show of getting. Give a person a clay pipe that he asks for—it is of no use to him without tobacco

and matches, which he expects as a logical sequence. "Too effeminate to hunt, too stingy to marry, too mean to live," is the reputation of a white man in this country, unless there is some substance to him.

REINDEER BUSINESS.

We can get the deer—not as rapidly as we would like at the start—but 500, I think, will be a safe number to have ready for shipment July 15, 1898. We have about 100 now, nearly all young females. After being here a month I feel that circumstances led us into the best possible situation. Mechigme Bay would have been too close to Indian Point for us. The Indian Point natives have been accumulating domesticated reindeer for several years. Last winter, owing to the crust that formed on the snow along the Bering Sea coast, hundreds of deer perished for want of food. The Indian Point people were the greatest sufferers. They are out among the deer men in the vicinity of Mechigme Bay trying to replenish their stock and incidentally work on the superstition of the deer men to prevent them from selling to us.

Koharri, the leader of the Indian Point gang, learned from the ships that we were coming to Mechigme, and he lost no time in getting into the field with his cohorts ahead of us. When Mr. Siem arrived at Indian Point in the *Bonanza* he had been gone some time. Soon after landing here, Mr. Siem fitted out Peter and sent him in our private whaleboat to Mechigme Bay, where he could march inland to where the deermen were. Peter is a coast native who owns about 100 deer. He and his clan have supplied many of the deer that have previously gone to Port Clarence. He, like Koharri and a few other coast natives, have some standing with the deermen. After an absence of fifteen days Peter returned with the information that the deermen would not sell to us for export. He was refitted and sent back to buy deer on his own account, which next spring he can turn over to us. In Eskimo Alaska a native who has killed a whale sells the bone for rifles, cartridges, and cloth. Not having a market for the articles, and having more than his family can use, the surplus in this damp climate rusts or rots, so that within two years he is as poor as ever. Here in Siberia the enterprising coaster invests his surplus in deer, which his "cousin" or half deer man herds for him in the vicinity of the coast. Most all the coast natives from here to Cape Serdze and beyond own deer, and they are going to sell to us and replenish from the deermen. The deer costs us from $2.50 to $4, and to keep the trade moving we must keep the exact things the deermen desire. Hence a long and rather varied requisition. It is proposed that we keep two herds, one in the southwest in charge of Peter's clan, the other in the northwest with Little Rainbow's clan, and have the animals driven in here July 15 of each year, which is about the time the ice leaves the harbor. It also seems advisable to keep a nucleus of each herd to add to for the coming season.

The genuine deermen vacillate between the interior Russian posts

ATTANGA. SIBERIAN GIRL.
By J. W. Kelly.

and the coast traders. One year east, the next west. The coming winter is the one for them to approach this coast. August 20 is the killing season. It is then that the hides are in prime order and the fur in best condition for clothing. These deermen consider themselves the first families of the country—the aristocracy that common natives must respect. They consider and treat the coast natives as inferiors. Work? Not they; that is employment for coasters and white men. When we were landing goods and erecting our houses, the few deermen present would stand and look on but never offer to do anything. Many of these deer men and women have light hair and fair faces. The women are not made beasts of burden as in Alaska, nor do they do the drudgery work. They plait their hair, wear bangs, and dress in bloomers made of deerskin. A belle among the deer men's daughters is as much of a butterfly as her prototype in civilization.

When Captain Tuttle and Mr. Jarvis were here, I took the liberty of asking them to bring down a boy, or not more than a small family, to get an insight into herding at the source of the domestic reindeer. I did not ask for more, because I desire to know more about the facilities for feeding natives. This looks like a hungry country for a foreigner. By some eccentricity of ocean currents and wind, no drift wood is deposited on this coast, and any one accustomed to cooked food would be apt to suffer much discomfort. However, if I find that seal and walrus may be had in sufficient numbers, it may be advisable to get ten or a dozen bright Alaskan boys to go with the herds. One from Point Hope will be enough as an experiment this winter. When we were putting up our house, Chipchow, a 12-year old boy, made himself generally useful and seemed gifted with the natural ability of a Point Hope boy. For want of any place to go he has remained about the station. His sister, two years younger, has since joined him. Upon inquiry, we learn that their parents were killed by the deermen, the alleged cause being that they stole deer from them which they sold to the steamer *Bear*. The stealing part of the story is no doubt false. The boy wishes to remain at the station, and we have agreed to keep him.

ETHNOGRAPHY.

Nordenskiold says these people acknowledged the name Chuckchee. It is very likely, as they say "Yes" to everything they do not understand, because there might be an offer of food or some other gift attached to it, and they would miss the opportunity of their lives if they said "No." The deermen are called Chow Chuen, and the coasters Onkilion. The Onkilion were a tribe of Eskimos who inhabited the coast but were driven out or subjected to the deermen. When I first came into the Arctic, East Cape, Plover Bay, Indian Point, and St. Lawrence Island still retained many points in common with Alaskan Eskimos, especially in the language, which resembled that of Point Barrow and Point Hope more than that of the neighboring points in Bering Strait. From this, it seems likely that the exiles passed by

the more populous settlements in the subarctic and settled on the bleak, inhospitable shores of Alaska. To support this theory there was a tradition among the Point Barrow Eskimos that they originally came from Bering Strait. There was considerable hostility expressed by the coasters and deer men in former years, and they accused each other of all the acts of lawlessness committed on these shores. Of late years they have intermarried and amalgamated.

The coasters have retained their fishing and hunting appliances, as the invaders, being strictly herdsmen, had none of their own to substitute. But to make up for it, the deermen have imposed upon them their manners, customs, and language. But they have not conferred an entire social equality upon the coaster; unless the latter be of unusual prominence, he has to remain outside the sacred precincts of the yoranga and otherwise sit below the salt.

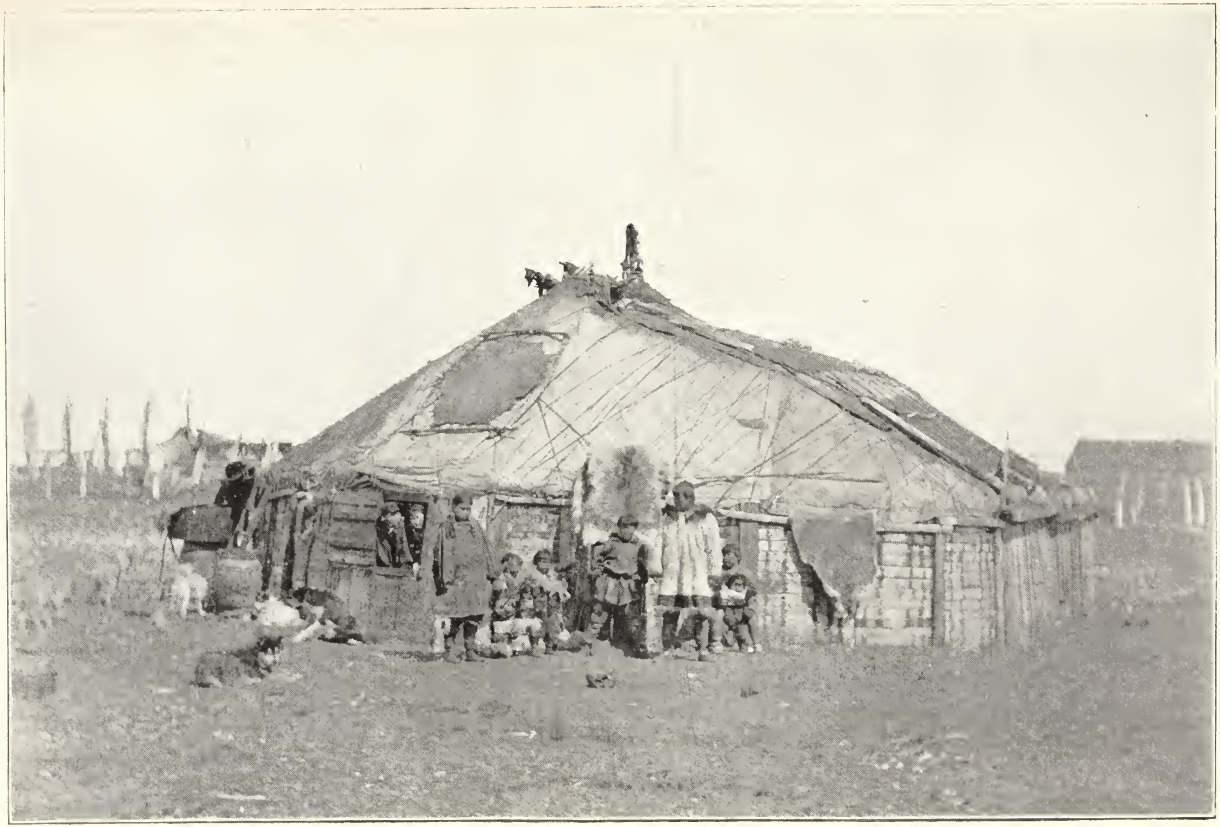
Every community on the coast accuses every other community of being thieves. We find from experience that there is some truth in what they say. All will steal up to the limit of the endurance of the victim. There is a feud now on between the East Cape natives and those over toward Kolirichin, owing to the killing of a man and woman in the latter country by East Cape natives last year. This summer the East Cape natives had a fight among themselves, in which three men were killed.

Ten years ago there was a settlement of renegades and outcasts between South Head and Mechigme. The last of these were killed last year. From this it seems that our arrival is more opportune; one crop of desperadoes has just been harvested and the next has not yet matured.

There is always a scarcity of provisions in the arctic, there being two seasons of famine each year. The first is between winter and summer and the latter in August and September. Since our arrival here there has been a continued movement of the natives in search of something to eat. There are tiresome days, when as many as ten to fifteen canoes have arrived. Up to date, there have been five boats from Alaska, two from Kings Island, and three from the Diomedes.

A dog belonging to Mr. Wilson, of St. Michael, became stranded here. It took exile to Siberia in good part, and fed many hungry natives by catching marmots for them. But the dog, like myself, has become discouraged at the pressure of the hungry horde. When the dog would catch a marmot, or squirrel, a string of natives 500 yards long would chase it to get the squirrel. This was too much for the dog. Nowadays a squirrel will stand up and challenge the dog to a chase, but Kaiser will drop his tail and sneak behind the house, out of temptation, as if to say, "It's no use." The dog is useful in other ways. Before leaving California I bought some canned goods at a downtown store of doubtful repute. Upon opening them here, they do not look right. "They smell queer."

"Taste them?"



WINTER HOUSE, ST. LAWRENCE ISLAND, 1897.
By V. C. Gambell.

"No! try them on the dog."

Kaiser is accordingly called in to pass on the food. The dog is now troubled with indigestion, has a cough, and now when he hears the rattle of a can opener he hides under Mr. Siem's bed. I am glad of the dog, as I made myself sick before thinking of substituting him as inspector.

SOME OF OUR VISITORS.

These arctic people will at times kill their children, parents, and enemies, but they always extend a protecting hand to idiots. This is how it comes that tramps are favorably received. The mere fact of their entering the country destitute is considered evidence of idiocy. For the last ten years tramps have thriven in arctic Alaska. Happy as fairies, without a care in the world, they pass from place to place, tribe to tribe, and never complain of cold or hunger. Sometimes, upon solicitation, a tramp will stop a few weeks or a few days at some whaling station, whose proprietor is nearly as poor as himself. But as the tramp will never assist in the routine work, nor wait upon himself, he gets the cold shoulder and passes on. One reached our place, August 25, from Port Clarence, via the Diomedes and East Cape. He had spent several years in arctic Alaska and the British arctic possessions. We invited him to continue his wanderings. There is also a Cape de Verde Portuguese mulatto at East Cape and two tramps marooned on Big Island. These are the only members of the great fraternity of tramps that we know of in this part of Siberia.

It has been our lot to receive a more distinguished visitor, a Russian priest, who has just reached the shores of the Bering Sea after a long and eventful pilgrimage across Siberia. He has the robes and vestments of his office in good order. He is apparently well educated and, to our great relief, has made himself feel at home with us while waiting for some vessel, Russian or American, to give him transportation to some place in civilization.

He has two sleds, some tea, tobacco, and a few other things, but bread and sugar were strangers to him. After a wash, he good-naturedly dressed and stood up to be photographed. He does not understand any of the barbaric languages about here or any of the European tongues that we know or have studied. Language being of no use, we have made ourselves partly understood by signs.

There was one thing he readily understood, and that was a bottle of Kentucky vintage that we had in our medicine chest. This, he signified to us, was the key to universal language. He requested a glass for the East Cape boat header who brought him here, a slight favor that we were glad to grant.

Very respectfully,

JOHN W. KELLY.

Rev. SHELDON JACKSON,

United States General Agent of Education in Alaska.

SEPTEMBER 9, 1897.

Appearances are that we will have many visitors all winter, but as we become better acquainted we feel more secure. The natives have had time and opportunity to "size us up."

The coast deer men killed their deer for food and skins on September 6 and 7. About 300 people gathered here at St. Lawrence Bay to buy meat and skins. Some came from Walen, East Cape, Diomedes, Kings Island, and places in our immediate vicinity.

Word has been received to-day that next year the deer men will sell us deer direct, providing that we will not send all we buy to Alaska. This message came from the deer men direct and is in accordance with our idea; that is, to keep some deer back as a nucleus for a new herd. The natives are becoming better acquainted and no doubt more concessions will be made.

If the *Bear* does not come and the Russian priest can not get to Unalaska, he will, in consideration of his food and room, go about among the natives in the sphere of Russian influence and solicit for us Ground is frozen and pools sheeted with ice.

Respectfully, JOHN W. KELLY.

