

H. T. Gisborne

ROBERT MARSHALL  
Wiseman  
Alaska

April 10, 1931.

Dear Family et al:

The whole trip, you might say, started over an argument. The issue was whether Clear River, one of the three main tributaries of the North Fork, headed against the Arctic Divide. Since nobody was ever known to have been even close to its source, the discussions were entirely conjectural based on knowledge of adjacent drainage. The vote of those who hazarded an opinion was four to four, with Ernie Johnson the leader of the Arctic believers, and I the chief opponent of this viewpoint. When Ernie was in Wiseman over New Year he suggested that we should resolve the doubt by following the river to its source when the days grew longer in March. I had more work planned already than I could possibly see any hope of accomplishing, but the prospect of following an unknown river to its source in midwinter seemed more important than anything else, so I agreed to accompany Ernie.

There were other factors involved. This trip would give me a chance to study timberline on another major drainage, and thus make my investigation more complete. Also, I had planned to pay a visit to the mining community on Wild River in connection with the study of civilization on the Upper Koyukuk, and Ernie said we could easily combine the two.

They gave us a great farewell dance the night before we were to leave Wiseman, and then, since Ernie's dogs were still sick the next day from the medicine he gave them to eradicate worms, there was a second farewell the next night. But even worms have their end, so on the sixth of March, well danced, we hit the trail and mushed fourteen miles to the old Charlie Yale Cabin on Glacier Creek. Charlie Yale was an old hermit prospector who for ten years lived all by himself in this cabin, eight miles over the hill from his nearest neighbor on Nolan Creek. For ten winters, every night, his lonely light shone out on the snow and never a soul around to see it and come in and say cheerfully: "Well, Charlie, get any color today?" I've camped over a hundred miles from the nearest person, but it never seemed to me to be half so lonely as did this cabin, only eight miles from men, where a human being sacrificed ten years of social intercourse for the sake of a fortune he never attained.

The second day we mushed 20 hard miles to an old prospector's cabin on Bonanza Creek, which had such a low roof I must have put a permanent dent in my head from constant violent contact. The third day we covered 12 easy miles to Ernie's cabin at the junction of the West Fork and North Fork. There were no remarkable events or scenery on either of these days, yet they left a most vivid memory because they gave me my first experience with that world of three pure, unblended colors through which we travelled for 16 consecutive days of perfect weather. There was always the base of fresh, white snow, the dark, green spruce trees set upon it, and the clear, blue sky as a covering. Everywhere we looked we saw the sparkle of snow crystals where the bright sun reflected from the surface of the ground.

I think I'll leave us for a while among these sparkling snow crystals, to tell a little about our equipment and method of travel.

To begin with, what does a person wear for a midwinter journey in the Arctic? Whatever it may be, a few general principles govern it. First, there must be something which will insulate the body and keep the heat in. Second, there must be something, either leather or closely woven cloth, which will keep the wind out. Third, everything

must be loose fitting, especially footwear, so as not to impede the circulation of the blood. And most important of all, a person must be sure not to wear so much that he perspires, for the most disastrous thing of all is to get wet. The majority of all the people who have frozen to death in this north country have first gotten wet, either by breaking through overflows or sweating. Of course wetness means ice in short order, and no matter how much clothing one has on he can't warm up with a coat of ice against the body. The only thing he can do is build a fire as soon as he gets damp, and dry out before it's too late. Of course when its only ten or twenty below and no wind you don't worry about a little perspiration. Colder than that, if you're at all competent to travel in winter, you do.

Specifically what I wore was a suit of medium wool underwear, an ordinary flannel shirt, a pair of light wool pants, a pair of cotton overalls over these to break the wind and keep the snow from sticking to the wool, a sleeveless sweater, one of those closely woven, green Filson cruising jackets, and a light cloth parka over everything. The parka has no buttons, slips over the head, comes down a little below the knees, and has no vent through which the wind can get at you. On one or two fairly cold days (though it never dropped under 31 below) while riding the back end of my sled I wore a caribou fur parka. For my head I used a muskrat cap with pieces covering the ears and the whole side of the face. There is also a hood on the parkas which comes way out over in front of you, and is a great protection from the wind. On the feet I wore three pairs of wool socks, inner soles, and mooseskin moccasins with 8 inch tops. My hands were protected by anything from wool mittens inside and wool lined leather mittens outside, to just canvas gloves, depending on how cold it was.

As for method of travel, it was of course by dogs. Ernie had one sled with four dogs, I had another with three, and between the two we carried probably 450 pounds of equipment. Of this a good half consisted of dogfeed, which took the form of dried salmon, tallow, cornmeal, rice and oatmeal. There were three principal ways we travelled with the sleds. If there was a well broken trail, or if we happened to be following a recently overflowed river with fresh ice, we just stood on the rear end of the runners, steering by pressure one way or the other on the handle bars, and let the dogs pull us, except on up grades where we ran along behind. But if the trail was at all drifted, especially on side hills, it became very difficult to hold the sled on the trail merely by steering from the rear, so we geepoled ahead. The geepole is a stick which protrudes in front of the sled on the gee or right side, and by pushing one way or the other on it the sled can easily be kept where you want it. While geepoling you walk or run on snowshoes, depending on how fast the dogs can travel, just in front of the sled, and astraddle of the towline by which the dogs are hitched. But if the snow is deep enough and soft enough, then the dogs can't get any footing at all, and they sink to the bottom at every step. So you have to snowshoe ahead of them on your smallest pair of snowshoes, packing the snow down hard, working like hell on every step, that the dogs, who are really much more important than you, can have it a little easier. If the going was very bad we both snowshoed ahead and let the dogs follow, otherwise one of us geepoled the two sleds which we coupled together.

At the West Fork Cabin, which, though it is 40 miles from the closest neighbor, Ernie refers to as home, we broke up our load. About half our food and dogfeed we left for the Wild River part of our journey, storing it in Ernie's cache, a little log cabin built on poles about eight feet high, the poles being girdled part way up by tin, so that not even a clawed animal could climb them. In this country, between camp robbers, weasels, grizzly bears, and worst of all wolverines the problem of storing food is quite a difficult one.

Not so bright and early the next morning we set out for Clear River. It was only four miles to the mouth, and nine miles above these Ernie had left a tent set up when he had gone up about two weeks before, in a futile effort to find some signs of fur. His old trail was not badly drifted, so we had an easy time geepoling most of the way, except for the last five miles, where the river had overflowed, and we had a still easier time riding the rear end. This was well too, because it gave us the leisure to enjoy the Clear Creek Canyon, where first on one side of the river and then on the other, rock walls rose straight up for one or two hundred feet, bright, yellow surfaces mixed with white snow, and capped with spruce trees, which grew to the very edge of the cliffs. This was the canyon we had looked down into from above in the summer of 1929, when we and our horses climbed the Moving Mountain.

Next morning we broke camp early, taking the tent and stove with us, and continued up the canyon. I have been ecstatic over so many canyons in this country that I'll resist the temptation to repeat myself, and will merely refer you to past letters, only cautioning you never to forget the cloudless blue sky and the sparkling snow over everything. After ten more miles of winding among precipices the country opened out, and we found ourselves among well rounded, rolling hills, which didn't seem at all like the customary topography of the Endicott Mountains. But miles to the north we could see some amazingly jagged peaks looming up, so it didn't seem entirely like a strange country.

