

The Exploration of the Cariboo Range from the East

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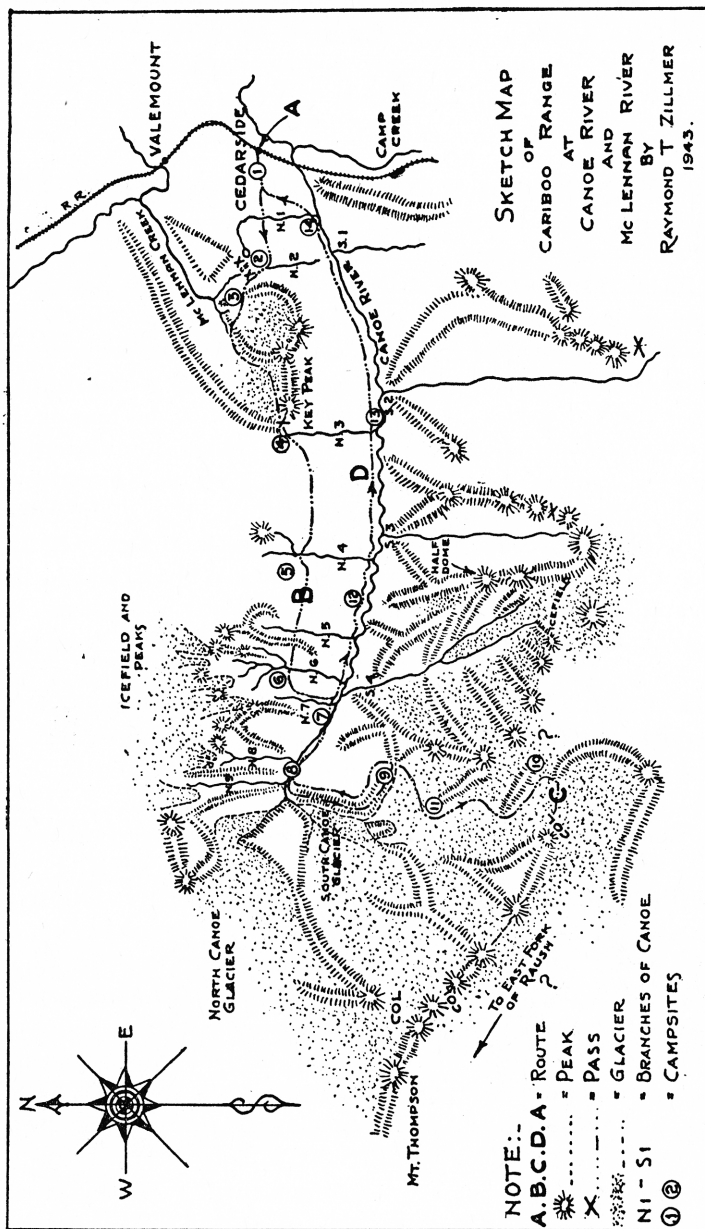
IN referring to the Cariboods in this article, I have in mind only that higher portion of the Cariboo Range which is E. of the Raush River and the headwaters of the Azure River, and E. and N. of the North Thompson River.

As the main features of the topography of the Cariboods are now established, a short résumé of the various expeditions into the Cariboods will be appropriate: From 1871-1874, several expeditions were sent out by the Canadian Pacific Railroad to seek a railroad route across the Cariboods. No route was found, nor did any of these expeditions penetrate to the core of the range. For over forty years the Cariboods were undisturbed. In 1916-1927, mountaineers attacked the range on the north. In 1916, E. W. D. Holway and A. J. Gilmour reconnoitered the range up Tête Creek. In 1924, Allen Carpe, R. T. Chamberlin, and A. L. Withers, and in 1925, Mr. and Mrs. W. A. D. Munday, entered by way of the same creek. In 1927, Carpe and Chamberlin entered by way of Kiwa Creek lying immediately N. of Tête Creek.