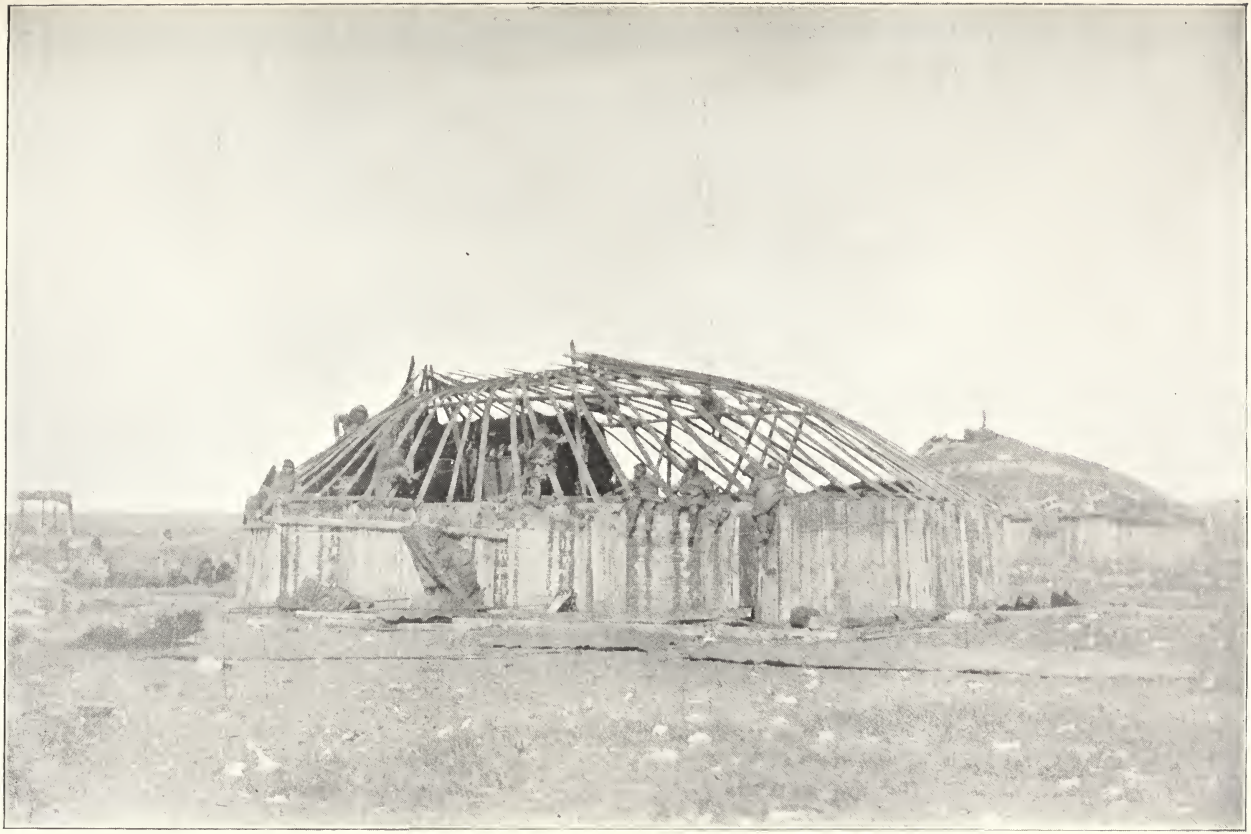
REPORT OF CONRAD SIEM, ASSISTANT PURCHASING AGENT.

PORT LÜTKE, SIBERIA, *August 16, 1897.*

DEAR SIR: Acting under your instructions, I started in advance to select a site for the Siberian reindeer purchasing station, taking passage August 29 on the schooner *Bonanza* (Captain Smith), which was bound for the Arctic on a trading and whaling voyage, and which in pursuit of her business would call at several places on the East Siberian coast. Subsequent events proved the wisdom of this course.

On July 1, after a rather boisterous passage, the *Bonanza* came to anchor at Indian Point, Siberia. Natives, as is usual, came aboard in large numbers. Among other things, they told me of the many deer they had lost during the previous winter. In the late fall a heavy rainstorm had formed a heavy crust of ice over the snow on their pastures. The deer had been unable to penetrate this crust to get at their life-sustaining moss and had died of starvation in great numbers, some men losing as many as 200 deer.

Here, too, I had the first opportunity to practice the Tchowchun language. Mr. Vincent, who had been cast away for two years on this coast, was second officer of the *Bonanza*, and with his kind and patient assistance I constructed on the passage up a vocabulary of about 400 words, containing nearly all that is necessary for our intercourse with these people. I must also thank Mr. Vincent for giving me many points and details concerning character, traits, and habits of the deer men, my own long years' experience among similar people having given me a general idea of what I wanted to know. On this account alone my voyage in the *Bonanza* was of great profit.



REMOVING WALRUS-SKIN ROOF FROM WINTER HOUSE, ST. LAWRENCE ISLAND. 1897.
By V. C. Gambell.

After a delay of a few hours at Indian Point the *Bonanza* proceeded north. On the evening of the same day, July 1, we arrived off Mechigme Bay. As the bay was as yet full of ice, our course was laid for South Head, St. Lawrence Bay. During the next twenty-four hours we had absolute calm, and the *Bonanza* drifted north with the current. On the afternoon of the 2d of July we found ourselves about 15 miles to the east, off South Head, surrounded by strips of ice. Here three canoes from South Head, which had been out looking for walrus, boarded us. The natives told us that a sailing vessel could not possibly go up into Mechigme Bay as yet, and that the ice in the inner bay was still solid and had not commenced to break. In one of the boats was Peter, the principal negotiator for the deer the *Bear* had procured in former years. I told Peter that we were going to locate a post in the vicinity to buy and collect deer, and that a three-masted schooner, the *Volant*, was on her way up with lumber and supplies; that we should want quite a number of natives and their boats to help us land these and to erect the buildings. All the natives who were aboard seemed to be pleased with the prospect of having the post erected on this coast, and promised to be ready to assist us, declaring that we would be able to obtain all the help we needed.

A low barometer and other indications predicted an impending southeaster, and as Captain Smith did not relish the idea of being caught in it on this side of Bering Sea, he concluded to run over to Port Clarence for shelter. At first my intention was to transfer myself and supplies into the natives' boats and to land at South Head. But as the natives said that traveling up the bay was hardly feasible as yet, even in canoes, this would have simply meant being marooned at this place. I concluded that it would be just as good to go with him to Port Clarence, all the more as I was anxious for news from the *Volant*, which I expected the *Bear* to bring from St. Michael. I left a letter for you with Peter in case you should arrive before I should be able to return.

Dantin, a Siberian, who had been herding deer for the United States Government in Port Clarence and who seems, and is, a very likely fellow, asked permission to go with us to visit some friends, and on my intercession was granted it. As I could converse with him in Eskimo and, with the help of Mr. Vincent, in Tchowchun, this gave me the longed-for opportunity to gain correct information, and during the subsequent ten days, during which we were fellow-passengers on the *Bonanza*, I can say that I gained quite an insight into the main points of our undertaking. This knowledge, together with what I have learned since, I shall endeavor to embody in an appendix, which I shall have the honor to submit with this report.

We reached Port Clarence on the evening of July 3. The *Sailor Boy*, leaving San Francisco on June 4, had arrived here on the morning of the same day and had brought word that the *Volant* had left June 3, bound to Petropavlovsk. This was bad news, as under the most favor-

able conditions, according to all accounts, she could not make the journey to Petropavlovsk, and from there to Mechigme, in less than three months, which would cause her to arrive too late in the year to enable us to build a good house, on account of the uncertain, boisterous weather which prevails in Siberia in October. All the supplies and stores would be spoiled. As luck would have it, Captain Tilton of the *Alexander*, had brought up a nice little house 18 by 18 feet, with fixtures, etc., complete, which he had intended to sell to Eutoxia, in Plover Bay, but had been left on his hands. He offered it to me and I bought it from him. Even though the *Volant* did not have to go to Petropavlovsk after all, the house amply paid for itself during the first two weeks after our landing in sheltering all our supplies as soon as put ashore from the *Volant*. Captain Tilton transferred the house to the *Bonanza* the next day. On the morning of the 6th the *Bear* arrived from St. Michael. Mr. Jarvis came aboard of us the same day and told me that the *Volant* had left San Francisco on June 9 for Mechigme direct. The southeaster which had begun on the 3d about noon, lasted uninterruptedly until the 10th, increasing at times to a strong gale. The *Bear* left Port Clarence on the 9th, presumably for the Siberian side; the *Bonanza* on the morning of the 11th.

On the morning of the 12th we fell in with the *Bear* off South Head, St. Lawrence Bay. She steamed slowly ahead up Mechigme Bay, we following her under lower sails with a light southeast breeze. Passing Cape Lorin, which had been recommended by Dantin as the only suitable place to locate a house in this vicinity, I observed closely. The rise of the coast is very steep and an absolutely open roadstead were sufficient to demonstrate its unadaptedness, even if a depth of only 7 fathoms of water at a distance of 4 miles from the beach had not made it inadvisable to erect the purchasing station here. About noon the *Bear* and *Bonanza* came to anchor about 4 miles from the end of the northern sandspit at the entrance of the inner bay, in about 4½ fathoms of water. To get to this anchorage we had to work quite a strip of ice. I went aboard the *Bear* in company with Captain Smith, and handed to Captain Tuttle my credentials and letter of instructions from you. Captain Tuttle kindly called away a cutter and detached Mr. Jarvis to take me to the inner bay to take a closer view of the locality. While the boat was getting ready, Captain Tuttle expressed himself as unwilling to risk the *Bear* in the inner bay, and thought the place unfit to be entered by a sailing vessel. The detailed description of the place is best given in the words used at the time in an entry in my notebook, which I will quote below, as follows:

At about 1 p. m., Mr. Jarvis and I took a cutter and went in toward entrance to inner bay, pulling against a strong northwest wind which seems to be, according to the natives, a steady occurrence at this place. The water deepened after getting about a mile or so from the ship, so that a 10-fathom line would not reach bottom. The entrance to the inner bay is about one-third of a mile wide. We had 10 fathoms of water within less than a ship's length from the beach; in the middle of the channel

U. S. R. C. Bear.
By I. C. Russell.

Tchutchee Tent, Siberia.

no bottom was to be had with a 27-fathom line. The north and south sandspits overlap each other and the channel thus formed describes a full half circle, so that a sailing ship wishing to enter would have to tack or wear no matter from which direction she had the wind, and to do which the room is wanting, did not the tide, which must always be strong, make it an impossibility. The sandspit on which we landed was almost barren; the lay of the sand grass and the sand rifts gave indications of strong winds from the northwest. The inner bay is studded with islands, so that its dimensions impress themselves but slowly on the observer. The east arm of the inner bay leading along the mainland toward Lorin is about 8 miles wide. At the time, the strong northwest wind had raised quite a sea here, and as far as I could see no safe anchorage for a vessel was to be had. To the south and west the bay seems to extend into wide and deep bights, but the natives reported the water shoal there, telling me that they go there yearly to hunt leopard seals. To the north and west the forelying islands cut off the view. In between the islands we could see masses of ice loom up, which seemed slowly to cut their way out. The coast as far as we could see was very steep and barren; no verdure was to be seen, no rivers, only that monotonous grayish-brown color which is a sign of exposure to continuous heavy winds. Everywhere was barrenness and desolation. We inquired of the natives if they could not point out a single suitable place to locate in, and though they must have wanted badly to have the house built in their immediate vicinity, they could not do so.

We returned aboard the *Bear* about 4 p. m. Consulting with Captain Tuttle and Lieutenant Jarvis, the unanimous conclusion was that physical causes made Mechigme Bay unfit for the location of the reindeer purchasing station. Captain Tuttle recommended Port Lütke, St. Lawrence Bay, as by nature the most suitable place.

The *Bear* got under way for St. Lawrence Island to look for the *Volant*, and I sent a letter with Captain Tuttle advising Mr. Kelly of the change of location. The *Bonanza* came right on to Port Lütke, where I landed with my company, outfit, and supply on July 13. Numbers of natives gathered around, and expecting the *Volant* soon I retained them, setting them to work to build the house I had purchased, so as, if possible, to have it ready on Mr. Kelly's arrival.

I take this opportunity to express my thanks to Captain Tuttle and Capt. S. Smith for their great kindness to the undertaking and myself.

I have the honor to be, very respectfully,

CONRAD SIEM,
Assistant Purchasing Agent.

SAN FRANCISCO, *May 28, 1897.*

Mr. CONRAD SIEM,
First Assistant Superintendent United States Government Expedition for the Purchase of Reindeer:

It is very evident that I shall be delayed in getting to Mechigme Bay, Siberia.

To facilitate the work, I wish you would proceed ahead of me, on the schooner *Bonanza*, with such subsistence and material as you have.

Get Kummuk and the other herder, who were employed at Port Clar-

ence. Take them and their families to Mechigme. Pick out a location for our house where we can have fresh water.

That done, do anything you can to forward our work.

Very respectfully,

JOHN W. KELLY,
Agent Interior Department, United States Government, for Purchasing Reindeer.

SOME GENERAL REMARKS.

Not physical causes alone, but also economic reasons, make Mechigme Bay unfit for the location for a reindeer purchasing station. Seemingly, its being the high road of travel for the deermen from the north to Indian Point, where they have to go in winter for their needed supplies, and its being the place where in summer they will gather to meet the enterprising Indian Point trader, makes the vicinity advantageous for the undertaking; but my experience is that, in order to do successful trading with natives, you must cause them to break their old trade routes and induce them to come to new centers. Time and distance in a trackless country were never yet obstacles to a native, who will travel days and miles in the hope of disposing of his goods at the smallest increase of returns. The local amount of a certain article always makes its local value and price here, and the accumulated and aggregated possessions of the numerous native traders would tend to depreciate the goods of the post at one of these native trysting places, where no fixed prices can exist.