Most of this day we geepoled, but there were places which had overflowed where we had the finest sort of riding on the runners. There were also a couple of stretches which had overflowed so recently that they had not frozen yet. Here we changed our moccasins for mukluks, waterproof sealskin boots with the fur turned in. As we progressed upstream the timber became more and more scarce, until we came to a patch which we thought might be the last. Just above it the river entered another canyon, so we could not see any further upstream. Consequently, not wishing to have to make camp among the dwarf willows after dark, we stopped here for the night. The timber was on a bench, about 40 feet above the river. It took us thirty minutes to break an uphill trail a couple of hundred yards to the timber, but the view it gave us, even more than the shelter, made this effort an exceptionally cheap price to pay.

Making camp in loose snow, four feet deep, in which you sink practically to the bottom the instant you remove your snowshoes, is an interesting experience, at least for one brought up in a civilization where shelter comes ready made. We would start with nothing except two bundled sleds, a wilderness in which a shelter had never yet been erected, and more (Ernie) or less (I) personal competence to combine the two into something safe and comfortable. The procedure would generally be that Ernie would start tramping down with his snowshoes a space big enough to pitch the 9 x 9 foot tent, and leave a little room that we would not sink clean to our waists the moment we stepped outside the tent. Then he would hitch the tent to trees, by means of ropes at either end of the ridge, and stretch out the wall ropes to trees, shrubs, or specially cut holes, whatever happened to be most handy. Meanwhile I would hack down a green spruce for blocks on which to set the stove, saving the boughs to spread on top of the snow inside the tent. Ernie would cut more boughs, and pretty soon we would forget we were roosting on snow, unless we happened to look under the stove.

When we started out in the morning Ernie always filled the stove with shavings, kindling, and dry sticks of wood, so that once it was set up and the stovepipe attached, it was only a question of a few moments until there was a roaring fire. This business of getting a fire started quickly is a most important matter in real cold weather. Even in the relatively mild weather we had the sooner the fire got going the better, because all cooking had to wait until we had melted enough snow to get the water we required. We used five gallon gasoline cans, with one side cut out, as vessels for

melting the snow. Each night we needed three of them, half full of water, two being used for cooking dogfeed and one for ourselves.

But with the water melting our nightly task was a long ways from being completed. There was wood to cut. There were the dogs to be unhitched and tied to trees. There was spruce bough bedding to be prepared for them. Then we had to take in our own bedding and spread it out on our boughs. We had to scrape the snow from our socks, overalls, moccasins, and hang them up to be sure they would be perfectly dry. When a little of the snow was melted we started the tea water, and after that the rest of the supper. While we were eating and thereafter, the dogfeed would be cooking, consisting of fish, tallow, and some cereal. After supper there would be dishwashing, sewing, repairing snowshoes, and most tedious of all, crawling head first in my sleeping bag to change my panchromatic films in total darkness. When the dogfeed was done we'd have to take it outside, pour it into separate pans for each dog, and let it cool. Just before going to bed we would usually serve it to them.

This may sound like a lot of work, and actually we were kept pretty busy until ten or eleven o'clock. But nevertheless these evenings were very pleasant. Ernie is a simple but excellent cook, and the meals we ate were enough to add real joy to the life of anyone with an appetite developed by a whole day of mushing. The piece de resistance of our suppers was always a pot of boiled meat, Ernie believing that one of the essentials for healthy camp life was to avoid too much frying, and above all to avoid burned grease as you would the plague. The meat was tender sheep, which Ernie had shot late in the fall. Of course with the natural cold storage facilities of the Arctic there is no trouble keeping meat all winter. We varied our pots by boiling lima beans, peas, dried vegetables, rice, or macaroni with them. One pot boiled full lasted us two suppers. We always prepared it the night the old pot was consumed, so that when we made camp the next night it was only necessary to thaw out and heat the principle course of our supper. The same was true of fruit. We always had a pot of dried apples and cranberries cooked and ready for use. The only fresh cooking necessary for supper was tea, biscuits, and sometimes rice or macaroni.

At supper and after came the period of leisurely conversation. Ernie had taken Kristin Lavransdatter and Whitehead's Science and the Modern World to read, while I had 1217 pages of Tolstoi's War and Peace (which Ernie had consumed along with Anna Karenina during his last two month sojourn in the wilderness), but we were both so busy talking that neither of us even read a single page. Ernie has remarkably broad interests, bred from a vast reading during thousands of solitary evenings in camp. Our conversations varied in scope from discussing the typical midwestern methodist moral notions of the school teacher, and what a god damn liar Jim Kelly is, to Tolstoi's overworking of the phenomenon of love at first sight, and the work of Michelson, Aston and Millikan, and how it tied up with the cosmic ray theory. Fortunately Ernie was opposed to socialism, fearing it would inevitably prove injurious to personal liberties, so we had stimulating arguments on that subject where otherwise we could only have had tedious agreement.

I can best picture Ernie, both his views and his mode of expression, by a few verbatim remarks which I took down while he imagined me probably scribbling botanical or geographical notes. In all these quotations imagine a slightly Swedish accent which 35 years in America has not quite overcome.

"The life a person leads, that's what counts. This getting down on your knees and wearing out your pants legs doesn't amount to very much."

"I haven't stepped inside a church for thirty years, had too much of that as a kid, but still there's something within me tells me there is a hereafter, though I can't say what it is."

"Sometimes I work for five or six hours, just as hard as I can, climbing some mountain. A fellow might think I was crazy to go to such misery. But I've never yet gotten to the top of the mountain that I didn't feel the view was worth every bit of effort it took to get it."

"If I had \$100,000 today I wouldn't quit this life in the hills. I'd get a little better equipment, and I'd go outside and get married, but I'd come right back in here again. I know what the life outside is like and it don't appeal to me. I've lived this free life in here too long."

"I don't believe in a hypocrite or false modesty either. That's one thing about the natives I admire, there's no false modesty about them. They're an awfully fine people. I find them a damn sight finer than the majority of whites."

"The less man and wife are together continuously, the better it is for both of them."

Though not a Socialist, Ernie is also rabidly critical of the capitalistic order. "We've got to get some system," he says, "which will stop this amassing of fortunes, otherwise in a few years the whole world will be peonized to a handful of men."

Referring to Vincent Knorr, the Koyukuk's most parsimonious citizen, he said: "The man was indignant because we opened a can of corn. 'It costs too much', he'd say. Now there's no sense to that. We're here such a short time and a person can get so much pleasure out of good eating, he's a fool if he don't take that pleasure while he can."

Like the majority of Koyukukers, Ernie is very contemptuous of the modern, high-power publicity explorers like Wilkins, Byrd, and the Roosevelts. Concerning the Byrd Expedition he said: "Jesus Christ, do they call that exploring. Why, they had everything they could ask for except women. That food stuff they had they could live on in luxury all the time. They don't know anything about hardships. They ought to get out in the hills here where they have to live on themselves, and can't radio for help every time they get in trouble."