The Carpe and Munday expeditions were particularly productive in establishing the topography of the region in which they travelled, but in reporting and mapping the region to the S. and E., Carpe and Munday made serious mistakes.

In 1939, Lorin Tiefenthaler and I went into the Cariboods for the purpose of clarifying the topography of the S. and E. We went in from the S. by way of the North Thompson River and hoped to get out toward the E. by way of the Canoe River. Our hopes were too ambitious, for we were compelled to return by way of the North Thompson River, but we did establish the southern topography of the Cariboods. We found that both Carpe and Munday were in error in determining that the North Thompson and Raush Rivers rose in a common low pass as shown by their maps. The pass they saw and indicated on their maps was the pass between the Azure and Raush Rivers. Munday believed that there was a big icefield S. of Mt. Thompson, but Carpe doubted that there was room for such an icefield. We found that there was no such icefield.

Mr. Munday, however, still insists that his picture [*C. A. J.* xxvii (1940) opposite p. 199] looking S. from Mt. Thompson



shows such an icefield. With the hope of securing an impartial interpretation of the puzzle, I submitted all our pictures and data to Mr. Howard Palmer, noted explorer of the Selkirks. He solved the question by identifying Mt. Thompson in our photographs by matching the sky line in them with the same sky line as seen from the other side in pictures by Allen Carpe. Mt. Thompson is the highest mountain in the left distance of the lower view appearing opposite p. 74, of *American Alpine Journal* iv (1940). As Mr. Palmer found that the whole sky line to the right of Mt. Thompson is not broken by any gap, he determined that no great icefield extends across it, a fact which is confirmed by Holway's panorama showing the opposite aspect of this range [*C. A. J.* viii (1917), p. 32]. Therefore, the icefield must all lie within the scope of the Munday picture.

The identification of Mt. Thompson clinched other interesting conclusions: (1), that in 1939, we had approached to within five to seven miles of it; and (2), that the slopes and peaks we then visited must be plainly visible in the photograph from Mt. Thompson. And they are. They lie in the middle distance to the right of the center, between the figures 4 and 5. We discovered that these snowfields are definitely severed from the snows in the foreground by a secondary ridge of peaks under the figure 7, readily identified by Mr. Palmer in our photographs from the other side.

Consequently the "icefield" of the Munday picture from Mt. Thompson belongs to three separate glacial basins instead of to one, and from each basin flows an independent glacier. The largest, seen in the foreground, drains to the E. branch of the Raush River, the one in the right background drains to the Azure River, and the one in the left background drains to the Frye fork of the North Thompson River. Hence, all that is left of this vaunted "icefield" is the E. Raush Glacier which, from the Mt. Thompson panorama, can scarcely exceed half a dozen square miles in extent—a far cry from the "20 to 30 square miles" as labelled in the caption of the photograph, or the "40 square miles" claimed by Munday at an earlier date (1925 *C. A. J.*, p. 131).¹

¹ Mr. Palmer writes: "Your pictures and your traverse of the snowfields overlooking the Raush-Azure pass in 1939, taken in connection with the map by the Geological Survey of Canada and the panorama from Mt. Thompson, clearly depict the lay of the land between the headwaters of the North Thompson and the Raush Rivers. They reveal that no continuous icefield of great extent exists in this locality, but rather a series of glacial basins of ordinary size, bounded by ridges of secondary peaks."

We had always regretted that we were unable to go out by way of the Canoe River in 1939. It was my hope, therefore, to go into the Cariboos from the E., for the sources of the two streams which came in from the E., the McLennan and the Canoe, were unexplored except as Carpe and Munday had examined them from a distance. Of the streams having their sources in the core of the range, the McLennan and the Canoe were the only ones which had not been explored.

The maps of Carpe and Munday, and the articles accompanying them, showed that the McLennan and the Canoe Rivers entered the Cariboo Range on the E. and continued southwesterly by westerly to their sources. Their maps show Mt. Thompson and the other mountains at the head of the McLennan, but show no mountains or details at the head of the Canoe, and their articles are entirely barren of any information concerning the head of Canoe River. It is clear now that they did not recognize the head of the Canoe.