The Tchowchuen, independent, for long years in their seclusion, are a self-sufficient race and lack totally the instinct of commerce, the spirit of speculation. Like all nomads, their herds are their all, the welfare of their herds their only desire, the increase of their herds their joy, their pride, and their ambition. Their herds represent their accumulated wealth, and their only desire is to increase their number. No wonder they are averse to selling them. Out of this averseness has grown up a superstition against it hard to overcome, fostered with many seemingly absurd customs and increased greatly by fears of impending calamities sure to follow the selling of their beloved animals. All accounts agree that not many years ago it would have been an impossibility to purchase a live deer from a Tchowchuen.

The coast native, educated through a generation's traffic and intercourse with sharp Yankee traders and now a born merchant and speculator, was not slow to see the advantage of buying and accumulating live deer, instead of being satisfied with getting the products of the same; and thus it came to pass that he commenced to buy live deer for rum every time his deermen cousins in the interior desired to go on a spree, and in this wise it came about that numbers of the coast natives are now owners of quite respectable herds of deer, which they are willing to sell at any time at a profit. Once the break into the

TCHUTCHEE TENTS, SIBERIA.

ancient rule of the Tchowchuen had been effected, they buy nowadays deer from them with other goods than rum, especially every time they hold an article the deermen specially desire.

In possession of his deer the coast native likes to think himself a deerman, and before strangers poses as such. Their ambition is to be considered and called a Tchowchuen, but the real Tchowchuen will not acknowledge him as such. His deer he generally leaves in the care of his cousins, who herd them along with their own vast herds and largely presume to dictate to him in their disposal; but in craftiness he overreaches his simpler-minded relations, and on him we will have to depend, and through him we will alone be enabled to procure deer in numbers. To a large extent he is in fear of being boycotted by the deermen for selling deer to the station; he always asks to have the transaction held secret, explaining that he would be unable to buy any more if it became known that he sold. But here his fears are nearly groundless, for concerted action among such people as the Tchowchuen is hardly likely. But still to what extent this fear works in him is best illustrated by citing the case which happened the other day. Elcarlinga, a South Head native, sold four deer to us on the 3d of August for a gun. On the 6th he returned posthaste with the trade goods in good condition and asked to have the transaction canceled. It appeared that on the day after he sold the deer one of them had accidentally broken its leg and had to be killed. It became bruited abroad that the deer had been sold to us, and of course the only logical conclusion with the deermen was that the accident had happened in consequence and because of the selling. The deerman in whose care Elcarlinga's deer were at the time peremptorily demanded that the trade should be declared off. We explained to Elcarlinga that, as the deer had been purchased by us alive and was at the time of the accident ours, we only considered it right that we should stand the loss, and that we were perfectly willing to do so. He refused to accept the advantage. Before leaving, however, he came to me quietly and told me that he would place his deer by and by in charge of another man and would then sell them to us over again.

In part, this goes to show that the superstition and averseness of the Tchowchuen are factors which hardly need to excite much fear, but graver is the disadvantage created by their total lack of the spirit of speculation, the trading instinct. This, perhaps, makes them the inveterate beggars they are, though otherwise most sensitive and proud. They never buy and have no conception of buying to sell again at a profit, they will only buy to supply their own present wants. On the contrary, anything above that, and besides that, they will only procure when thereby they can gain distinction. As among all savage people, to be the owners of something nobody else has confers a certain renown on the lucky possessor, and he will do everything in his power to prevent his neighbors from getting the like.

They have but little use for their rifles, which act mostly as ornaments of their yaranger. Well oiled and well taken care of they will last

them a generation. Tobacco they are slaves to, but a little of it is made to go a long way. And with all their other possessions they are as careful and thrifty, made so no doubt through centuries of seclusion when the procuring of imported goods was made exceptionally hard for them. On the other hand, they love their families exceedingly, and they willingly procure for them all the luxuries, fineries, and comforts they want and can get hold of. They like to have now-a-days bread, flour, coffee, tea, sugar, etc., for their children, and they are quick to appreciate new (to them) and useful things, such as boots and other things which will serve to make their life more comfortable and pleasant. This fact was brought quite vividly home to me the day I landed.

In the passage up I had constructed for my own use a small round tent, which sets up with a single pole in the middle, a tent which I myself have always found the best adapted in these northern countries where lightness and quickness in setting up must be the first consideration. Numbers of deermen, who had their summer village about 4 or 5 miles off, were present visiting me when I first erected it. It was the first time they had ever seen a tent like that, and it took their fancy. One of them wanted to buy it right away. I told them that we had the cloth to make similar ones for sale, and that I would willingly show them how to construct them. This prospect seemed to please them. Since then we have had made a similar one, only larger, by a woman here, and have loaned it to "Peter," who is off at present on a negotiating trip for deer. I have received word since that numbers of deermen are after tents like that now—an article they formerly hardly had any use for. This demonstrates in its way that the deermen are by no means unprogressive. I hold that they can be easily educated up to new wants, and that herein lies our main chance to procure deer in numbers. Therefore a careful selection of trade goods becomes absolutely necessary for success. With some natives the trading and bartering instinct is developed to such a degree that he will buy and sell simply for the sake of the excitement connected with all such transactions; the deermen are totally without this desire, and therefore harder and more particular customers. Their deer are their money, and when they part with them it is only for something they personally or their families need or take a fancy to. On that account, too, it becomes a factor of primary importance that the utmost discrimination be employed in the selection and buying of the trade goods to be used up here to procure deer, and that in the city people who are experienced in buying goods for similar markets are intrusted with such buying.

All the foregoing will serve to make it plain that the buying of reindeer here is not an undertaking which will be immediately crowned with big results. It is a business which will have to be built up with very careful management. That it can be built up I do not doubt in the least, if the necessary time is given. The vast importance of the introduction of domesticated reindeer for the future development of Alaska must be, and is generally, admitted, and is by no people more

TCHUTCHEE GIRL.
By J. W. Kelly.

appreciated than by persons like myself, who have spent numbers of years in this great Territory.

Of local consideration for success is the buying up and handling of all such coast-native produce as big seal hides and walrus hides, lines and thongs, blubber, etc., which are always in demand by the deermen. These things they must have, and will always come for, and by our acquiring them in abundance and sufficient amounts our trade relations with them will be put on more advantageous footing. Anybody who has been in the storekeeping business will admit that it is hard to sell to one customer and refuse another, when the latter knows that his money or equivalent is as current as the former one's. It will give rise to ill feeling, and at least will call the liberality of the storekeeper into question. And these natives are less able to make the discrimination and quicker to resent a slight. They would quickly call you "notch preshuckin," an expressive word which might be translated as "very mean," closefisted, etc., and which applied to you will suffice to taboo you right through the country.

Then, too, the greater part of our coast neighbors will be every winter more or less in a state of absolute want. The bulk of their produce goes annually to unscrupulous traders for rum. With intentions good enough, and having vividly as yet in mind the previous hard winter, he means with his bones and furs this year to lay in at least for once supplies for wife and family during the next winter, but it does not suit the trader to sell him higher priced goods, when for his cheap rum he can get all his victim has in his possession for little or nothing. So he is invited down into the trader's cabin and treated to a drink of rum, and is made rum mad, and all the thoughts of future and reform are quickly cast to the winds. Now, to be surrounded by a population thus demoralized, and every winter placed in a position of absolute want is, to say the least, a very unpleasant situation, if we should have no means to relieve them a little. I for one could not refuse charity to a native in a state of destitution, but I doubt if the Government could countenance it. Therefore, in that respect alone, it is politic to buy and handle such of their produce as we can sell over again to the deermen. A certain liberality in all our dealings is to be recommended, as I take it the desire of the Government is to procure the greatest number of deer in the shortest time rather than to buy what we can at a low rate. Nothing will make a trader more successful in these regions than to have the name of being liberal.

How large a number of deer we will be able to buy up the first year we can hardly as yet guess, but I am sure that we shall be able from next year on to approximate the number yearly in advance so that full and necessary arrangements can always be made for their annual shipment across. The date of shipping should not be set earlier than July 15, as up to that time the yearly increase will not be able to travel to any extent, and the spring freshets in the numerous creeks and rivers are too strong to be safely forded by the growing deer. The deer

already bought should form the nucleus of two different herds, one to be kept to the south and west of us, near Mechigme, and the other to the north and west toward Cape Serdze Kamen, far enough away from the coast to prevent such disastrous casualties as happened at Indian Point last winter. Trustworthy and good herders such as Peter should be put in charge of them. These at the same time could be kept supplied with trade goods to buy up at every opportunity deer from the surrounding herdsmen, and also to collect and gather in the deer bought from the deermen, who will no doubt visit us in great numbers at this post.

With but few exceptions the people here can be trusted, and I think that already we have gained the good will of a great number of them, who will be always ready to warn us against a dishonest customer. Though as yet rather limited in my conversational power with these people, I have been able to sufficiently follow them in their conversations between themselves to recognize many expressions of approval for ourselves.

I should advise that yearly a sufficient number of deer be held back here to form again the nucleus of new herds, including therein those animals which might not at the time be considered strong enough to stand the passage across.

In conclusion, I ask to be permitted to make the following suggestion: I think it would be a good idea to procure numbers of unencumbered Eskimo boys, say on and about the age of 20, especially from the northern section of Alaska, where no doubt, through your and my personal influence and knowledge, we could gather capable and industrious young men and attach them to the purchasing station, and from here send them out during the winter, either with the Government herds or with Siberian deermen, with whom arrangements could easily be made, as apprentices to learn to handle and to take care of deer. One year of experience gained here, where they would have to learn, would be of more benefit to them than several years spent at the American station, and in this way we could have in the course of a few years numbers of drilled men to handle with proper care all the deer we can procure. The Eskimo boy is easily controlled and his remuneration would have to be only nominal while learning. The saving thus effected in the course of time in the pursuance of this undertaking would justify the carrying out of my idea, if it is not, as it seems to me, a simple question of justice and expediency to make the Alaska Eskimo himself as much as possible the builder and beneficiary of this farsighted, benevolent policy of our great Government.

Very respectfully submitted.

CONRAD SIEM,
First Assistant Agent of the Purchasing of Domestic Reindeer in Siberia.

PORT LÜTKE, ST. LAWRENCE BAY, SIBERIA,
August 16, 1897.

ESKIMO, ST. LAWRENCE ISLAND.
By V. C. Gambell.

TELLER REINDEER STATION LOG BOOK, 1896–97.

By T. L. Brevig.

July 1, 1896.—Calm, with thick fog and mist all forenoon. In the afternoon a brisk north wind cleared the horizon and shifted the ice toward the south side of the bay, leaving a wide open lead on this side. Fredrik and Ahlook came in from the herd for their rations, and with word from Per that he would not come in on Thursday for his provision, as ordered, because the herd would be left without protection.

July 2, 1896.—Overcast, with strong north-northwest wind, rain and sleet, blustering in the afternoon. Per and Mathis came in from the herd, Mikkel being left in charge until Per returned. Mrs. Kemi is a little better. Th. Kjellmann issued the provisions to-day.

July 3, 1896.—Clear, with light northeast wind. Mathis and Per went up to the herd in the little dingey this morning; otherwise very quiet.

July 4, 1896.—Clear and nice, with a medium north to north-northeast wind. A big pack of ice came in from Grantly Harbor and steered for the sandpit. The flag was raised and salutes fired at 5 a. m. by Brevig. Some work was done by superintendent and herders around the station.

July 5, 1896.—Calm and cloudy in the forenoon, clearing in the afternoon. The ice seemed to move a little around the sandpit. Sunday school in the afternoon. Mikkel and wife and the Eskimo herders came in at 11 p. m. yesterday and received their rations to night. Wocksock reports one deer dead yesterday.

July 6, 1896 —Overcast, with strong north wind all day and rain in the evening. The bay is dotted with floating ice. Elektoona and Ahlook went up to the herd in the skin dingey and Wocksock and family returned to stay at the station for a while. Eyes are strained, but always in vain, for sails on the "main."

July 7, 1896.—Cloudy and foggy in the forenoon; clear, with a light west wind, in the afternoon. A sail is repaired for the whaleboat and a corral built on the beach to receive deer landed from the vessel.

July 8, 1896.—Partly overcast, with light west to northwest wind. The ice is drifting in with the tide, causing the same dreary blockade, and "no ships." The whaleboat was fixed up. Four seals were shot

in the early morning on the ice, but they all sunk before they could be landed.

July 9, 1896.—Overcast, with strong southeast to southwest wind all day. The ice is all gathered on this side and remained stationary.

July 10, 1896.—Overcast, with occasional showers; calm. The ice is drifting with the tide around the bay. Fredrik and Tautook came in from the herd early in the morning to get mail, as they were confident that they had seen ships inside the bay. One seal was shot last night.

July 11, 1896.—Cloudy, with strong northwest to west wind and rain all day. Early in the morning a steamer was seen at the anchorage, and later on stood in toward the station. It was the *Narwhal*. Captain Smith, Brevig, and Widstead boarded her and took dinner on board. Lumber and coal from the *Meyers* were taken on board. In the evening Widstead and Brevig went over the anchorage on the *Narwhal* as the *Jeanie* and three other ships came in and anchored.

July 12, 1896.—Clear, with strong north wind. The *Narwhal* returned to the station in the evening. Many native canoes arrived in the afternoon.