But that's enough for Ernie. It's time to put him to bed. Bed for both of us consisted of a heavy, winter sheepskin, as soft as a coiled spring mattress, laid on the boughs. Over this we spread our sleeping bags and crawled inside. The stove would burn for two or three hours after we retired, keeping the tent as warm as a house. Then it would gradually chill off to outside temperature, until about five or five-thirty. At that time Ernie, who slept nearest the door of the stove would start the fire, while I would crack the ice on the surface of the water can and fill the coffee pot. Then we'd drop back into our bags for a delicious half hour of dozing while the tent was warming and the water heating.

The regular breakfast was sheep steaks fried in olive oil (another of Ernie's dietetic hobbys, for he is death on lard or bacon grease), hot cakes, coffee and fruit. After breakfast we dressed ourselves for the trail, and if we were moving camp we tore down the tent, packed up the sleds, and hitched the dogs.

The next morning, however, was one on which we didn't break camp. Not knowing what lay ahead, we determined on a day of reconnaissance. So we hitched up the sleds, empty except for our heavy parkas, a change of footwear for emergency, extra gloves, mukluks, a lunch, including principally a large thermos bottle filled with very hot coffee, and my photographic outfit.

As soon as we started the dogs tore down the trail to the river so fast that we had to ride the break hard all the way to keep from dashing the sled to pieces among the trees. We swung out on the clear ice of the river, and started up the dark canyon at a pace of nine or ten miles an hour. The canyon was not very deep, but the walls were so steep that three hours after sunrise it seemed like late evening.

Then all at once we were out of the canyon, at the foot of a great, sunny amphitheatre, perhaps six miles long by three or four wide. The floor was as gently tilted as any agricultural valley might have been. There were scattered stands of spruce timber as far as we could see. On either side mountains rose for about two thousand feet steeply, but not precipitously, except at the very summits. Only at the upper end of the valley, from which we could see three deep gorges emerging, was there any sign of those amazingly jagged summits which typify the upper North Fork country. Otherwise it was a peaceful, cheerful valley, all sunlight, and snow, and flawlessly blue sky.

I should add too much snow. Because after a couple of miles we came to the end of where the river had overflowed. From here on the snow was so deep that all the rest of the way we travelled outward that day, we both had to plod along on snowshoes, breaking trail for the dogs. It was work, but work filled with delight in the beauty of that bright valley, the increasingly jagged look of the country ahead, and the mystery of which gorge before us carried the main tributary of this never followed river. Half way up the valley, I looked back beyond where our camp lay and was startled by the sight of a rock chimney, about three or four hundred feet sheer on the sides we could see, rising out of the drainage to the east. All the way up the valley we kept looking back at this gigantic rock which bore a striking resemblance to Chimney Rock on the Kaniksa Forest.

But if this sight was startling, it was nothing to the revelation of fresh grandeur which awaited us when we reached the head of the amphitheatre. For then we discovered that Clear River emerged from none of the three gorges we imagined, but from a hidden valley which turned almost at right angles to the east. A person simply can't convey in words the feeling it gave to find this broad valley lying there, just as fresh and untrammelled as at the dawn of geological eras hundreds of millions of years gone by. Nor is there any adequate way of describing the scenery. You can give the measurements and outline: eight miles long, one-and-a-half wide, V-shaped, flanked by mountains rising from two to three thousand feet almost straight out of it. You can mention dozens of thousand foot sheer precipices. You can liken it to a Yosemite without the waterfalls, but with rock domes beside which the world renowned Half Dome would be trivial. But with all that there would be no sense of the continuous, exulting feeling of immensity; of the thrill of seeing gigantic pinnacles on every side overhanging jagged gorges; of the great, white, serrated skyline at the head of the valley, built of towering summits nearly a mile higher than we; and over everything the fresh snow, and the blue sky, and the clarity and sparkle of the midwinter atmosphere.

But perfect as this valley seemed from its foot, its ascent unfolded new scenery so magnificent that the first view seemed like only a tourist's glimpse of the real beauty. For into this wide major valley, ten unique gorges debouched. I say unique because every one had a character and individuality about it which made it stand out unforgettable. In the United States every one would be considered worthy at least of being a National Monument. Each was a bit of perfection in itself. Taken all together with the main valley they formed a whole beyond even the characterization of "perfect."

We ascended the valley for seven of its eight miles, unmindful of the hard snowshoeing because of the wonder of the constantly unfolding panorama. All the way up the main valley seemed to close in more grandly about us, while new side gorges were continually revealed. First, on the left a deep valley heading against the back side of those great rock masses on the North Fork which I had called The Gates to the Arctic. On the right a gorge became lost among serrated ridgetops. Then came one on the left completely circled by the most amazing series of needlelike pinnacles I have ever seen. Just above it on the right a short valley dropped out of the lofty rocks. It was two miles to the next valley on the left. This one had the same Yosemite character of the main valley, broad, deep, and U-shaped, with mountains rising on either side so steeply they gave the impression of precipices. Half a mile above on the right, a steep creek was flanked on one side by an inclined plateau, on the other by sheer cliffs. We travelled two more miles until we were practically at the last timber. A mile beyond was the head of the valley into which we could see that four more great gorges entered. The temptation was strong to go on to the end, but we knew that to reconnoitre this upper country properly we would first have to move camp up here. Further, the dogs were getting very tired from the hard pull so we decided it was best to turn back.

The journey downstream supplemented the upstream one, for we got all that beauty from the opposite approach. If it was not on the whole quite as beautiful as facing the other way, there were individual view on the back journey which exceeded the comparable ones on the outward trip. The view of that crag surrounded gulch was one, and the sight of the great rock chimney all the way down the wide amphitheatre was another.

As for travelling, it was much superior. The trail was well broken, and we could walk or trot easily along behind the dogs while holding the geepole. There was plenty of leisure to absorb the scenery. After ten miles of this going we struck the ice. Then we got off our snowshoes, hopped on the rear runners, and flew the last four miles into camp.

That night was the coldest of the trip. The thermometer dropped to 31 below. But that was what we wanted, for we knew that as long as it stayed cold it would remain clear. And clear it certainly was that morning after breakfast when I climbed a little knoll near camp to take pictures. Every visible object, even though miles away, stood out so sharply and plainly I felt as if the slightest effort would be enough to bring me in personal contact with it. There were four distinctly different views from this hill. The one to the north was of the jagged summits across the amphitheatre, that to the south of exactly opposite country, the low, rounded, rolling hills of middle Clear River. East, across the river, was a great basin surrounded by the high summits which divided the North Fork and Clear River watersheds. It looked like a delightful place to spend a week or two in exploration some summer. But the most exciting view of all was directly to the west, where only two miles distant and hardly any higher than where I stood, a low pass led \_\_\_\_? Well that was what made it exciting. Where did it lead? It had been reported several years before by two trappers who had seen it from a distance, while climbing over the rolling hills to the south. They thought it must lead to the Arctic, we didn't. At any rate, in order to tie up our present mapping with what I had done in 1929 it was essential to find out one way or the other. So we decided that before moving our camp to last timber we would spend a day exploring what lay beyond the pass.