The maps of the government follow the maps of Carpe and Munday except that they show two large branches, equal in size, at the head of the McLennan. The McLennan and the Canoe are shown as about equal in length. The geographer of British Columbia could not give us any additional data. It was from the trappers that we gained valuable information, especially from Everett Bogardus, who once trapped the Canoe and who drew an excellent sketch map of the Canoe, but he was not familiar with the McLennan or its source. We learned that an attempt had been made to prospect for mica on the McLennan and that a horse trail had been cut to the head of that stream.

Such was the extent of the information available to us, and on it we planned our trip into the Cariboos. We made arrangements for a packer to take us into the McLennan. Here we were to have the use of the pack horse for one week, in which time we expected to explore both branches of the McLennan. After that, our plan was as follows: The packer would leave us, and we would try to back-pack across the divide to the Canoe, and then over the divide to the Thompson, or if we could not cross from the McLennan to the Canoe, we would cross the divide to Tête Creek, or possibly we would try a combination of either of the foregoing with a crossing from the North Thompson to Tête Creek or in the reverse direction. We realized that it would be impossible to do all the foregoing in three weeks.

There were many uncertainties when Tiefenthaler and I left Milwaukee at the end of June on this, our fourth trip together. Before we left, I received word that the trail was overgrown and impassable, whereupon I directed immediately employment of men to cut the worst windfalls in the trail. To this, I received a reply that further investigation showed the trail would probably be passable, but my information was secondhand.

We carried the usual equipment, all of the lightest and no more than our two pack-boards would hold, and without many of the things that mountaineers regard as necessities. We again carried gasoline and a primus stove for high camps. With food for three weeks, our loads weighed 74 lbs. each, but we expected to have a horse for one week, and after the first week our loads would weigh 62 lbs., the maximum on our other trips.

We got off the train at Cedarside, a flag station on the Canadian National Railroad about 25 miles S. of Robson Station. Here we were met by our trapper friends, Miss Ella Frye and Mr. Gunnard Weberg, who took us in a rubber-tired farm wagon to an abandoned lumber camp (Doyle's - 2700 ft.), located at the foot of the ridge between the Canoe and the McLennan. Here Miss Frye's two brothers, Fred and Jule, were taking out cedar poles.

The next morning, our stuff was packed on a horse and we left accompanied by Ella Frye and Gunnard Weberg, Miss Frye riding a horse. The trail proved to be unexpectedly good, with few windfalls—a pleasant surprise, having in mind the rough character of the country and the uncertainties of the weeks before. The trail wound high up on the mountain on the N. side of the Canoe River, and in the middle of the afternoon we were above timberline, and for the next week we were to remain almost entirely above timber. Toward the end of the afternoon Gunnard was uncertain of the trail, for above timber it was difficult to follow, and we had now reached a point farther than he had ever been. We knew that we had to cross a pass to the McLennan, but just where the pass was, none of us knew. Late in the afternoon we came to a creek (N2), which rose in a col in the mountains N. of us. We could trace the trail climbing steeply along the side of the creek. We followed it until we came to last winter's snow, and then we camped. I have numbered our camps. This was camp 2.

Already we had magnificent views, for we could see the mountains S. and the Canoe and S. of its branches. I have numbered the

branches of the Canoe as N. (North) or S. (South) and as 1, 2, 3, etc., the lowest number being to the E. We could see almost into S2, a very long, straight creek at the end of which was a low pass which probably leads either to Allan Creek, a branch of the Albreda, or to a branch of the North Thompson.

We went to bed with many misgivings that night, for Gunnard declared, after walking a short distance above camp, that he believed it would not be safe to take his horse any farther, the snow being too deep. The next morning was partially wasted trying to find the pass and a route by which we would avoid the deepest snow. We crossed a frozen lake. In fact, we passed several frozen lakes in the next few days. Robson loomed up toward the N.E., but it was always in clouds. We were not certain we were on the right route until noon when we reached the head of the little stream we had been following. Then there was no further doubt. We had found the pass and were looking down into the McLennan, but we were not too happy about it, for it was evident that we could no longer use the horse. Everything immediately below us and to the west going up the McLennan was covered with deep snow or ice. Difficulties were coming a little too soon, for the second day, almost a week sooner than we had expected, we had to carry our packs weighing about 72 lbs. Fortunately, our victory gardens had put us in better physical condition than we had ever been in on our other trips.