July 13, 1896.—Clear, with strong north to northeast wind. Mr. D. Johnson and Rock had arrived during the night in a whaleboat from Siberia. Several Siberian and Diomede canoes are encamped on the beach. The coal and lumber were all put on board the *Narwhal*. Captain Smith visited on shore. Captain Townsend came in a whaleboat and went over to the anchorage in the *Narwhal*. Several canoes also left. Went over to the *Jeanie* to see Dr. Driggs. One letter was received from the States, brought by natives here.

July 14, 1896.—Clear and nice. Several canoes left for the anchorage. Two whaleboats came in to fish.

July 15, 1896.—Clear and warm, strong north to northeast wind. Widstead and Johnson went over to the ships in the small boat. Fredrik and Elektoona went up to the herd.

July 16, 1896.—Clear, with strong northeast to south wind. Four whaleboats went into Grantly Harbor to fish; the *Thrasher* to get a few things from the wreck of the *Meyers*. Nah Yook's body was brought in from the sandpit and buried here. Kummuk and sons have returned to the station.

July 17, 1896.—Clear, nice weather. Widstead and Johnson returned early in the morning. Several whaleboats returned from their fishing trips into Grantly Harbor. A schooner had anchored some distance south from the other vessels. The nets were set for the first time to-night.

July 18, 1896.—Clear, with light northwest to west wind. A boat was sent out to the *Jeanie* to ask Dr. Driggs to come over and see Mrs. Kemi. A schooner is sighted outside the spit. Eighteen salmon were caught last night. The herders are in from the herd and went over to the ships about noon.

July 19, 1896.—Clear and calm. Clouding over toward evening. Dr. Driggs arrived about 3 a. m. and interviewed our sick people, and Mr. Widstead took him back again in the afternoon. Service in the afternoon.

July 20, 1896.—Strong south wind all night and day. Cloudy, with a little rain. A three-masted sailing schooner anchored at the spit at 11 a. m.

July 21, 1896.—Strong south wind all day and night. Cloudy and misty at times. At 11.30 p. m. a shock of earthquake was felt for a few seconds, from east to west.

July 22, 1896.—Cloudy, with mist and very strong south-southwest wind and high surf. A schooner was seen going back to the anchorage from Cape Riley.

July 23, 1896.—Cloudy, windy, stormy, rainy, foggy, gloomy; chilly wind from the south.

July 24, 1896.—Clear and nice, with shifting winds. A native canoe came in from the sandpit and reported the *Ida Schnauer* and passengers at the pit. At 10.30 p. m. Brevig and Johnson, with a crew from the Diomedes and East Cape Siberia, left for the anchorage in a whaleboat to see the new arrivals for the station and Mr. W. T. Lopp.

July 25, 1896.—Clear, with rising south wind. At 10 a. m. the party with Mr. W. A. Kjellmann and Dr. Kittilsen left for the station and arrived at noon. High wind and clouding over toward evening.

July 26, 1896.—Clear. The *Bear* was sighted and anchored at the spit in the evening. Per arrived from the herd late in the night.

July 27, 1896.—Clear, with light west wind. The *Ida Schnauer* and the *Bear* anchored at the station at noon. Mail was received, making it thirteen months since the first mail was received last year. Dr. Jackson and Dr. Lyle came on shore. Some provisions were landed. The *Bear* went over to Cape Riley to water and did not return. The three doctors stopped with Brevig.

July 28, 1896.—Cloudy, with rain and strong south-southwest wind. The *Bear* did not show up, and the *Ida Schnauer* pulled up anchor and left for the anchorage in the morning. The doctors remained on shore. Accounts were settled in part.

July 29, 1896.—Cloudy and rainy. Light west wind. A small vessel arrived at the anchorage and the *Ida Schnauer* came beating in the afternoon and landed some goods. The *Bear* came in at 5.30 and took the doctors on board. Dr. Jackson came on shore again to attend to business, as the *Bear* would leave at 4 a. m. Mr. D. Johnson is packing goods preparatory to leaving for Kotzebue Sound to start a mission station. Mr. W. A. Kjellmann has been appointed superintendent and Dr. Kittilsen assistant. Brevig will keep his old position. Mr. Widstead will go down. Mr. Lopp was on shore for a short time in the evening.

July 30, 1896.—Clear, with a light west to southwest wind. The

supplies were all landed and carried up to the station. The *Bear* left at 6 a. m. The *Bonanza* came in and took the Lapps on board and left again. Captains Nelson and Tilden made a short visit at the station. Th. Kjellmann is sick.

July 31, 1896.—Medium strong south-southwest wind, with rain nearly all day; calm in the evening, and foggy. Preparations were made for a fishing expedition and stores were put in shape for trading. Fredrik and Sekeoglook came in from the herd and reported one deer dead. The *Ida Schnauer* went over to Cape Riley to get water.

August 1, 1896.—Partly overcast, with strong northwest to west wind. The *Bonanza* left for the North in the morning. The *Ida Schnauer* came over about noon and landed three casks of navy bread and took on some water. Mr. Widstead boarded her in the evening to go to Port Townsend. Considerable trading was done in the forenoon. A light covering of new snow was visible on the hilltops in the morning. Letters were sent with Captain Nelson.

August 2, 1896.—Partly overcast, with a medium strong northwest wind. Sunday service in the forenoon. The *Ida Schnauer* took in water during the forenoon, and sailed at 4 p. m. A schooner left the anchorage. Several canoes left for Grantly Harbor to fish.

August 3, 1896.—Partly clear, light variable winds. Considerable trading was done and many canoes left in different directions. All the Laplanders and herders were sent out to the herd or to fish in Grantly Harbor. Two deer were reported sick. One Kings Island canoe arrived in the evening. W. A. Kjellmann started to fix up a bedroom for himself and Dr. Kittilsen. Samuel got permission to kill a deer for his family.

August 4, 1896.—Cloudy, with rain and strong east to south wind, growing stronger. Kjellmann and Kittilsen worked at their bedroom all day. Some trading done.

August 5, 1896.—Cloudy, with some rain. A gale from south-southwest all day and night. House fixing and letter-writing. Very high surf.

August 6, 1896.—Partly overcast, with light southwest wind. During the night a furious gale blew. The new bedroom is being painted.

August 7, 1896.—Raining during the night. Clearing in the evening. In the evening a native, in looking over Brevig's net, tipped his kyak. Some time passed before Brevig, with the assistance of a boy in a kyak, could get him ashore. Dr. Kittilsen came but was hindered some in his work by the natives persisting in handling him their own way. Finally the Shamans took the case out of his hands entirely. He was on the way to recovery at 9.30 p. m.

August 8, 1896.—Rain all day and night, with strong south-southwest wind. The sick man is improving. A trade room is being fixed up in the addition. Tautook was in from the herd, reporting two deer sick.

August 9, 1896.—Rainy, with strong south wind and high surf. Th. Kjellmann is a little better.

August 10, 1896.—Rain all day, with very strong southwest wind. Fixing up in the store, and putting the medicines in order.

August 11, 1896.—Light southeast wind. Raining all day. Continued fixing up in the store.

August 12, 1896.—Clear, with a light breeze veering from northeast to east, southeast, southwest, west-northwest. Several canoes arrived. Wocksock and Kummuk arrived and reported but little fish caught in Grantly Harbor. The store is ready for business.

August 13, 1896.—Fair, with medium strong north-northeast wind. W. A. Kjellmann and Dr. Kittilsen walked out to the herd in the morning, and returned at 8 p. m. The doctor was somewhat tired. They reported one deer dead from the prevailing sickness, and several deer sick. Per and Mikkel came in during the night. Fredrik came in with Kjellmann. The herd was in a fine condition.

August 14, 1896.—Overcast, with a very light northeast to east wind, with some rain. Per, Mikkel's wife, Johan, Fredrik, Wocksock, and Kummuk went out to the herd in a whaleboat, to fish and put up a hut. Late last night Wocksock tipped over in a kyak. He was helped out by a native before he had taken in any water.

August 15, 1896.—Overcast, with a medium strong south wind. Heavy rain during the night. The herders received their provisions in the afternoon. Donack, Tautook, and Sekeoglook came in from the herd. Many natives are yet encamped on the beach.

August 16, 1896.—Mr. Brevig celebrated his thirty-ninth birthday. Mrs. Kemi walked about a little. Calm, with a bright sun at whiles.

August 17, 1896.—Fair and calm. The herders left for the camp. Preparing for the last visit of the *Bear*.

August 18, 1896.—Partly overcast. A calm and warm day. Fixing up around the station.

August 19, 1896.—Cloudy, with light east to southwest wind. W. A. Kjellmann and servant went out to the herd to stay a few days.

August 20, 1896.—Rain in the morning. Medium strong south wind. Wocksock came in from the herd, reporting 15 deer sick and 1 dead. A corral has been built to receive the sick deer as soon as they become afflicted. Wocksock came in after medicine and left soon after dinner.

August 21, 1896.—Overcast, with rain all day. Strong northeast wind all day, changing to the south in the evening. A footbridge was built across the creek in the afternoon.

August 22, 1896.—Overcast, with rain. A very strong south gale all night, continuing in a minor key all day. Some canoes arrived from the cape.

August 23, 1896.—Partly overcast, with medium strong west wind.

August 24, 1896.—Partly overcast, with light west wind. Mr. Bruce came in about 10 a. m. and visited the station. Dr. Kittilsen and Brevig were on board nearly all afternoon.

August 25, 1896.—Partly overcast, calm, nice day. Bruce left about 10 a. m., but was in sight at dark. Kjellmann, Mikkel, Johan, Mathis,

Fredrik, Kummuk, and Wocksock came in from the herd, reporting many deer sick and some dead. Five died Monday and one this morning. There seems to be no help for the deer that catch the disease. A cast with the draw net was made, but with poor luck.

August 26, 1896.—Overcast, with occasional showers; calm. Rations were issued to the Lapps. Petty thieving is indulged in, especially by strangers. A cast with the net was unsuccessful.

August 27, 1896.—Calm and overcast. The *Bear* was sighted early in the morning heading for Cape Riley. In the evening she came close to the station and landed Dr. Jackson, steering for the anchorage to have her propeller, which was damaged in the ice, fixed. Dr. Jackson stayed on shore over night. Ojells and family, from Point Barrow, were landed.

August 28, 1896.—Overcast and rainy, with strong south wind in the afternoon. The steam launch came in in the morning, with Lieutenant Hall in charge, and Dr. Lyle, Mr. Wells, and Mr. Kelly on board. Dr. Jackson, Kittilsen, and Mr. Kjellman joined the party here, all to go to the herd to investigate the disease and get specimens for Dr. Jackson. The launch returned in the evening and landed the party from the station at 7.30 p. m., and after taking water proceeded to the anchorage. The deer were getting better. One more deer dead.

August 29, 1896.—Strong southwest wind, with rain. Dr. Jackson remained on shore transacting business all day.

August 30, 1896.—Calm and rainy all day and night. Service by Dr. Jackson, Brevig interpreting. The *Bear* came in toward evening, and the steam launch with Kjellmann on board went up to the herd to have papers signed, and returned at 7.30 p. m. Dr. Lyle took supper with Brevig. The *Bear* left for St. Michael at 9 p. m. One deer reported dead. The herders and natives encamped on the beach near the camp were all scared by a ghost last night. A Siberian shot his dog thinking it was the spook. The herders came into the station.

August 31, 1896.—Cloudy and raining, with light east to southeast wind. The herders left for the camp with their rations.

September 1, 1896.—Partly overcast, clearing in the afternoon. School began with 13 pupils. Kjellmann and Kittilsen went up the lagoon with 6 Eskimos and 2 Lapps to stack up wood.

September 2, 1896.—Fair and calm. Very quiet. A picket was made around Carl Brevig's grave and a cross put up. Kjellmann and Kittilsen went out hunting in the evening.

September 3, 1896.—Clear and nice; calm until in the evening, when a light south to southwest wind sprang up. The wood gang returned in the night with a raft of logs. Two Diomede canoes arrived from Golovin with letters from Mr. Dexter.

September 4, 1896.—Clear and nice. A fresh northeast breeze in the night. W. A. Kjellmann and two boat crews, with tools and provisions, started out in the afternoon to go up the Ahgeeopuk River to build

winter quarters for the herders. Joe arrived in the evening with letters from Lopp. The Diomedes left in the morning.

September 5, 1896.—Clear and nice, clouding over in the evening; strong northeast wind. Fredrik and Mathis came in late in the evening, their tent having burned, catching fire from cinders. The deer are better.

September 6, 1896.—Light northeast wind; partly overcast. Sunday school and short service. Fredrik, Mathis, and Samuel went out to the herd in the afternoon.

September 7, 1896.—Cloudy, with rain in the afternoon, variable winds. Some dried tomcod was bought.

September 8, 1896.—Light east wind, with rain all day. Samuel returned in the evening, reporting a female deer dead Monday.

September 9, 1896.—Clear, with a medium strong west wind. Supplies taken from the workshop and put into the store. Two Kings Island canoes arrived in the evening.

September 10, 1896.—Partly overcast; medium strong southwest wind; high surf. The doctor increased his dependents by buying eight Eskimo dog pups. Seven salmon were caught.

September 11, 1896.—Strong south wind, with rain all day.

September 12, 1896.—Clear and nice, calm in the afternoon. Sekeoglook and Tautook, with their wives, came in from the herd, reporting one more deer dead. The Kings Island canoes left for the fishing ground in the morning.

September 13, 1896.—Cloudy, with rain all night; northeast to southeast wind. Sunday school.

September 14, 1896.—Cloudy, with rain and strong southerly winds.