It was two easy miles of snowshoeing, almost on the level, to the pass. From here we got a glorious view of that craggy creek which entered the upper valley of Clear River. The dozens of needlelike summits which surrounded it were all overtowered by a

great, black, unscalable looking dome which we recognized to be the Matterhorn of the Koyukuk. This is the highest peak in this section of the Brooks Range, and I estimate its height to be between ten and eleven thousand feet. It made the first direct tie we had with the geography we already knew.

But if the sight of this peak made us feel at home when we looked in that direction, the view through the pass gave us quite the opposite feeling. We could see that about two miles away it lead into a big valley, but we could not tell whether that valley led north or south. If the former it would be the Arctic drainage, if the latter either the Hammond River or Glacier Creek watershed, but at present it was a tossup which. The fact that there was spruce timber right across the pass and down into that drainage made the solution of the problem all the more exciting, because if it really was the Arctic watershed, this would be the first spruce I had ever seen there (though I have been told of spruce on the Firth River along the International Boundary).

We dropped down a gentle grade and snowshoed across a half mile long lake, but it was not until we were almost in the main valley that we were sure it definitely led southward and was not a part of the Arctic watershed. For a moment I thought I knew just what part of Hammond River we were at, and then discovered that I did not know at all. We followed down the steeply dropping ice of the river through heavy spruce timber for about two miles, when we came out on an open bench. We got a view for miles down the broad valley, which had none of the jagged surroundings of the Upper Clear River and North Fork Country. I tried to recognize landmarks which I had seen on my journey up Hammond a year and a half before. We even considered the possibility that this might be a branch of the Middle Fork. Finally, however, to our great surprise, it turned out to be neither, but Glacier Creek which I supposed had petered out miles below.

After nearly an hour of sketching the topography, we turned back upstream. The rear side of the chimney we had seen from Clear River was towering above us steeply, but not too much so on this one face for an ascent. We continued beyond where we had come into Glacier Creek from the pass. The river kept on rising at a sharp grade, all the while diminishing rapidly in size. After three miles we reached the very last trees, and could see a few miles above us the head of the stream. It was too late to make the steep ascent up to it, but instead I spent an hour profitting by this unexpected encounter with another northern timberline. This one for the first time showed me the effect which the altitude of the ranges near the Continental Divide exerts on impeding the northward progress of timber.

We returned back through the pass by the route we had come out. On the way we saw the fresh tracks of three moose which we had scared. Had we needed the meat it would have been very easy to shoot them. All the way down to camp from the pass we walked toward a glorious orange sunset which by itself would have been enough to make the day an exceptionally rich one.

Next morning we broke camp and returned up Clear River by the trail we had broken out two days before. Unfortunately enough wind had blown in the meantime that we had to rebreak it practically all the way, but the hard bottom already established did help a good deal. There was not the excitement of bursting into new territory which had marked our first venture up here, but the scenery was just as surpassingly beautiful. Many vistas, unobserved the first time, gave a fresh thrill on this day, including a thousand foot black cliff hanging over the south side of the valley, which made no particular impression before because I was looking so eagerly ahead. In order that we could discuss the geography without making motions we named a few of the valleys this day. The first one on the left, heading against the high rock summits toward the North Fork, we named Holmes Creek after the great jurist, whom we both admired so much, and

who we knew was celebrating his ninetieth birthday at about that time. The next one, surrounded by all the needled pinnacles, Ernie always referred to as Craigy Creek, so we called it by that name. The gulch which came in at the head of the valley to the left we named Karillyukpuk, which is the Eskimo for very rugged, while the main valley itself we called Pinnyanaktak which is synonymous with the cumbersome English phrase absolute perfection of beauty.

We made camp in a thick clump of spruce timber, half a mile below the very last trees. We seemed to be right in the center of a ring of towering mountains, which we saw in vistas through the evergreen branches of the trees. Underneath us was snow so deep we couldn't go a hundred feet from the tent for a stick of wood without using snowshoes.

There followed three more days of perfect weather and perfect exploration from the camp. Each morning after breakfast we set out on our large snowshoes for a day's journey over country no white man had ever seen before. Each afternoon, hungry and happy, we returned to a comfortable camp and a sumptuous supper. Each evening after supper I spent a stuffy three-quarters of an hour unloading my days photographic efforts and loading up for the next one, while Ernie cooked the dog feed. Each night, just before retiring we stepped out into the thirty below air to feed the dogs, and stand around a few minutes watching the colorful waves of the aurora surging and darting across the sky.

The first day we climbed a low mountain at the very head of the valley which was so centrally located that we got a splendid view of each of the four upper gulches which emptied into Pinnyanaktak. For sheer ruggedness I don't recall any mountain view which ever excelled this prospect of peering into chasms. And for a general impression of grandeur nothing could exceed the sight down the great U-valley of Pinnyanaktak, flanked on the south by what were almost 2000 foot precipices, on the north by far higher peaks, so jagged that the skyline for eight miles was a succession of needles. At the foot of the valley the deep drainage of Holmes Creek headed back against the lofty summits of the North Fork. The valley floor itself was checkered with white snow and scattered patches of the dark green spruce, which occurred the length of Pinnyanaktak on the south facing side, and not at all on the cold north slope. The final timberline consisted of a group of five trees, almost at the head of the valley.

In the northeastern corner, at right angles to the direction of the main valley, the largest fork of Clear River entered between a solid array of precipice faced mountains. They rose up for perhaps three thousand feet on both sides of the half mile wide glacial valley. These sides were so deep that the sun only shone in the valley for a couple of hours in the morning. Perhaps six or seven miles up we could see that the river bent sharply to the right, but following the direction it had been going was a low pass through which we recognized with delight Two Prong Mountain on the Upper North Fork. This gave us another tie with what was already known to us, and gave an excellent check to my crude method of mapping our position by compass shots and estimated distances travelled.

We had not yet, however, solved the major problem of the expedition, whether Clear River headed against the Arctic Divide. We both thought the high skyline a mile beyond us was this divide, but it was too steep to scale in the loose condition in which the snow was. There seemed too much danger of starting a snowslide to make the chance worth while. As it was, this little mountain we scaled made the steepest snowshoe work I had ever tackled, though Ernie assured me it was nothing.

It was still early in the afternoon when we reached camp, so I hiked back up the valley with my increment borer and diameter tape to make growth and diameter measurements

on the timber. Boring half a dozen of those frozen trees was more work than the whole day's travelling. But the results were most interesting, and while they seemed to corroborate my timberline theory in general, they made certain modifications necessary too. The most important of these was the terribly severe struggle the furthest trees have to make against the wind, until a forest becomes established to break its velocity and protect the young seedlings. Apparently, in the early stages, the wind for years keeps breaking off the tender tops of the young trees. Finally, a time does come when the trees overcome this enemy, and then they grow at a good rate, but for years before that period is reached they have an exceptionally severe struggle. I found one tree which had taken 52 years to grow the first 4 1/2 feet, while the average time to attain that height was from 30 to 35 years.