On that noon of the second day, I had about concluded that the maps of Carpe and Munday were wrong, for from the pass we could see, not far away, what seemed to be the mountains at the head of the McLennan, whereas, we had, on the day before, been able to trace the Canoe much farther W.

On the third day we completely explored the head of the McLennan, crossing the glacier at the head of the last creek on the S. and also the one at the head of the McLennan, and climbing three low peaks at the head of that river. The last of these was on the divide between the McLennan and the Canoe, and we called it "Key Peak" (8900 ft.) because the view from it unlocked the general outlines of the topography of the McLennan and the Canoe. Thereafter, it was only necessary to fill in the details of the picture and to make the adjustments resulting from better viewpoints.

We had the answer to our quest on the third day. The McLennan, behind us, was an insignificant river penetrating the

mountains perhaps one-third as far as the Canoe and not reaching the core of the range. The Canoe had three long branches on its southern side before the head of the stream was reached, and even more, though shorter branches, on its northern side. S2 and S3 cut down almost to the level of the Canoe along most of their course, and S4 along part of its course, while all the creeks on the north side were high in the mountains. Was this difference in creek level due to larger glaciers which formerly occupied the S. side of the valley and not the N. side? In the distance we could see the mountains and glaciers at the S.W. source of the Canoe with Mt. Thompson at the head. Having Carpe's fine pictures with us, we were able to identify many of the mountains and glaciers which appeared in his pictures taken from peak 10,075 ft. and entitled "Source of the McLennan River" and "Mt. David Thompson." We could not see the N. side of the upper reaches of the Canoe because the Canoe near its source turned W. and after that N.W. by W.

Carpe and Munday had called the Canoe River the McLennan River. I doubt whether either of them saw the McLennan River, for I believe that it cannot be seen from where they were. It is apparent, now, that they placed the Canoe River on their maps without having seen a river in that location, for no river exists where they placed the Canoe. Munday writes² of the Canoe River that "the valley of the latter was hidden among numerous jagged peaks," The McLennan River and the McLennan Glacier shown on Munday's map² are really the Canoe River and the Canoe Glacier.

After Carpe published the maps and data concerning the McLennan and the Canoe, he climbed Mt. Albreda in the Monashee Range. From there he had a good view of the Canoe from the E., and as a result, he wrote as follows³: "Views of the Cariboo Range, although somewhat marred by clouds, leave little doubt that the valley head identified by Professor Holway in 1916 as that of Mica Creek (McLennan River) is really the source of the Canoe River. Holway's identification was accepted by Professor Chamberlin and myself in 1924 and apparently also by Mr. and Mrs. Munday in 1925. The latter presumably had a view down the valley from Mt. David Thompson. The McLennan does not go so far back into the mountains and appears at the east base of the Challenger Group."

² *C. A. J.* (1925), 131.

³ *C. A. J.* (1926), 243.

But Mr. Munday confidently replied⁴ that Carpe was "mistaken," for he, Munday, "had a commanding view down the McLennan Valley from Mt. Sir John Thompson."

For two nights we camped on a steep, narrow ridge which reached down into the bottom of the McLennan Valley. On the fourth day we left our camp in the McLennan, lunched at noon with a temperature below freezing, went up the glacier at the head of the McLennan facing a blizzard that reduced visibility to less than 100 ft., and at 3.00 P.M. stood in the warm sunshine of the pass N. of Key Peak and again looked down into the Canoe Valley where the river wound snake-like from one side of the valley to the other.