September 15, 1896.—Calm, cloudy, foggy, and rainy. Tautook, Sekeoglook, and Samuel went up to the herd. A good supply of dried tomcod was bought.

September 16, 1896.—Cloudy, calm, foggy, rainy, gloomy. An abundance of small fish is caught every night.

September 17, 1896.—Strong northeast wind, partly overcast. At 5 p. m. Kjellmann and party returned, having built three huts. They also reported that a cape native had shot two deer Sunday, but reported it at the herd Monday. He also reported himself to Kjellmann as soon as he came down the river. He claims that he killed the deer to save them for the station, as three other natives were going to steal them. The names of the others were given.

September 18, 1896.—Rainy all day, with strong north-northeast wind.

September 19, 1896.—The same weather, with snow on the hills. Very strong north-northeast wind.

September 20, 1896.—Strong north-northeast wind; calm in the afternoon. Sunday school and service in the forenoon. Letters were sent to the cape.

September 21, 1896.—Strong northwest wind all day. A crew of Lapps

and herders went in toward Nook to stack up grass. Some trading in fish.

September 22, 1896.—Medium strong west wind. Three canoes from the cape arrived with letters from Mr. Lopp; also a herder to help Kummuk take his deer up. Per and Mathis report one deer dead and several sick. Clearing in the evening.

September 23, 1896.—Fair, with a light northeast wind. Whisky was sold and drank on the beach. It was said that a Cape native had traded it from a ship and was selling it here. The Lapps received their rations.

September 24, 1896.—Partly overcast, medium strong northwest wind. Samuel, Johan, Mikkel, and Ojello brought wood in the whaleboat. Mathis, Per, Ahlook, Elektoona, and Wocksock went to the herd to bring in Kummuk's deer.

September 25, 1896.—Clear, with a gale from the north. The Kings Island canoes left, but one had to seek the beach again. Wood was brought in the whaleboat.

September 26, 1896.—Strong northwest wind, with snow flurries. The herders received their rations. Kummuk came in in the afternoon to prepare to go to the cape. Wood was brought in the whaleboat. Ice had formed on the creek during the night and did not thaw during the day.

September 27, 1896.—Strong northwest wind all day and night, with snow flurries. Sunday school and service. The herd that is going up toward the mountains with Kummuk's deer arrived. It will be kept under the hills to-night and start to-morrow. Ice half an inch thick has formed on ponds and pools.

September 28, 1896.—Medium strong north wind, with snow flurries. Solid ice has formed on the lakes and the ground is frozen. The weather prevented the start for the cape.

September 29, 1896.—Cloudy, with light northeast wind. Dr. Kittilsen and Brevig, with Mikkel, Elektoona, and Ojello, left for the cape in the whaleboat in the morning. Johan, Mathis, Ahlook, and two cape herders left with the herd. Mrs. Brevig entertained the Lapp ladies. Many canoes came in from the fishing ground.

September 30, 1896.—Northwest wind in the morning, changing to northeast in the afternoon. Samuel and Wocksock brought wood. Mrs. Brevig is teaching school.

October 1, 1896.—Northeast wind. The cape canoes left this morning. Several came in from the lakes. Samuel and Wocksock brought two canoe loads of wood.

October 2, 1896.—Northeast wind in the morning, north in the afternoon. Samuel and Wocksock brought wood.

October 3, 1896.—Northwest wind. Wood brought.

October 4, 1896.—East wind. Early in the morning the herd arrived from the Cape. One deer had died on the way. Samuel was sent to the camp with the herd.

October 5, 1896.—Strong northeast wind.

October 6, 1896.—Strong southeast wind. Charley and wife came in about noon with letters from Golovin Bay. Wocksock and Samuel brought wood.

October 7, 1896.—Clear and cold, with northeast to east wind, at times strong. At 2 p. m. Dr. Kittilsen and Brevig, with party, arrived from the cape, having camped on this side of the mountains during the night. Wood was brought in canoes.

October 8, 1896.—Partly overcast, with snow flurries. Fish were traded and wood brought.

October 9, 1896.—Overcast, with medium strong north wind. Johan and Mikkel went to the moss hut to fix it for the winter. The rest of the crew at the station brought wood. Fredrik came in from the herd, reporting all well.

October 10, 1896.—Cloudy, with light north wind. Several canoe loads of wood were brought. Charley and family left in the morning. Toward night the herders came in for their provisions.

October 11, 1896.—Cloudy, with light north to northwest wind. Service and Sunday school in the morning. Toward night the herders came in for their provisions.

October 12, 1896.—Cloudy, with light northwest wind. Wood was brought. Johan, Mikkel, and Kjellmann went out to look for material.

October 13, 1896.—Cloudy, with east wind. Johan, Mikkel, and Kjellmann have not returned yet. Twenty-four pupils at school. Cold and cough the prevailing fashion.

October 14, 1896.—Overcast, with light east wind. The whaleboat returned last night with sled material. The stovepipe on Brevig's kitchen was fixed. Wood was brought.

October 15, 1896.—Overcast, with light east wind. The two boat crews were sent out to lay up moss. Ojello is sick of the prevailing ailment.

October 16, 1896.—Cloudy, with very strong north wind during the night and day. Some house fixing done.

October 17, 1896.—Cloudy, with a light southwest to east wind. Foggy, clearing in the afternoon. The whaleboat and moss gang returned, reporting no moss gathered because of too much snow.

October 18, 1896.—Cloudy, with snow flurries and strong northeast wind blowing a gale during the night.

October 19, 1896.—Cloudy in the forenoon, clearing toward evening. The herders went out hunting; went out also to put up moss on this side of the mountains.

October 20, 1896.—Cloudy, with light southeast wind. A light wind in the afternoon. Dora Adams, Brevig's native servant, is very sick. Per and Mathis arrived from the herd, reporting all the herders sick from cold. Mathis is also sick.

October 21, 1896.—Cloudy, with strong southwest wind. The attendance at school is decreasing on account of the sickness.

October 22, 1896.—Clear, with light northeast wind. In the afternoon the Lapps received their provisions.

October 23, 1896.—Clear; strong northeast wind. Samuel, Ahlook, and Elektoona went after wood in the whaleboat.

October 24, 1896.—Clear, with a medium strong north to southeast wind. The whaleboat came in late last night. Two natives came in from the Ahgeeopak and reported that they had found 23 deer away from the flock, which they had brought back to the herd. They received pay to-night. Donack and Sekeoglook received their rations to-night. Last night an old man in the village died.

October 25, 1896.—Sunday service and Sunday school. An old woman died during the night.

October 26, 1896.—Overcast. The *Thrasher* (native whaler) arrived last night with letters from Mr. Lopp.

October 27, 1896.—Fair, nice day. The Doctor extended his explorations to the top of the hill. Sled making is indulged in in every corner.

October 28, 1896.—Clear and calm. Kokituk came in early in the morning in a whaleboat with letters. Kummuk's father-in-law, the oldest man among the natives, died last night; also an old woman in the village.

October 29, 1896.—Strong northeast wind. Cold and clear.

October 30, 1896.—Clear, with medium strong north wind. Kokituk left to-day with letters from the cape.

October 31, 1896.—Cloudy, with a medium strong north wind. Snow flurries. Some fish traded.

November 1, 1896. Clear, strong north wind. Service and Sunday school.

November 2, 1896.—Clear, cold, calm. Johan, Samuel, Ahlook, Elektoona, and Wacksock were out piling up the little wood gathered.

November 3, 1896.—Cloudy and overcast. In the evening several fusilades were fired and torches carried around in honor of the election we know nothing about. The name of the Democratic candidate was not known even. Strong southeast wind.

November 4, 1896.—Cloudy, with strong southeast wind, some ice packed up on the beach, and a small part of the bog covered with solid ice.

November 5, 1896.—Calm, snowing all day and night.

November 6, 1896.—Clear, calm with fine sleighing. Fredrik and Donack came in from the herd reporting three deer dead. Two had died from disease, and one had to be killed because of broken leg.

November 7, 1896.—Clear and calm. In the evening an entertainment was given in the schoolhouse for the natives.

November 8, 1896.—Cloudy, calm, a light drizzling rain. Sunday school in the afternoon. Brevig has a felon on his right hand.

November 9, 1896.—A mild, gloomy day, snowing. Fredrik, Tautook and wife, Sekeoglook and wife, Elektoon and Ahlook went up to the herd.

November 10, 1896.—A bright, nice day.

November 11, 1896.—A nice day. Brevig is still laid up by his hand. Dr. Kettilsen lanced it to-day.

November 12, 1896.—Mild and bright. Sekeoglook and wife came in from the herd to see the Doctor, the wife being sick.

November 13, 1896.—Another fine day.

November 14, 1896.—Sekeoglock went out to the herd to-day. A light fog all day.

November 15, 1896.—Cloudy, calm. Ration day for the herders.

November 16, 1896.—Cloudy, calm. Sunday school.

November 17, 1896.—Calm; several seals were shot on the ice in the bay to-day. The bay is covered with ice, only small openings being visible.

November 18, 1896.—Strong east to southwest wind, with some snow. Per, Mathis, and family came in from the herd.

November 19, 1896.—Clear, with light northwest to north wind, growing colder. Rations issued to the Lapps.

November 20, 1896.—Clear, cold. At 1.30 p. m. Kjellmann, Per, Johan, and Mikkel went up to the herd to pick out the deer to be butchered. Mathis went up to stay with the herd. Mrs. Eira will stay here to prepare to go to Charley.

November 21, 1896.—Clear, cold, calm. Frozen tomcod is brought in by loads. Kjellmann, Johan, Fredrik, and Mikkel returned during the night. The Lapps brought their venison; Kjellmann also brought in one to be divided between him and Brevig. The herders came in for their rations.

November 22, 1896.—Calm and clear. Sunday school and service.

November 23, 1896.—Calm and clear. Donack and family, Ahlook, Sekeoglook, and wife went out to the herd.

November 24, 1896.—Clear and bright. Fredrik, Tautook and wife, and Elektoona left for the herd at noon; toward dark Tautook returned with a deer strapped on the sled, which had broken its leg by running against the line. In the evening Ahreetahrlook returned from Siberia, having been four days between here and the Cape. Kummuk also came with them, saying that he had been discharged by Mr. Lopp for being drunk. Kummuk is stopping at the station. No letters from the Cape.

November 25, 1896.—Cloudy, with a light northeast wind. Tautook went out to the herd in the morning. Ahlook came in to find his biscuits that he had lost on his way out Monday. Mathis came in from the herd.

November 26, 1896.—Clear, with medium strong wind. Samuel and Ahlook went out to the herd. The flag was hoisted.

November 27, 1896.—Clear, with medium strong east wind. Kummuk brought his property to the station this morning.

November 28, 1896.—Clear, with medium strong east wind. Some fish were brought in from the lakes.

November 29, 1896.—Clear, with strong east wind; at times a gale. Service and Sunday school.

November 30, 1896 —A gale during the night. Ahhawlook, a native living 85 miles down the coast, came in toward night. The natives are having a festival to-night.

December 1, 1896.—Clear and calm. Kjellmann is preparing for the trip down the Kuskoquim.

December 2, 1896.—Clear, with a gale from the northeast all day and night. In the evening a sled arrived from Golovin Bay with a few letters from the States for Mr. Lopp and Alaska letters for the station.

December 3, 1896.—Clear, with a very strong northeast gale all night and day. Samuel, Fredrik, and Tautook came in from the herd with 23 sled deer. The herders are now in their winter camp.

December 4, 1896.—Overcast, with snow flurries and light northeast wind. Wood was hauled with deer to-day. Several dog sleds left for the lakes and down the coast.

December 5, 1896.—Clear, with a light north wind. Wood was hauled. The Doctor took his first drive with deer to-day and seemed to enjoy it. Mrs. Brevig also had a drive.

December 6, 1896.—Clear, with a strong wind from the north all day. Sunday school and service.

December 7, 1896.—Snow flurries, with medium strong north-northwest wind. In the morning Fredrik and Tautook went out to the herd. Wood was hauled.

December 8, 1896.—A clear, calm cold. The Lapps brought wood and Dr. Kittilsen drove along, practicing driving.

December 9, 1896.—Cloudy, with a blizzardy gale from the northwest, 23°. Mrs. Brevig is entertaining a toothache. Th. Kjellmann moved into Kjellmann's kitchen.

December 10, 1896.—Blizzard all night. Wood hauled. A sled returned from the mountains, having failed to reach the cape.

December 11, 1896.—Overcast, with a light northwest wind. Per came home after dinner. Moss was brought.

December 12, 1896.—Clear, with medium strong northwest wind and frozen mist. The trading sled left for Golovin Bay this morning.

December 13, 1896.—Clear and calm. Sunday school and service with communion. Kjellmann visited Brevig in the morning.

December 14, 1896.—Snowing, with light east wind. The wood was piled to keep out of the snow. Natural ice cream was served.

December 15, 1896.—Clear and calm. At noon Kjellmann, Mikkel, and Per left on their extended trip. Dora went with them to go to Golovin Bay. Johann went along to the herd, and Dr. Kittilsen was to go as far as he desired. The expected sled with outgoing mail from the cape did not arrive.

December 16, 1896.—Clear and calm. The Doctor came in at 10 a. m., having turned at the halfway house.

December 17, 1896.—Clear, cold, calm. Early in the morning two sleds arrived from the cape with the expected mail. Mathis was dispatched to the camp to see if he could catch Kjellmann before he left.

December 18, 1896.—Clear and calm. Fredrik came in from the herd; also Donack and Tautook. All well at the herd Tuesday. A carcass that Brevig bought was brought in.

December 19, 1896.—Clear and calm. Mathis came in in the evening, having caught Kjellmann in time for the letters to go. Provisions were issued to all for a month.