Next morning we set out to follow that largest fork of Clear River to the divide, if it did not prove to be too far away, and if there seemed any possibility of scaling up to it. We cut across the bench on the north side of Pinnyanaktak, and dropped into the canyon where the upper river enters the main valley. Then we snowshoed for miles along the river, between great precipices which towered not quite sheerly out of the valley for three thousand feet. Aside from one steep gulch which cut in on each side, these massive rock enclosures to the canyon were unbroken boundaries for six miles. I became so accustomed to them that it was hard to realize their immensity until I pictured myself against the base of one of those cliffs, and felt like a beetle on the side of the Equitable Building.

But a person can't get quantitative while snowshoeing through such a display of nature, otherwise each step would seem too trivial and the prospect of ever getting anywhere too impossible. Mostly I was just happy in feeling the immediate presence of nature in its most staggering grandeur, in living intimately with something so splendidly immense that all of life seemed immaterial in its presence. No doubt too, there was the joy that here was something which mankind with all its power could not possibly hope to reproduce.

Six miles up the river we came to the low pass over to the North Fork. Here there was an amazingly abrupt change in the topography, and the great sheer cliffs which had bounded the left side of the valley gave way to rolling hills. Rolling hills, however, not without a distinct beauty, for they made just the right contrast to those hard, titanic summits. Also they were cut by deep gulches, all glaciated over and filled with blue ice. On the right side the mountains kept rising ever higher, but they were further removed from the valley and no longer quite so precipitous. Ahead we kept seeing one very high, two-peaked summit. We could not determine on which side of the divide it lay, but we knew if it was on the far side we would never reach the divide that afternoon.

The river itself ran among great boulders, and often cut subsidiary canyons for itself in the floor of the main canyon which embraced the entire valley. Sometimes it jumped down twenty-five feet at a time, giving us quite a task to pull ourselves up the frozen waterfalls. After a while we could see it was making a great horseshoe ahead. We cut off to the left, and started climbing gradually up the rolling hills on that side, heading for where we figured, if there was any pass ahead, it would lie. For a long time we plowed steadily uphill with always before us only the barren, snow-covered hillside we were climbing. Then the grade commenced to lessen and we could see mountain peaks jutting above the skyline just in front of us. We quickened our pace, knowing that in a few moments we would find out whether we could reach the divide or not.

The few moments passed and we found ourselves standing indeed on the great Continental Divide. I do not know what may be the supreme exultation of which a person is capable, but I am perfectly satisfied that it came for me that moment I crossed the skyline and gazed over into the winter buried mystery of the Arctic, where great, barren peaks jutted into the deep blue of the northern sky, where valleys, devoid even of willows, lead far off into unknown canyons, where right below me lay a chasm so many hundreds of feet deep, it seemed no sunlight could ever penetrate, and out of its depths, all bathed in sunshine, a white pinnacle rose, at a slope of not less than sixty degrees for almost a mile, into the air.

We remained for nearly two hours around the pass, snowshoeing down along a plateau on the Arctic side for a couple of miles to get a better view of the chasm. The pass really consisted of a plateau land, about six miles long and a couple of miles wide, running nearly east and west. It was bounded on the south side by the very high peaks I have mentioned, on the north by those rolling hills which divided it from the North Fork drainage. The plateau was cut deeply on one side of the divide by that Arctic chasm, on the other side by the source waters of Clear River. Standing in the pass you looked eastward when you looked toward the Arctic. When you looked westward you saw that most jagged of all these northern ranges, the one which separated the upper North Fork from Pinnyanaktak. Here was a series of hundreds of high, unscalable, black crags, and the highest, most unscalable looking, blackest of all was our old friend which had previously stood out as a landmark from every other direction except this one, the Matterhorn of the Koyukuk.

It was terribly hard to tear away from this glorious plateau, even when the sun, dropping behind the great, black dome of the Matterhorn, warned that evening was approaching. But the prospect of siwashing out beyond timber with the thermometer pressing close on thirty below finally made us abandon all that beauty, and drop back into the upper canyon of Clear River. We snowshoed with long strides down the precipice set valley, only stopping long enough to remove our webs and slide down the frozen waterfalls. Facing downstream the view was so different from what it had been in the morning that we felt as if we had found another great chasm. When we emerged from the lower end and stepped out into the bright sunlight of the main valley it seemed also as if we had found a new day, though it was really the ending of perhaps the greatest I have ever known.

After that, any day would have to be an anticlimax. So the next day, which ordinarily should have been a great and memorable one, stands out merely as pleasant in my mind. I set out for an exploration of that deep Yosemitelike valley which enters Pinnyanaktak from the north, and looks like a replica of the main valley. It is perhaps a mile wide, flanked on either side by mountains only a trifle less imposing than those of the main valley. Like the main valley, too, it is swelled by numerous side gulches, seven in this case. It is about ten miles long and heads against a fairly low pass into the North Fork. Each side valley, too, looks like a fascinating field for detailed exploration, and many of them branch out into further gulches, so that where the process of branching ends I cannot say, the heads of several of the subsidiary forks being hidden by crags.

Ernie had spent the day around camp, resetting the guide ropes on the sleds, cooking up dogfeed and our own, getting a sample of wood for me, preparing things so that we might break camp quickly in the morning. We did that with much celerity, and by eight o'clock were flying along on the rear runners of our sleds down the old trail we had broken up Clear Creek.

Once you break out a trail through the snow, the snow where it has been packed down freezes and gives you a fine, solid bottom on which you, the dogs, and the sled

can travel without sinking. Such a trail makes almost ideal going, really better than ice, because the sled slides with almost as little friction, while the dogs can get a much better foothold. Also you don't have to worry about fresh overflows. But if you get out of your old trail, just a little bit, the runner which gets off sinks out of sight, and probably the next moment the sled will tip, the dogs will howl, and you'll cuss. I did anyway during a four mile stretch just above and below the foot of Pinnyanaktak, where the wind had drifted the trail just enough that a poor pilot couldn't keep the sled on from behind. Anyway, I never could keep an auto for any protracted period on the ridge between two adjacent ruts in a muddy road, and that was child's play compared with putting just the right amount of weight and pressure on now one and then the other of the rear handle bars, so that the sled would turn one eyelash instead of two. So I ran my load off into the deep snow, now on one side and then the other, would run up front to help pull it out, run back, run front, run back again, and all the time, most exasperating of all, see Errie ahead comfortably riding the rear end without the slightest bit of trouble at all.

But when the four drifted miles were over so was all the hard going. Thereafter, it was the easiest sort of a day, standing comfortably on the rear end of the sled while the dogs trotted at a steady seven mile an hour clip, and what had taken us three hard days to ascend flew by in a single easy one. Over the snow, out on the ice, through overflows, the dogs jogged their unvaried gait, while the now familiar scenery of the amphitheatre, the Hammond River Pass, the Great Basin, the rolling hills of the middle river, the Big Bend, and the lower river canyon all passed by, and we emerged on the North Fork itself, right where we had been trapped by two flooded rivers a year and a half before.