For two days we followed a high route above timber on meadows that were quite level, although still largely blanketed in snow. We made good progress except when our route was intercepted by creeks, one of which (N6) cut down deeply across our route, so that the climb up to camp 6 was particularly arduous, especially when we found mosquitoes in abundance and continued to climb still higher to camp above them.

We had commanding views all the time, the end of the Canoe Valley becoming more spectacular as we approached it. We could see far up the three long creeks (S2, S3, and S4) on the south side of the Canoe. Looming up at the head of S2 is a beautiful mountain which drops steeply down to the creek, and placed in a similar position at the head of S3 is an equally outstanding mountain. S3 seemed to have a pass at its head. S3 and S4 are surrounded by many fine summits. Between S3 and S4, but facing the S3 side, is a mountain which we called "Half Dome" because of its resemblance to old Half Dome in Yosemite. Half Dome was conspicuous to us two years before when we were in the Monashee Range. S4, which is at the level of the Canoe near its mouth, disappears in a canyon and rises in a long glacier that seems to have one or more passes from it, either to the Thompson or to the E. branch of the Raush. It is surrounded by a most intriguing region of mountains and ice. On the W. side of S4 a row of glaciers flow down to the lower glacier which heads in a high icefield that seems quite extensive. The views at the head of the Canoe are breath-taking. From S4 to Mt. Thompson the whole area is almost entirely covered with glaciers. But we had poor views of the summits to the S. and S.W. because they were almost always hidden in clouds. To the N. of

⁴ C. A. J. (1928), 77.

us we could not see the summits, for we were too close to them. But we saw later from the other side of the Canoe that many fine peaks and glaciers were at the head of creeks N5, N6, N7, N8, and N9.

While we saw many signs of game, we saw few animals. However, our travel was considerably lightened by the many game trails we were able to follow, especially when we walked along the bottom of the Canoe Valley. Once Tiefenthaler was going up a small rise and almost collided with a goat coming from the opposite direction. The same day we followed an animal trail that had fresh bear, goat, and coyote or wolf tracks in the snow, and we later saw a coyote or wolf.

As the mountain west of creek N7 dropped down to the Canoe Valley in a sheer cliff, it became inadvisable to continue on a high level, so we followed the east side of the creek down to the bottom of the Canoe Valley. This was a very arduous descent, for we dropped almost 4000 ft., and we wished that we had gone down creek N6 instead, for we would then have avoided the hard climb up from creek N6. Our descent ended most disagreeably in a marshy alder flat. Here were many fresh indications of big game. Creek N7 did not flow into the river but spread out over the alder flat into smaller streams and ponds because beavers had built a 2 or 3-ft. dam along and next to the Canoe River. We found that the beavers had done this on many of the bends of the Canoe. I was surprised at the presence of beavers in spite of the absence of poplar, until I was informed later by trapper Weberg that in this region the beavers feed on many foods other than poplar.

We camped that night on the sand next to the river, and for several days thereafter we were near the river. It was an interesting change. The views were more restful, and summer was with us with its flowers, the willow herb and Indian paintbrush, growing in unusual luxuriance. Also various birds were near the river. I was surprised to see a kingfisher carrying what I thought was a fish. I couldn't believe that these glacial streams contained fish. The mystery was solved days later when I saw minnows, three inches long, in a side slough where the water was clear. But in the river I was unable to catch any fish. The next morning we forded the south bank of the Canoe, for it seemed to offer a better route. Tiefenthaler, who is tall, crossed without difficulty, but the crossing was about as much as I could do, for the current was very

fast. We noticed no other places where the river can be crossed until we came to the head of the Canoe.