December 20, 1896.—Clear and calm. No Sunday school nor service, as Brevig had no interpreter or congregation. Fredrik, Sekeoglook, and Donack left for the camp about noon with provisions.

December 21, 1896.—Clear, with north wind in gusts. Samuel and family, Wocksock and family left for the winter camp about 5 p. m. Kummuk is fixing up the blacksmith shop as a residence.

December 22, 1896.—Clear, with high east wind. At 2 a. m. Mr. David Johnson arrived from Golovin Bay to bring the doctor for Hultberg's child, who is very sick.

December 23, 1896.—Clear, with a gale from the east. Dr. Kittilsen, Mr. Johnson, and Aslak Somby left at 9.30 a. m. Ahlook arrived on foot from the camp at 4 p. m.; the rest of the herders will follow to-morrow. Ojello fell down upstairs and hurt himself across the chest at 7.30 p. m. Strong wind.

December 24, 1896.—Overcast, with very strong east to southeast wind all day and night. After dark all the school children and many of the older people assembled in the schoolhouse. The children were treated to biscuits, raisins, and figs by Brevig and the Doctor. Some songs were rendered and a short talk on Christmas given.

December 25, 1896.—Mild and cloudy, with strong northeast wind. Service in the forenoon and an entertainment for the Lapps and herders at the station in the evening.

December 26, 1896.—Partly overcast; calm. Charley left for the cape. Very quiet.

December 27, 1896.—Very strong east wind. At 3.30 p. m. Mrs. Nakkila, Fredrik, and a native boy arrived from camp. Johan went with the Doctor.

December 28, 1896.—Clear and calm. Ojello, Sekeoglook, and Tautook, with their families, left for the camp; also Fredrik, Ahlook, and Elektoona.

December 29, 1896.—Clear, cold, calm, quiet.

December 30, 1896.—Calm, cloudy, cold. Mathis made a few preparations for his trip to Charley's herd.

December 31, 1896.—Clear and calm, with rising wind after dark. Frequent rumors are heard about stills being in operation in the village. Donack came in with three sleds and two deer last night. He also brought in a carcass that Th. Kjellmann has bought.

January 1, 1897.—Mild and overcast, snowing in the morning. A very strong wind during the night. Service in the afternoon. Fredrik came in from the camp after dark and reports all well. The village was on a rampage last night, many being drunk.

January 2, 1897.—Cloudy, calm, and mild. Rations were issued to the natives at the station. A little snow fell during the night.

January 3, 1897.—Overcast, mild, clearing, colder.

January 4, 1897.—Clear, with strong northwest wind, becoming a gale in the evening. Early in the morning Charley arrived from the cape on foot, having left there the night before, a woman warning him to run or he would be killed. He had not rested nor tasted food on the way. His feet were a little frostbitten. He left his sled and companions there. He thinks Kokituk is shot, from remarks he heard when he was warned.

January 5, 1897.—A furious blizzard all day and night—25°. Stovepipes have been tumbling down during the night. Charley is a little livelier to-day. Only the big toe on the right foot is badly blistered.

January 6, 1897.—The storm continues in full force all day and night. Charley is getting better, but is somewhat low-spirited.

January 7, 1897.—Storm continued, but not so strong as yesterday.

January 8, 1897.—Clear, with a medium strong north wind. Several sleds arrived and some left. Charley is walking about, but has received no tidings from his sled yet.

January 9, 1897.—Clear and calm. Several traders from the lakes, that had fled from the cape after the fracas, passed on their way home and reported Kokituk killed and his opponent dangerously wounded. Later: Charley's men arrived without sled or dogs, but with letters from Mr. Lopp.

January 10, 1897.—The Doctor and Johan arrived from Golovin Bay about 9 p. m., having made the trip in four days, and all well. The baby is a little better. Clear, with a strong north-northeast wind. Johan froze his nose while tethering the deer. No Sunday school, because of no scholars.

January 11, 1897.—Strong north wind, drifting and snowing. Donack reported that when he got out to the deer he found one deer killed and partly eaten by one or two dogs; three had been chased away. Johan, Mathis, and Donack were sent out after the remaining deer and came in after dark. More strict measures will be taken with the deer hereafter.

January 12, 1897.—Overcast, calm, mild. Parties were sent out to search for the strayed deer. Ten dogs belonging to the station and Kjellmann were shot. A Polaznook sled took letters to Mr. Lopp.

January 13, 1897.—Strong northeast wind, with snow, and drifting all day.

January 14, 1897.—Clear, with variable winds and puffy. The deer searchers had returned during the night without having found any

trace of the deer. Donack went out to the herd and Mathis went out on ski to hunt for the deer. A town dog was killed to-day.

January 15, 1897.—Clear, with a zephyr all night and day. Fredrik and Elektoona arrived late last night. Johan and Mathis went out to look for the stray deer this morning. Wocksock, Sekeoglook, and Tautook came in at noon. Charley left for home to-day. Provisions were issued to the Lapps yesterday and to the herders to-day.

January 16, 1897.—Clear, with very strong northeast wind, and drifting. Fredrik and the herders left for the herd with their provisions.

January 17, 1897.—Clear and calm. Sunday school and service. No tidings from the stray deer.

January 18, 1897.—Clear, with strong northeast wind. A native brought in tidings of tracks of a few deer.

January 19, 1897.—Clear and calm; a very nice day. Johan and Mathis returned with the lost deer at 4 p. m.

January 20, 1897.—Clear, calm.

January 21, 1897.—Cloudy, with a strong northeast wind and snowing.

January 22, 1897.—Clear and calm. Mathis left at 11 a. m. to-day.

January 23, 1897.—Clear and calm. People from the lakes report scarcity of food. Some fish traded.

January 24, 1897.—A very strong gale from the east during the night. Cloudy and mild. Dr. Kittilsen and Johan left for the camp at 11 a. m. Sunday school, but no service, as all the white people were scattered about.

January 25, 1897.—Cloudy and calm. East wind during the night.

January 26, 1897.—Clear and calm; very mild. At noon Mr. Lopp and one of his herders arrived with 3 deer, having slept one night on the way.

January 27, 1897.—Clear and calm in the forenoon; strong east wind in the afternoon and night. At 1 p. m. the doctor, Johan, and Fredrik, with 6 deer, arrived from the camp.

January 28, 1897.—Clear, with a very strong east wind all night and day. At 9 a. m. Mr. Lopp, Dr. Kittilsen, Fredrik, and Mr. Lopp's herder went out to the camp.

January 29, 1897.—Partly overcast; calm in the afternoon.

January 30, 1897.—Calm, mild, cloudy. At 3.30 p. m. the party returned again from the camp, having made the trip in five and one-half hours.

January 31, 1897.—Overcast, with medium strong northeast wind. Two services in Eskimo, Mr. Lopp talking in the forenoon and interpreting for Mr. Brevig in the afternoon and night. At 1 p. m. the doctor, Johan, and Fredrik, with 6 deer, arrived from the camp.

February 1, 1897.—Clear, with medium northeast wind. The tunnel through the snow to the main entrance of the station was dug and fixed up.

February 2, 1897.—Clear, with medium northeast wind; colder.

February 3, 1897.—Clear and nearly calm. Mr. Lopp and boy left for the cape in the morning, leaving his lame deer here and getting a deer from the station instead.

February 4, 1897.—Clear, calm, cold. A good catch of seal reported.

February 5, 1897.—Clear, calm, cold; 30°. In the evening a native arrived with letters from Mathis; he had been five days on the way. The natives report some seal and tomcod caught down the coast.

February 6, 1897.—Overcast, with a medium strong north-northeast wind; 33°.

February 7, 1897.—Overcast, with northeast wind. Service and Sunday school.

February 8, 1897.—Clear, calm, quiet.

February 9, 1897.—Clear and calm. In the afternoon Rev. Aug. Anderson, from Golovin Bay, with Ivanoff and Rock as interpreters, arrived, and service was held in the afternoon.

February 10, 1897.—Cloudy, but mild. Samuel, Elektoona, Sekeoglook, and Ojello came in from the camp in the afternoon and left again in the night with their month's rations. Service in the afternoon.

February 11, 1897.—Cloudy, with a little snow.

February 12, 1897.—Overcast, with a little snow flying in the evening. Service in the afternoon. Growing colder.

February 13, 1897.—Overcast and mild east wind. Anderson and Brevig, with Rock as interpreter, went to Nook and had two services to-day. Fredrik, Tautook, Donack, and Ahlook came in from the herd with 18 deer to haul wood next week.

February 14, 1897.—Strong wind from northeast, snowing and drifting. About 9 a. m. Elektoona came in from the herd for the doctor, as Mrs. Kemi was very sick. Elektoona had driven all night with a deer that he had tamed himself. The doctor and Johan went up at once. Three services—two in English and Eskimo and one in Norwegian. Fredrik, Tautook, and Donak went out to pitch tent and stake the deer beyond the old village.

February 15, 1897.—Storming all day and night. About 5 p. m. the doctor and Johann arrived, reporting Mrs. Kemi ill, but not dangerously so.

February 16, 1897.—Overcast, with strong northeast wind and flying snow. The doctor, Mr. Anderson, and Fredrik, as guide, left for the cape at 8.30 a. m. Ivanoff and Rock also left in the forenoon. Wood hauled.

February 17, 1897.—Clearing, with colder weather. Wood hauled.

February 18, 1897.—Snowing all day. The boys brought in nine loads of wood.

February 19, 1897.—Cloudy and snowing, with a medium strong northeast wind. Several seals were bought. A cape deer arrived. Wood brought.

Matron and Pupils, Jessie Lee Home, Unalaska.

Teacher and Pupils, Presbyterian Mission, Sitka.

February 20, 1897.—Overcast, with snow drifting. Wood brought.

February 21, 1897.—Cloudy, with considerable snow. Sunday school. Th. Kjellmann went out to the tent to haul wood to-morrow.

February 22, 1897.—Clear in the afternoon, snowing and drifting all forenoon. The day was celebrated by hoisting the flag and trading seal.

February 23, 1897.—Cloudy, with puffs of east wind and drifting. Eight seals were bought. Wood was brought on all the sleds.

February 24, 1897.—Cloudy and snowing, with strong southeast wind. Wood was brought by all the sleds.

February 25, 1897.—Early in the morning a woman died in the village. She leaves a husband and 7 children and 6 grandchildren. She is the mother of Kerlungner, the "Alaskan Princess," who has traveled with Mr. Miner Bruce's Eskimo troupe through the States for two winters. Cloudy and calm.

February 26, 1897.—Cloudy and drifting.

February 27, 1897.—Cloudy, with snow and sleet. Strong southeast wind. At 10 a. m. the Doctor and Reverend Anderson arrived from the cape, having camped in the mountains during the night. Fredrik was left with the herd up there to teach Lapp methods. Otena, from the cape, came down here. Rations were issued to the wood gang and station people.

February 28, 1897.—Strong southeast wind, with snow and sleet. Sunday school and service in Eskimo by Mr. Anderson. Dr. Kittilsen is a trifle sick after the trip.

March 1, 1897.—Cloudy, with strong south wind during the night. Wood hauled.

March 2, 1897.—Clear and calm; clouding over and growing colder in the evening. Reverend Anderson left in the morning with Tautook, who will take him down to Charley's place. In the evening Elektoona came in, driving a 2-year old deer that he had tamed himself during the last week. He had made the trip in about eight hours. It is considered good for an apprentice to make that distance alone with a young deer of his own training.

March 3 to 8, 1897.—Cloudy and snowing. In the evening Kjellmann, Brevig, Elektoona, Ahlook, and Otena, with a long string of deer and loaded sleds, left for the camp. The night was spent at the halfway house, and at 5.30 in the morning we started across the mountain. The deer were tired and the loads were heavy, so the progress was slow, and the camp was not reached until 5.30 p. m. The deer were entirely exhausted and the men hungry and tired. Five days were spent at the camp. Sunday was spent talking to the Lapps in Norwegian and talking to and answering questions in English to the herders. It was interesting to see them lasso deer, and also to inspect the herd when gathering around their huts. Over 12 inches of snow fell while we were there. The last week in February a thunder shower

had made the natives wonder. Samuel seemed to have things in good order and was obeyed by the herders in all things. One deer was sick. The return trip was made in less time. Brevig made it alone from the halfway house in two hours.

March 9, 1897.—Overcast, with northeast wind. Sixteen deer were brought in for hauling wood.

March 10, 1897.—Overcast, with strong northeast wind. Sekeoglook left for the camp with three deer. Letters from Anderson and Mathis were received, as Mrs. Eira was very sick and the Doctor was asked to come.

March 11, 1897.—Overcast, with strong northeast wind and drifting. This morning wood was hauled.

March 12, 1897.—Overcast and snowing, with a storm from the north. Ahlook brought two loads of moss; the other herders brought wood.

March 13, 1897.—Cloudy, with a blizzard from the north. Rations were issued to the herders at the station.

March 14, 1897.—Clear, colder, with strong north-northeast wind. Sunday school. Two deer were brought in to be driven on the Doctor's and Johan's trip to Charley's.

March 15, 1897.—Clear, with medium strong north-northeast wind. At 7.30 a. m. the doctor and Johan left for Charley's. In the evening Ahlook arrived from the cape with the property of Charley. Very cold. Wood was hauled.

March 16, 1897.—Clear, with light north wind; cold. Letters arrived from Golovin Bay, and trading sleds arrived from the Cape. Fredrik returned in the evening per dog sled.

March 17, 1897.—Clear and cold, with light north-northeast wind. Several sleds arrived from the Cape, and some started down the coast. Considerable trading was done.