When we reached Ernie's headquarters cabin at the North Fork we found one red fox frozen in a trap. It was the first Ernie had gotten in this winter of unusually poor trapping. We also found where a wolverine had dragged another trap, toggle and all, away. As soon as we unhitched the dogs and started the water thawing we took after him. We tracked him across the North Fork, and up the mountain on the other side, and finally caught up to him more than two miles from camp. He was making heroic strides up the mountain, dragging a birch log behind him. I almost wished, though it was an unusually fine wolverine fur, that he would pull out of the trap at the last moment and get away. Instead of helping him, however, I snapped pictures, and if they turn out I will feel sufficiently revenged on the genus Gulo, for I believe I failed to mention that another member of that genus stole from our inadequate cache most of the moose I shot last fall. After the picture, with much ferocious snapping and snarling, and a .22 bullet between the eyes, the wolverine kicked off.

Next day we layed off, more or less. We took the sleds in the house to thaw them out, reorganized our commissary for the second phase of our expedition to Wild River and Bettles, and then spent the afternoon breaking trail for five miles over the portage until the West Fork trail which Ernie had cut emerged on the river. The following day we loaded the sleds and started out over the same route. When we got to the end of the broken trail, we had to snowshoe ahead of the dogs again for seven miles up the river. Ernie expected that we would have fresh ice most of the way, but it was practically all fresh breaking. It was hard work. We reached our destination only an hour before dark. As soon as camp was set up Ernie set out to break trail up the steep mountainside above us. This was the route we would have to travel on the morrow to get through the high pass into Flat Creek, a tributary of Wild River. Meanwhile I chopped wood and did the cooking. It was long after dark when each of us finished our tasks.

Next morning we started up the mountainside. It was lucky Ernie had broken the trail out so well the night before, because even then we had to put ropes over our

shoulders and pull with the dogs in order to get up the steep incline at all. From the grade we got a fine view into the head of the West Fork, which at its upper end runs into the rugged mountain zone. We crossed the pass, and then dropped on almost no grade at all into Flat Creek which was full of little lakelets, but otherwise just as uninteresting as its own name. We followed down the creek for three and a half miles, Ernie breaking trail, and I geepoling the coupled sleds. Then we left the creek and headed for another low pass, this time into the main Wild River about four miles above the Lake. Now came a mile of the toughest travelling we had on the whole journey. Ernie would snowshoe ahead about a hundred yards, snowshoe back, and snowshoe out again before I would start up the dogs, pulling with them all the time for everything I was worth. Even then, with seven dogs and one man pulling two not very heavily loaded sleds over a three times beaten trail, we could only go about 30 feet before the dogs would have to puff for breath. It took an hour and a half to cover one mile and climb up perhaps 500 feet. But we finally reached the saddle and looked down into Wild River.

The drop-off into this stream must have been about 800 feet, and it was even steeper than the ascent. The problem now was to keep the sleds from going too fast. We roughlocked the runners by twisting around them the chains with which we tied the dogs at night. But the sleds would not stay back, and I had to brake half the way down by leaning on the geepole and bracing my webbed feet in front of me. It was something like skiing, and lots of fun. But the continual catching of the roughlocks on buried snags was not. Every time that happened I had to go back and chop them out. Those of you familiar with my axmanship will not be surprised to learn that on one occasion I not only chopped through the snagging stick but also started through the sled runner. Fortunately the steel in the center of the runner was harder than my axe, so I could not chop all the way through. Indicative of Ernie's rare patience, his only comment was an amazed: "Jesus Christ!"

We made camp just across Wild River. Next morning we started upstream, bound for the timberline on one more major river. We had hardly started when we saw the fresh tracks of five moose which we must have scared while setting up camp the night before. The valley seemed to have been full of moose, for we saw the newly made tracks of seven more further up. The animals themselves we did not see, though I imagine half an hour of effort would have disclosed them in every case. Timberline was only seven miles above our camp, while the head of Wild River we could see about three miles beyond. Ernie and I spent an hour and a half between taking measurements and warming our fingers. Even when the temperature is as high as 20 below, counting fine tree rings is a chilling task. But they had to be counted right on the ground, because in boring the frozen wood the extracted cores crumbled all to pieces and could not be preserved. On the way back I measured one tree, just a mile from the last timber, which was 18 1/2 inches through at breast height.

The following morning we broke camp and started downstream for the diggings on the Lake. It was 4 miles of hard trail breaking to the head of Wild Lake, and then two miles of easy breaking across the Lake to Spring Creek. The glare from the sun was terrific, even with sun-glasses. I have not mentioned them before, but they are an essential for all springtime travel in the Arctic. For the combination of the high sun with a landscape still completely covered with snow is an ideal stimulator of snow blindness. At this time of year everybody, native and white wears snow glasses, most of them even around town, and the agony of real snow blindness is rare, though a slight touch of it is frequent. I got a touch one day, and it felt like an eyeful of lashes.

At Spring Creek we saw our first human beings in 16 days. Lutey Hope, an immense 225 pound squaw, rushed out from her cabin to greet us, and threw her arms around

Ernie's neck. As I was a total stranger she did not adopt quite such violent methods on me. Nevertheless, she instantly made me feel at home, and simultaneously I felt as if I'd stepped suddenly from the wilderness into civilization.

We spent three days at the Lake, which is seven miles long by about one and a half wide. It is one of the two largest lakes in the Koyukuk drainage. It is surrounded by mountains which are not rugged, reminding me much of the mountains which rise from the shores of Lake Placid in the Adirondacks. But Wild Lake has none of Lake Placid's attractive islands, nor the fine forests which extend from its shores clean to the mountaintops. On the other hand it hasn't got its thickly clustered camps or its noisy powerboats.

The primary object of our visit was for me to make the acquaintance of new friends, the secondary one for Ernie to renew acquaintance with old ones. I spent a day and a half at each of the centers of habitation, first at Spring Creek where Lutey, Sammy, and Henry Hope, Eli Hanson, and Creecy lived; then at Lake Creek four miles down the Lake with Gus Wagner and Ben Sirr. Ernie spent all his time at the latter place.

Lutey is a Koyukuk Indian, her husband Sammy an Eskimo, and their adopted son, Henry, half Eskimo and half Japanese, so that makes an interesting combination for the home. But from all reports, though Lutey is fat and sterile, Sammy younger and handsome, and Henry as spoiled as you'd expect the first child of a motherly, middle aged woman to be, the family gets on exceedingly well. Life is a very jolly affair to them, even when Sammy gets drunk and Lutey loses her temper. Their philosophy was summed up by Sammy when he remarked: "One day's as good as another as long as we got life and enough to eat and a little laughing now and then."

Like all the natives around here they are great at joshing one another. Here is typical repartee between them.

Lutey- Sammy, he got little boy over Chandalar.

Sammy- I got family all over country.

Lutey- (laughing)- Ain't it a shame, Bob, leave children all over country.

Sammy- Sure, I get children all over. Old woman kick me out, I get lots of place to go.

Lutey- Lots of children, no papa, what's the difference he think. Kids good all the same. He's right. Old fellow all the time got chicken up here (pointing to head), but he got some sense all the same.

Who should pity and who should be pitied is all a relative matter. This was Lutey's comment in a voice full of sympathy, relative to a photograph, in some old magazine she had, picturing some scrawny, bobbed haired missionaries bound to help the heathen.