On the ninth day we were near the source of the Canoe and camped just below a large terminal moraine that stretches across the valley, which is almost a mile wide at this point. Above the moraine and up to the mountain at the head, the floor of the valley is fairly level, except for the numerous moraines and the glacial débris scattered over it. About two miles above the moraine is a mountain, and there the river divides into two branches, one going N. a few hundred yards to N. Canoe Glacier, and the other S. about an equal distance, to the S. Canoe Glacier. Both of the streams flow under ice bridges covered with so much glacial débris that the ice was hardly distinguishable from solid rock. N. Canoe Glacier has heretofore been known as McLennan Glacier, and it might very well be called Canoe Glacier instead of N. Canoe Glacier. I have called the glaciers North and South because both are at the head of the Canoe. The lower ends of the two Canoe glaciers (3700 ft.) reach within a few hundred feet of the level lower valley (3500 ft.). When Carpe took his picture from mountain 10075 ft. in 1924, the two glaciers were joined and reached the valley together. We were later to walk on the smooth rock which was covered by the glacier when Carpe took his picture. It is probable that less than seventy-five years ago the conjoined glaciers reached to the moraine below which we were camped, so that it then covered the entire lower valley, two miles long and one mile wide. The vegetation in the morainic débris is young. We saw a huge boulder, 75 x 40 ft., next to the river and perhaps a half-mile from the ends of the glaciers. It is cracked into three large sections.

Our project at this point was to find a way to the Thompson, and the S. Canoe Glacier offered the most likely route. Then, too, our former trip into the Southern Cariboos led us to believe that there was a col in about this vicinity. We decided to spend an easy day climbing up on the N. side of the valley, high enough to work out a route up the S. side. Accordingly, we climbed up the smooth bed rock next to the N. Canoe Glacier until we had a good view of the S. Canoe Glacier and the mountains surrounding it. This was a particularly engrossing sight. It showed the lower tongue of the glacier at the right, the smooth bed rock to the left of it, and still farther to the left, a moraine which was partly bare on the right and clothed in alder on the left. The S. Canoe Glacier had apparently formed this moraine in recent times. S. of and parallel with the

head of the Canoe Valley was a high, wooded ridge beyond which were glaciers. The N. side of this ridge which we wanted to reach was a forbidding cliff, so we decided to reach the ridge by climbing up the rock adjoining S. Canoe Glacier.

The next morning we climbed up the smooth rock where the glacier had been perhaps ten years before. At times the climbing was quite tricky, principally due to the smoothness of the rock and because our packs were still heavy and large. Sometimes we could get up only by climbing without our packs and by pulling up the packs with rope. And at other times we had to go back and try other routes. When we reached the wooded ridge it began to rain, and at times very hard. The ridge was steep and was covered with bushes whose five-foot branches sloped down towards us. The rain made these branches very slippery, and the help they gave us when we pulled up on them was only half appreciated because we slipped down the slope when we stepped on them. Shortly before 7 when we reached the top of the ridge, it stopped raining, and we were able to establish a delightful camp (9) where we loafed and reconnoitered for a day. From here we had good views of Mt. Thompson, but the most spectacular of the mountains from here was the mountain W. of creek N9. This, I believe, is Carpe's 10,075 ft. It has several peaks and is very precipitous on its E. face.

We hoped to be able to cross to the North Thompson Valley in one day. Our camp was well suited as a jumping-off point, although we later learned that we could have used a campsite higher up. We awoke early to find it was snowing hard, but we broke camp when it stopped snowing at 6.00 o'clock. We continued up the ridge a half-mile or so and then crossed the high moraine at the N. side of the first glacier, which flows down from the E. by S.E. The glacier is several hundred feet below the top of the moraine, but it was apparent that not very long ago the ice reached the top and that the moraine was then advancing against the ridge on which we had camped. We crossed the glacier to a ridge on the opposite side and crossed the end of the ridge so as to avoid dropping to the much lower level of the glacier. This ridge has a good high campsite. We reached a second glacier, coming from the southeast and went up on it next to the ridge until we stopped for lunch. All this time we had magnificent views of the glacier to the W. of us. It reaches almost to Mt. Thompson and in its lower course it comes down so steeply that it breaks off at short intervals in booming avalanches.