March 18, 1897.—Partly overcast, with gusts of wind. The doctor and Johann returned from Charley's early in the forenoon, reporting Mrs. Eira very sick. They had camped near Cape Douglas during the night. Elektoona came in toward evening for sleds to move the camp to Koveerock for the fawning season.

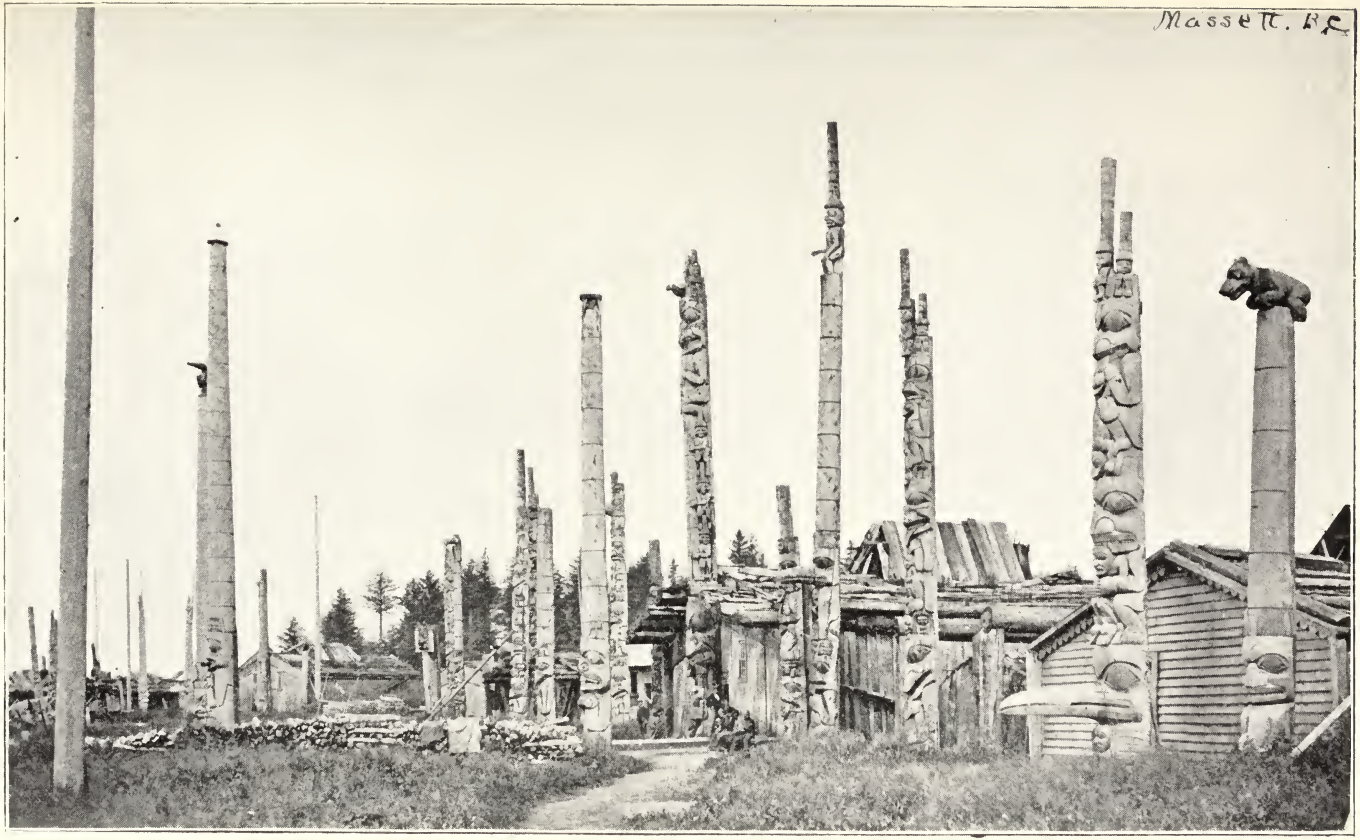
March 19, 1897.—Partly overcast, with light northwest wind. Ootana left for the Cape early this morning. Elektoona left for the herd with five seals.

March 20, 1897.—Clear, cold, with light northwest wind. Trading sleds arrived.

March 21, 1897.—Clear and cold; storming in the afternoon. Sunday school.

March 22, 1897.—Storming from the northwest and very cold; 34° to 36°. Two men came in from camp with frozen cheeks. A sled arrived from the cape. The herders brought in wood in spite of the cold and storm.

March 23, 1897.—Cold and calm.



MASSETT, BRITISH COLUMBIA.

March 24, 1897.—Calm in the forenoon; light northwest wind in the evening. Johan, Fredrik, Ahlook, and Tautook left for the deer camp this morning.

March 25, 1897.—Clear, calm, cold. At 1 p. m. Samuel and family arrived from the camp. Wife and children to remain at the station.

March 26, 1897.—Clear and calm. Rations were issued to Samuel.

March 27, 1897.—Partly overcast. Light east wind. In the forenoon Aslak and family arrived from Golovin Bay, and toward evening Mathis and family came in from Charley's. Charley and brother also came in, driving deer. A cape sled came down to trade. Rations were issued to the new arrivals.

March 28, 1897.—Overcast in the evening, with a fresh north wind. Sunday school and service.

March 29, 1897.—Clear and calm. Issuing of rations to the camp for April. Aslak received the sacrament of communion.

March 30, 1897.—Clear and calm, growing milder.

March 31, 1897.—Clear, calm, cold. At 10 a. m. Charley and boy left for home. Aslak and wife went with him to manage his herd during fawning. Samuel, Donack and wife, Wocksock's two boys, and Ojello's boy and girl left for the deer camp at the same time.

April 1, 1897.—Partly overcast and milder. Dr. Kittilsen is through taking invoice.

April 2, 1897.—Clear, calm, mild. A man from the cape brought the news that one of the slayers of Kokituk had been shot by Okbaok, Kokituk's brother, while out seal hunting.

April 3, 1897.—Clear, with a brisk north wind during the night.

April 4, 1897.—Clear and calm. Sunday school.

April 5, 1897.—Clear, with a strong northeast wind.

April 6, 1897.—Clear, with strong north wind. Letters from the cape reported that Kokituk's other murderer had gone North.

April 7, 1897.—The storm continues with increased strength all night and day. Report was brought that 1 fawn was born and 1 had died.

April 8, 1897.—Partly overcast. Rations were issued to the Lapp women at the station.

April 9, 1897.—Overcast, with light snow. Three sleds arrived from the cape and left again soon after dinner.

April 10, 1897.—Partly overcast, with strong north wind.

April 11, 1897.—Overcast and storming all day and night. Heavy whirlwinds in the afternoon. Letters arrived from Dexter telling of the election of Bryan and the war with Spain.

April 12, 1897.—Clear and cold, 20° in the morning, with strong north to northwest wind. Letters arrived from the cape.

April 13, 1897.—Clear, with a medium strong north wind. Complaints are made of scarcity of food.

April 14, 1897.—Clear, with a light northeast wind. Johan and Tau-

took came in from the herd during the night and report 6 fawns born and 2 dead; also a male deer dead.

April 15, 1897.—Clear, with a strong northwest wind all night and day. A gale blowing in the afternoon. Eskimo service.

April 16, 1897.—Clear, with a strong north wind all day. Eskimo service.

April 17, 1897.—Very strong north wind all day and night. Clear.

April 18, 1897.—Partly overcast, with strong east wind. Service and Sunday school. Johan's baby daughter was baptized to-day and was called Inger Anna. Thawing some.

April 19, 1897.—Clear, with a light northeast wind. Thawing. Mrs. Eira received the sacrament in the afternoon. Service at the same time. Some trading was done and the new building was cleaned of surplus snow.

April 20, 1897.—Overcast, with strong northwest wind. At 10 a. m. Dr. Kittilsen, Johan, and Tautook left for the deer camp. Late last night letters arrived from Golovin Bay.

April 21, 1897.—Overcast, with a light northeast wind.

April 22, 1897.—Clear, with a strong north-northeast wind. Two men came in from Kotzebue Sound, trading seal skins for tea.

April 23, 1897.—Clear, with a strong north wind.

April 24, 1897.—Clear, with a light north wind. At 10 a. m. Dr. Kittilsen, Fredrik, Elektoona, and Sekeoglook came in from the herd with 16 deer. Sixty-one fawns are living and 7 dead.

April 25, 1897.—Clear and calm. Sunday school. At 10 a. m. W. A. Kjellmann, Mikkel, and Per returned from their journey, having made it from Golovin Bay since Thursday evening. Kjellmann left Friday morning early. The stories of Bryan's election and the war proved to be only the rumors resulting from a practical joke played at St. Michaels. Five of their deer had died from starvation on the way back.

April 26, 1897.—Clear and calm. During the night Nahzookah, Tautook's wife, was delivered of a fine girl baby. Rations were issued to the herders at the camp.

April 27, 1897.—Clear, with very light east wind. At 1 p. m. Fredrik, Elektoona, and Th. Kjellmann, with 14 deer and sleds, left for the herd. Letters from the cape reported 9 fawns.

April 28, 1897.—Clear and calm. At 5.30 p. m. W. Kjellmann and Per left for Charley's herd, each driving 2 deer. Dr. Kittilsen and Mikkel started for the winter camp.

April 29, 1897.—Clear and calm. At 1 p. m. the Doctor and Mikkel returned, the doctor's deer having broken a leg in jumping up.

April 30, 1897.—Clear and calm. Several sleds of migrating natives came in from the lakes.

May 1, 1897.—Clear and calm. Fifteen sleds came in from the lakes to-day and several tents are pitched on the beach.

May 2, 1897.—Clear and calm. Sunday school and service. Thirty fawns born and 1 deer reported from the cape.

May 3, 1897.—Overcast and mild. In the afternoon Kjellmann and Per returned from Charley, reporting the herd in bad condition. Dr. Kittilsen and Mikkel left for the winter camp in the evening.

May 4, 1897.—Cloudy and mild. The snow was shoveled away from the walls on the south side of the house. At 6 p. m. Mrs. Eira died.

May 5, 1897.—Clear and calm. The body was prepared for burial and a coffin was made. Mrs. Kemi was very sick during the day.

May 6, 1897.—Overcast and calm. A light northwest wind in the afternoon. Communion service in the afternoon. Rations were issued to the Lapps.

May 7, 1897.—Clear, with a medium strong north wind. Mrs. Eira was buried at 2 p. m. Service in the schoolhouse. School closed.

May 8, 1897.—Clear, with a medium strong north wind.

May 9, 1897.—Clear and calm. Service and Sunday school.

May 10, 1897.—A very nice day. W. A. Kjellmann, Brevig, Samuel, Per, and Tautook left for the camp at 6.30 p. m.

May 11, 1897.—A clear, bright day. Kummuk returned with letters for Dr. Kittilsen.

May 12, 1897.—A nice day. All the stores were brought fr m the old storehouse into the herders' room.

May 13, 1897.—Overcast, with snow flurries; colder. Brevig and Johan came in at 4 a. m. from the herd, leaving there at 4 p. m. yesterday, driving all night. One hundred and thirty fawns living, and 15 dead. On the way up Samuel and Kjellmann, with their deer and sleds, broke through the ice. Kjellmann succeeded in rolling upon solid ice, getting one foot in. Samuel was too far out and could not reach solid ice; his deer tried to break away, but got their feet under the edge and gave it up. Samuel sat balancing on the sled until a line was thrown him from behind, and Samuel, sled, and deer pulled up. The ice was found unsafe from the mouth of Eaton River, and we took to the mountains, crossing in three hours. On the top of the hills, just as we had sighted the big lake, Samuel broke his sled; but loading his provisions on Brevig's sled, and putting his deer on behind as drawbacks, the descent was made to where Kjellmann's camp fire sparkled on the beach. Brevig came down on skees. A rest of two hours was made and two grouse shot. The camp was reached at 6 30 a. m. The herd was inspected, and it was a pleasure to see the little fawns gamboling on the snow.

May 14, 1897.—Partly overcast and colder. At noon the doctor, Johan, and Mikkel started for the halfway house to measure the distance, to decide a controversy between the doctor and Mikkel.

May 15, 1897.—Cloudy and calm. The surveying party returned at noon, having found the distance 9 miles, the guess being 10 by the doctor and 11 by Mikkel.

May 16, 1897.—Cloudy, but calm. Service in the afternoon. Mikkel was out to look after the deer, and the Doctor took Mrs. Brevig out driving.

May 17, 1897.—Clear, with a chilly wind from the south. Salutes were fired in the evening. Copying and posting up books is the order of the day.

May 18, 1897.—Clear, with a strong north wind. Aslak and wife returned from Charley, reporting 83 living fawns and 9 dead. Tomcod in abundance are caught on the ice.

May 19, 1897.—Overcast, with light north wind. Aslak got his rations.

May 20, 1897.—Clear, with medium strong east to northeast wind. A letter arrived from Mrs. Hanna at 7 p. m. Dr. Kittilsen, Brevig, and Johan started on a hunting trip to Eaton River. The shooting was abundant, but the game was not. At the mess hut they found the herders' camp. The herd was expected every moment.

May 21, 1897.—Clear until evening. The afternoon was spent in camp. Five more fawns were born. At 11.30 the party, joined by Kjellmann, left for the station.

May 22, 1897.—The party arrived at 2 a. m. Fredrik and Ojello were at the station and got their rations and left. Kummuk and boys left for Polazrook.

May 23, 1897.—Overcast and calm. Service in the afternoon.