"Poor people! Thin, ugly, hair all stand out. Poor people!"

Lutey is the only middle-aged native woman in the whole Upper Koyukuk who doesn't get drunk. The generation which was old before the whites came and the present generation still in chickenhood, don't seem to have succumbed very much, but among the middle generation Lutey is the one great exception. Her great objection to drunkenness among the women, though she doesn't express it in just those terms, is it's bad psychological effect on their children.

While we were conversing the first afternoon Eli Hanson and Creecy dropped in. Eli Hanson is a Norwegian, one of the rare people in the Koyukuk who passed the Stanford-Binet test below normal, one of the few characters in this civilization who is solely concerned with attaining his own welfare, no matter how adversely his activities may affect his neighbors. His chief interests are mining, chickens and bootlegging.

Creecy has the distinction of being the Koyukuk's only negro. Whatever else may be said about him, he has lots of personality, and people either seem to like him very well or dislike him heartily. Interestingly enough in all my time in the Koyukuk, I have never heard a single unfavorable comment about him because of his race (though he feels there has been prejudice against him on this score). Nevertheless, there are plenty of unfavorable comments made about him, on the basis of traits of character which are just as unpopular among the whites. One of these is his passion for telling wonderful but patently impossible experiences in which he always stands out as hero. Another thing is that he boasts of a lot of petty thieving with which he has gotten away. Again he houses his dogs in the government cabins while on the trail, a distinctly unsocial act. He is a great lover of sensationalism (generally disliked in here). About three years ago it cost the government several hundred dollars when it sent Charlie Irish out on a long, hard trip to hunt for him after he had left a note on the trail saying: "I am on my last legs and I'm looking for a place to die. R. H. Creecy." It was all a hoax.

I found him a most interesting man. He had served under Miles in the old frontier army, and claims to have been present at the death of Sitting Bull. He draws a pension from the government for his services there. Nevertheless, he went to jail for six months during the War for making obscene remarks about Woodrow Wilson. When the hundred per centers in here threatened to arrest him he made matters worse by saying: "Such damn hypocrisy. Didn't he say not six months ago he'd keep us out of War?" When they told him he was a pro-German for making such statements he replied: "When my country does wrong I'm going to criticize. That's what the real hundred per cent American will do, not say its right when its wrong. We say how cruel the Germans are, and we're going to teach them to do right. Why don't we begin on ourselves, when we go out dozens of times each year to take some poor crazy devil and burn him to death." So they took him to the jug in Tanana.

He never had any formal schooling, but they taught him to read and write in the Army. He even learned a little arithmetic, but he doesn't claim to be any great mathematician. "Even right now", he says, "I can still recite the multiplication table, but I don't believe myself." What he lacks in this field he seems to make up in rational thought.

Here is one of his remarks:

"We say (concerning the Natives) 'those poor, innocent devils, they don't know enough to develop their resources.' But we come along and squander all our resources till we haven't any left. Now who's the ignorant devils?" *good*

His views of science are decidedly modern. He says: "Another thing we should study is the blow-fly and the piss-ant. We can learn more studying these little, simple things - but they're not really simple at all - a person has no idea how much intelligence the animals have. When I was over in the Chandalar-----"

Then he went on to describe in detail a study he had made of them in an old cabin he was re-occupying.

"I hadn't been at the cabin for three or four years, and me going into the door with water and what not, I must have disturbed them, and they decided to make a new trail and home. First thing I knew the wall was black with them, apparently they was holding a consultation. The first thing they done they started to make a hole in the moss, but that didn't seem to be any good. Then they went to make a hole in the solid log and abandoned the hole in the moss altogether. They also abandoned their old trail through the door, and made a new trail to connect with the part of their old trail I hadn't disturbed. They moved every stick and needle from the trail so they had no obstacles to their travel. It was cleared out just the same as a person would brush out a trail, only they take more pride in a neat job than a person.

"When they got finished with their trail it looked as if one of them showed them, 'here's the place to start in', and they all start to bore. When they got so far with their hole it looked as if one would go in and come out with nothing. All the others would go in and come out with their mouths full, but this one always came out with nothing. Just to be sure it was the same one each time I put just enough flour on him so I could detect him - cause if I'd put too much probably it might have bothered him - and it was always just the same one. Evidently he must surely have been giving them instructions.

"I went half a mile away and picked up another ant from an entirely different colony, and they were just like a bunch of Southerners, they made short work of him.

"Now I'll kill a wasp and give it to one. It's too heavy for him to tug it, and he'll go and get some others to help him. Then three or four will come back and they'll drag him to the hole. Then others will come out, and they'll all look at him. Then the leader will give some signal, we can't see it, but all at once they'll all get busy, and they'll cut off the legs and cut off the wings and cut off the head from the body, and each one takes a piece and drags them into the hole, or that is they may have a dozen or fifty entrances, but all lead together.

"Now why don't we study such as that. We got lots of time and lots of people to do it."

Down at Lake Creek, Gus Wagner is opening up some ground which he is certain will yield him and his partner, Hans Leichmann, a fortune. Nobody else seems to think he can make more than expenses out of it. But by some strange freak, misfortunes seem to have made him a crazy optimist. He was driven out of Germany in 1904 for ultra-radical socialistic activities. "It was better it should be so, because if I had stayed I would have been caught in the War and would probably be dead now." His only child was killed toward the close of the War. His wife died long before that. His whole interests are now concentrated on the fascinating pursuit of virgin gold. He has no ties and no interests outside.

His partner, Hans Leichmann, who was on the trail hauling freight while we were there, is quite the opposite. His most engrossing interest is World Politics. He will sit and argue for hours on the subject with remarkable erudition, for he is reading constantly the most scholarly books he can find. While he was at Wiseman he found in my library two books he was planning to send for when he got a little money ahead, and these he has with him now to read each night after his day's mushing is done. They are The Decline of the West and The Magic Mountain. The papers he subscribes to are: Kölnische Zeitung, Review of Reviews, Current History, Literary Digest. His greatest delight is to listen to classical music. The week he spent in Wiseman, I played more symphonies on my phonograph than any time since I came. Together with Floyd Hyde, we sat for hours listening to Beethoven, Schubert, Tschaikowsky, Wagner, Liszt, Bach and Ravel.

"What I've always longed to do", he says, "if I ever got any money, was research work. That's why I came up here, thinking I might make big money quick, but now I'm too old (37) to start in even if I make a stake."

This is his evaluation of the Arctic life. "It's a hard life up here, so many hardships, and you have to deprive yourself of so much. You've got to miss all the fine music, and then you don't have any women hardly. There's no chance for most men to live with a woman. Anything that's unnatural is bad for a man. That's why I say this life up here without any mate is bad."

Nevertheless "life in here is a thousand times better than the life of the working man outside. You have so much freedom, and you work for yourself."

In contrast to these two socialists, Ben Sirr who is temporarily working for them is one of the most bitter anti-socialists in the camp. He stopped taking the *Cosmopolitan* and *MacLures* because "they're too damned socialistic. "To him the most interesting news from the outside world during recent years has been the new giant telescope being erected on Mount Wilson. He drew me a diagram to explain the principles of optics involved, his source of information being The Scientific American.

His greatest joy seems to be to take trips outside, not because he cares for the outside particularly, but because he likes to tell about it when he comes back, and to pose as the great up-to-date world traveler of the Koyukuk. For permanent living he much prefers the life in here.

"Why god almighty, man, you were a hell of a lucky bastard if you got two-and-a-half or three dollars a day outside. In here you may make a hundred times that in one minute. And even when you're making nothing, it's fascinating."

Locally Ben is known as "the little man with the big voice." A tiny fellow physically, you can hear his rapid fire chatter when still a good ways from his cabin. Unlike almost all people who are continually talking about what they do, Ben is an unusually active worker for a man of 65. He has a remarkable record of finding dying people on the trail and saving their lives.

This was the personnel of that remote community. So pleasant were they and so interesting that it was hard to leave them for good, after only three days. But we had to be on the way, so the fourth morning we hitched up the dogs and started out over the well-beaten trail to Bettles, 53 miles away.

It was up hill and down, on the trail and off, run behind and ride all day long. On the level stretches and gentle down grades we rode comfortably on the rear runner. On the steep down grades we descended in a flurry of snow made by the tightly pressed brake. On all up grades we ran to ease the effort of the dogs. The only really hard going was on the side hills where the trail had drifted. Then it was a hell of a job, at least for me, to keep the sled on the trail. But on the whole the going was good, and we struck off 36 miles in one run. We stopped for a couple of hours at the Government Cabin to rest the dogs and eat a belated luncheon, after which we set out to cover the remaining distance to Bettles. The first seven miles made the most delightful mushing I have ever experienced. It was all a gentle down grade, so there was nothing to do but stand comfortably on the rear runners and enjoy the sunset sky and hum a little to the rhythm of trotting dogs. Thereafter came a considerably drifted flat country, so we had to work most of the last ten miles into Bettles. It was an hour-and-a-half after dark (which now came two hours later than when we started the trip) that we pulled into the town of Bettles, which at the start of the century numbered 300 people, but now included only twenty-two, of whom but seven were in town during our sojourn.

I would like to tell you about these seven too, for every one has an interesting story. But already this letter far exceeds in length any I have yet written. So I will have to leave for your imagination the story of Jack Dodds, the asthma invalid whose only objective is to live as comfortably as possible, and who distributes everything he makes at the roadhouse, beyond his own meager needs, to those around here who are in want; of Joe Mittenpherg who has been stone deaf for years; of old Louis Larrimore, dying by inches; of Al West whose wife abandoned him when he came to Alaska; of Frank Thiesen, who came to the North to find the adventure of the Wild West Magazine Stories - and found it; of Frank Smith, one of the real old-timers, who is the most despised man around Bettles; and of his wife, Mary Smith, a Koyukuk native, who years ago killed her child by beating him against the side of a cabin.

The third day we were at Bettles a howling snowstorm came out of the north, and we left for Wiseman the next morning in quite a blizzard. But blizzards were not to be worried about when travelling with the two best dog mushers north of the Yukon. On the last afternoon in Bettles, the monthly mail pulled in, driven as usual by quiet Charlie Pitka of Tanana. Charlie is three quarters Yukon Indian and one quarter Russian, his grandfather being Peter Pavlov, and so mentally keen is he that I would not be surprised if somebody told me that he had traced his geneology to the great physiologist. In addition he is always pleasant, always anxious to help, and as I have remarked, one of the great dog mushers of the North. It gave one a sense of perpetual youth to see him and Ernie, both past fifty, breaking tough trail in the soft, freshly fallen snow more easily than most people would walk down the street, and a devil of a lot easier, I'm sure, than their companion of thirty did when it came his turn to go ahead.

The first day out was hard going every foot of the 23 miles to the North Fork Cabin, which we reached at dark. The second morning the going was worse yet, but by afternoon we seemed to have gotten out of the most severe zone of the storm, and we covered this day's 20 mile stretch to the Windy Arm cabin in considerably faster time than the day before. The third day, which involved the last 21 miles into Wiseman had practically no snow at all. We rode the rear runners all the way, except for Charlie who geepoled his long sled on skis on which he slid along with just as little effort as there was to riding.

We reached Wiseman in mid-afternoon of the last day of March. All the kids came rushing out, and as soon as the dogs were tied, they made me put in a more energetic hour giving pig-a-back rides, than were most of those on the trail. After having my whiskers duly pulled, and telling a few stories about the man in the moon, I was allowed to read the mail which had come early in March. There was a big dance that evening, which, though nearly broken up by April Fool pranks around midnight, continued gaily until three in the morning.

As ever,

BOB.

April 18, 1931.

P.S. Last night at midnight there was still faint color in the northern sky, about as much as four months ago had remained in the south at quarter to four in the afternoon. So the 24 hour day has come again. Tonight comes the great Breakup Dance, last dance before the spring breakup makes even the short six mile journey from the creeks to town impossible. The snow is melting rapidly on all the roofs. So I am reminded that winter is almost over. And that recalls another fact, that you will all be leaving for your summer activities, and I will soon be starting mine, and that therefore this will be my last general letter.

Before ending this tremendous inundation which I've been pouring on you, willy-nilly, all winter, I want to thank the majority of you most immensely for your great kindness in writing to me so frequently all winter. This civilization is so delightful that a person really doesn't need any outside stimulation to be happy, and yet I'm afraid I lack the power to tumble myself sufficiently abruptly from one life into an entirely different one, that I can get along contentedly without keeping in touch with my friends of the first. Thankfully, about two thirds of you have been good enough to write already, and probably some more will chip in before I leave. To some of you who have been exceptionally kind enough to write me from 3 to 28 letters I want to give special thanks. And to the person who wrote the 28 letters as well as supervising the sending of all these mimeographed volumes, I want to give the most special thanks of all. I should add that in addition to all the quantitative kindness of your epistolary efforts, distance seems to make for remarkable quality, so that I've never seen such a fine collection of letters as I've received, either in print or out.

The approximate plans for the future are:

May 1 - July 4 - Making dendrographic, atmometric, and plant water content measurements around Wiseman.

July 5 - Aug. 15 - Travelling to timberline on the Alatna and John River watersheds, and also exploring them, in partnership with Ernie.

Aug. 16 - Sept. 4 - Bidding farewell to Wiseman.

Sept. 5 - Sept. 20 - Coming around to Nenana by river.

Sept. 21 - Sept. 23 - Visiting in Fairbanks.

Sept. 24 - Oct. 15 - Returning to New York.

Oct. 16 - ? Writing up my ecological, physiological, sociological, and perhaps geographical data some place in the East, probably New York.

For any of you who may write to me within that period, I can be reached at different places by mail leaving the Atlantic Sea Coast up through the following dates:

Wiseman, Alaska - August 3.

General Delivery, Fairbanks, Alaska - September 7.

General Delivery, Seattle, Washington - September 26.

U. S. Forest Service, Missoula, Montana - October 5.

50 Central Park West, New York City (c/o James Marshall) - November 1.

BOB.