May 24, 1897.—Cloudy, with light north wind. Early in the morning Kjellmann left for the camp. At 8 a. m. Johan and family and Mrs. Brevig left for the camp on a visit. In the afternoon Aslak came in from tethered deer, having found that they had all been scared away. After hunting around he found one. Mikkel and Johan went out for the other six. A messenger was dispatched to camp. The doctor's driving deer died last night. At 5.30 p. m. the visitors returned from camp. Samuel came home to stay.

May 25, 1897.—Clear, with very strong north wind during the night. The deer were found and two of them sent to the herd. Johan brought moss for the deer at the station. Aslak went out to the herd in the afternoon.

May 26, 1897.—Overcast, with a strong north-northeast wind all day and night. At 4 p. m. Dr. Kittilsen, Johan, and Mikkel left for the mouth of the Ahgeeopuk to hunt.

May 27, 1897.—Clear, calm, warm. W. A. Kjellmann, Ahlook, Elektoona, Tautook, and Awklahrahuk came in at 4 a. m. to get the June ration. They left again late in the evening. News of ships at the cape arrived. Four fawns born and 1 dead.

May 28, 1897.—Clear, with light northeast wind, and warm; 52°. Game is brought in for sale.

May 29, 1897.—Clear, with strong northeast wind. A native while hunting was accidentally shot through the arm.

May 30, 1897.—Partly overcast, with a strong north wind in the forenoon. Fredrik, with three youngsters from the camp, came in from the herd at 1 a. m. with the sleds. Early in the morning the hunters returned with 60 birds.

May 31, 1897.—Cloudy; light north wind; snowing and raining in the afternoon. The small skin boat was fixed. Seal meat was hung up to dry, and preparations were made for another hunting expedition.

June 1, 1897.—Clear and nice, with light north wind. Trading sleds from Topcognook arrived, reporting 12 ships sighted and 2 had called at the cape. In the afternoon Johan, Mikkel, and Brevig left for Eaton River to hunt.

June 2, 1897.—Blustering.

June 3, 1897.—Per and Sekeoglook came in from the herd, reporting one sled deer dead. Rations were issued to the Lapps.

June 4, 1897.—Overcast and calm, with a little snow. Letters arrived from the cape, reporting 113 living fawns and 2 dead. The hunting party returned with 158 birds.

June 5, 1897.—Cloudy and calm. Fredrik came in late last night for provisions. He reported one sled deer dead from a swelling in the head and one from internal disease. Per and Fredrik left for the herd late in the evening. Johan, Mikkel, and the Doctor went after moss, and would also shoot all the birds that came in their way.

June 6, 1897.—Clear, with light northwest wind in the afternoon. Sunday service. The hunters returned in the morning with 39 birds and some moss.

June 7, 1897.—Cloudy and calm. In the morning W. A. Kjellmann and Elektoona came in from the herd. Kjellmann will stay at the station. Mathis went out hunting in the afternoon. Mikkel and Johan went after sled material in the evening.

June 8, 1897.—Clear, with a medium northeast wind. The Doctor and Samuel went out hunting in the forenoon. Mathis returned in the afternoon.

June 9, 1897.—Clear in the afternoon, with a strong northeast wind all day. The Doctor and Samuel returned in the morning with four birds. Mikkel and Johan returned with sled material and thirteen birds.

June 10, 1897.—Clear, with very strong northeast wind. Aslak and Landlock came in from the herd in the morning. The Doctor and Landlock went out again at once. Aslak followed in the night. Mikkel and Johan are making a pulkha and oars; also overhauling the boats.

June 11, 1897.—Clear and warm, with a very strong northeast wind. Letters arrived from Mr. Lopp; also papers telling of the election of McKinley. The Doctor, Donack and wife, and Ojello's wife came in from the herd.

June 12, 1897.—Clear, with light northeast wind in the forenoon. Calm in the afternoon. Hot; 87° in the sun, 67° in the shade on the north side of the house. One hundred and forty-five living fawns and

18 dead reported in this herd; 116 living and 5 dead are reported from the cape. House cleaning is the order of the day.

June 13, 1897.—Clear and light wind; very warm. Mathis Eira's little girl is getting better; but Samuel's girl is now sick from stiff legs.

June 14, 1897.—Clear and nice; calm and hot. 104° in the sun and 80° in the shade. Cleaning up around the house.

June 15, 1897.—Clear and calm; 90° in the sun.

June 16, 1897.—Clear and calm. Colder; 65° in the sun. Continued cleaning up.

June 17, 1897.—Clear and fog alternating. Calm.

June 18, 1897.—Calm and foggy all day. The Doctor is taking invoice and Kjellmann is writing his report. Johan has been fixing up nets.

June 19, 1897.—Partly overcast, with a medium strong northeast wind during the night. Calm, with a little rain during the day. Fredrik and Ahlook came in from the herd, reporting 3 deer dead and 3 fawns born.

June 20, 1897.—Overcast, with light southeast wind, with showers. At 10 a. m. the wind started the ice, but weakened, and the ice went to rest again. Service in the afternoon.

June 21, 1897.—Raining all day and night. Strong southeast wind. The ice remains stationary, blocked up against the north shore.

June 22, 1897.—Light southwest wind. The ice in statu quo. Cloudy. Aslak and Fredrik went out to the herd.

June 23, 1897.—Calm and foggy.

June 24, 1897.—Clearing in the afternoon. Two vessels were seen to be anchored at the spit. One proved to be the *Bear* and the other the *Alexander*. The *Bear* came in with mail and left for the watering place at once. The superintendent was ordered to proceed with 30 deer and two Lapps to St. Michaels and up the Yukon. The *Alexander* came in to find material to repair her topmast and rigging, having lost the mast and a man in hoisting in a whale. The *Bear* left in the evening for Cape Prince of Wales with mail. Elektoona, Ahlook, Per, and Fredrik came in from the herd.

June 25, 1897.—Clear and calm. The *Alexander* is repairing her damage. Johan, Mikkel, Samuel, Per, Ahlook, Elektoona, and Fredrik went out to the herd to catch the sled deer and gather moss for the trip.

June 26, 1897.—Clear and calm. The *Bear* anchored at 11.30 last night and in the morning proceeded to the watering place at Cape Riley, and at 8 p. m. came in and took on board Kjellmann and Per to go to St. Michaels. The Lapps refused to go with the deer at this season. The *William Boyless* also came in to water and find a mast. Ahlook and some youngsters went out to the camp.

June 27, 1897.—Clear, calm, and warm. No service; the crew of the *Alexander* were on shore nearly all day washing clothes. In the afternoon a game of ball was played. Donnack and wife, Fredrik, and Ahlook came upon the herd.

June 28, 1897.—Clear and hot (110° on the sunny wall); a high west wind. The *Belvidere* and *Thrasher* came in from the anchorage; the first to find some rigging, the latter to assist the *Alexander* if necessary. The *Thrasher* went over to the spit at once. The *Belvidere* remained. The small boat with Fredrik and Elektoona, etc., left for the camp, and the whaleboat, with Mikkel, Mathis, and Donack, went up the coast to find sled material. Johan fixed the storehouse roof. The Doctor and Brevig took supper with Captain Tilden.

June 29, 1897.—Clear and calm. The *Belvidere* went over to Cape Riley to water. The wood party returned.

June 30, 1897.—Clear, with a strong northeast wind. At noon Brevig, Johan, Mathis, and Donack went toward Nook to fish.

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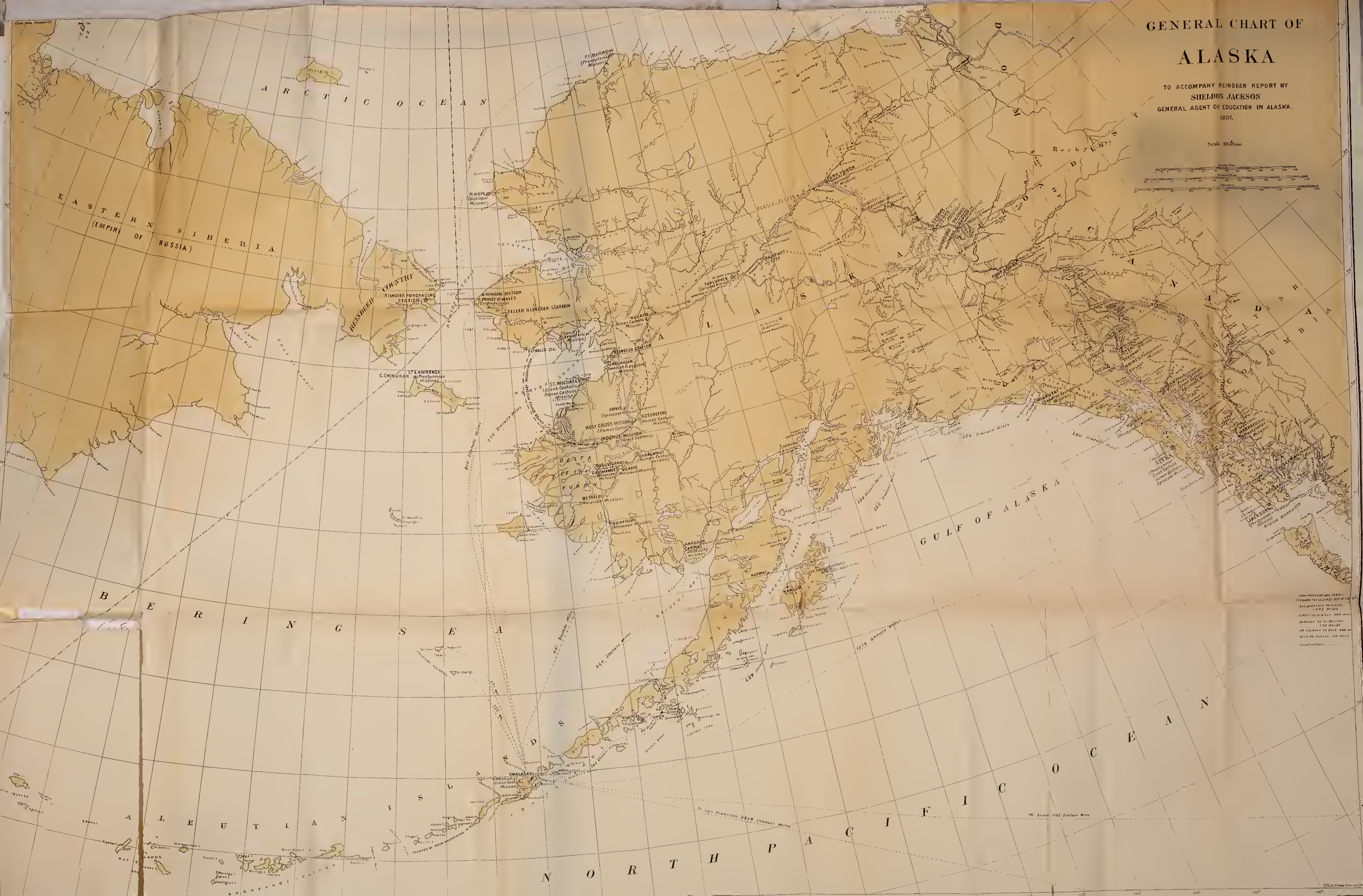
GENERAL CHART OF
ALASKA
TO ACCOMPANY REINDEER REPORT BY
SHELDON JACKSON
GENERAL AGENT OF EDUCATION IN ALASKA.
1897.
ARCTIC OCEAN
EASTERN SIBERIA
(EMPIRE OF RUSSIA)
REINDEER COUNTRY
REINDEER PURCHASING STATION
ST. LAWRENCE (Presbyterian Mission)
C. CHIBUKAK
PT. BARROW (Presbyterian Mission)
PT. HOPE (Episcopal Mission)
REINDEER STATION
C. PRINCE OF WALES (Congregational Mission)
TELLER REINDEER STATION
(Swedish Evangelical Mission)
REINDEER STA.
NULATO (Roman Catholic Mission)
REINDEER STATION
UNALAKLIK (Swedish Evangelical Mission)
ST. MICHAELS (Greek Catholic Roman Catholic Mission)
ANVIK (Episcopal Mission)
KOSEREFSKI (Roman Catholic Mission)
HOLY CROSS MISSION (Roman Catholic)
IKOGMUT MISSION (Greek Catholic)
OKNAGAMUT (Roman Catholic Mission)
OOGOVIGAMUT
UGAVIG (Moravian Mission)
DELTA OF THE YUKON
BETHEL (Moravian Mission)
QUINEHAHA (Moravian Mission)
ANAGNAK CARMEL (Moravian Mission)
KATMAI
ST. PAUL (KADIAK)
KARLUK
UNGA
UNALASKA (Methodist Greek Catholic Mission)
FORT YUKON (Episcopal Mission)
CIRCLE (Episcopal Mission)
RAMPART CITY
TUKLUKVET (Episcopal Mission)
ALASKA
KLONDIKE
FORT SELKIRK
DOMINION OF CANADA
Rocky Mts
BRITISH COLUMBIA
YAKUTAT (Swedish Evangelical Mission)
SKAGWAY
HAINES (Presbyterian Mission)
JUNEAU (Presbyterian Roman Catholic Greek Catholic Episcopal Mission)
HOONAH (Presbyterian Mission)
SITKA (Presbyterian Greek Catholic Roman Catholic Episcopal Mission)
WRANGELL (Presbyterian Mission)
METLAKAHTLA
SAXMAN (Presbyterian Mission)
JACKSON (Presbyterian Mission)
DIXON ENTRANCE
GULF OF ALASKA
BERING SEA
ALEUTIAN ISLANDS
RAT ISLANDS
ISLANDS OF FOUR MOUNTAINS
NORTH PACIFIC OCEAN
250 Statute Miles
280 Statute Miles
770 Statute Miles
816 Statute Miles
To San Francisco 2369 Statute Miles
West from Greenwich