After lunch we crossed the second glacier, going beyond the next ridge which slopes from the S.E. We thought that we had been making good progress, but we soon realized that we still had far to go. What was far more serious, the snow was getting softer and deeper. We ascended close beside the second ridge on the third glacier. To our right the glacier was heavily crevassed and higher and it came down in many icefalls. The snow became deeper and the slope steeper as we advanced. It was not last winter's snow, but the summer snow that had been falling the last ten days, during those very storms that had spoiled our pictures of the mountain tops. When we continued to sink two feet into the snow on the steep slope of the glacier, it became apparent that we might not be able to cross the divide that day. The ridge to our left had a steep slab face, but it looked as though we might go up on the ridge more easily than on the snow. Accordingly, we climbed the slab rock and tried the ridge, but we were soon forced off, for the towers were too numerous and the problems too hazardous, encumbered as we were by our bulky and heavy packs. So we returned to the snow which became deeper and steeper. Toward evening we were sinking up to our waists without reaching hard snow. The snow had drifted into the hollow we were following. It became so deep and steep that we had trouble getting higher than where we stood. To advance a step became a problem. At times we were crawling. Large ice balls would collect at the end of our trousers, and these had to be knocked off from time to time. Often we thought we could see the top, but when we reached it there was always another top farther up. And then it began to snow, and the wind blew directly into our faces. It was difficult to probe for crevasses in the deep soft snow. And when we reached several crevasses with the upper lip much higher than the lower, it required the clearing away of much snow before we could safely effect a crossing. It was almost 8 o'clock when we were standing in deep snow on a steep slope that I said to Lorin, "We'll have to camp near here." We had gone about as far as we could go that night. The top of the ridge we had been following was near us at our left. It looked like a mountain top from below, but the glacier continues above it. We camped just above the last rocks on the ridge (Camp 10; 9500 ft.) in a very exposed position. The wind could hit us from any direction, but it was safe from avalanches, and we feared the sliding of the fresh snow. With our hands we built a snow house, first a wall over five feet high, then an undercut for our legs and bodies. We ate

nothing, for our primus stove hardly warmed the water. When we went to bed it stopped snowing for a while, but the atmosphere was 22° and the wind didn't abate. Lying on our ponchos and tent, we tried to sleep, but couldn't. The wind and snow even penetrated the two-inch breathing holes we kept open in our sleeping bags. During the night I got up to find that six inches of snow had drifted on us. Before morning the snow below us melted from the heat of our bodies. Thereafter we were lying in soaked sleeping bags. When the sun appeared over the ice E. of us we arose, pounded the ice off our pants, and much to our surprise got into our shoes more easily than we expected. Our morale was low, but we still were able to appreciate the beauty about us, for the freshly-fallen snow and the sun gave a cheery touch to the arctic scene about us. To the north of the Canoe Valley we saw a spectacular region of high mountains and expansive glaciers.

We ate no breakfast. The wind had shifted to the N.W., and the snow was drifting badly. Our initiative was pretty well curbed, but we had enough to attempt a crossing, so we again climbed up in the snow which was as deep as ever, and in less than an hour we reached the top (almost 10,000 ft.) and saw to the S. by S.W. a view that was breath-taking. Before we had time to comprehend what was there, the curtain was drawn and we saw no more. The storm clouds were masters. We had seen below us a large glacier which flowed from a curved ridge to the S.E. of us and from the N. side of a fine mountain to the S. of us. It flowed to the W. and is, I believe, the glacier at the head of the E. fork of the Raush. It looked as though there was a possible col W. of us, as the slope fell off somewhat in that direction, but we felt it would be unsafe to proceed because the visibility was very poor.

We waited for the clouds to lift but they didn't, so we reluctantly returned to the route by which we had come, not stopping until we sat down for lunch at noon on an island of rocks. This was our first food for twenty-four hours. We also dried our equipment and slept a short time on the warm, sunny rocks. At 3.00 o'clock we reached the first ridge we had crossed the day before and camped. We called this Oasis Camp (11) because our narrow ridge was surrounded by a desert of ice. We went to bed early. During the night we thought we heard people calling, but it was only the booming of avalanches and the falling of water. We lay in our tent about sixteen hours, for it rained until two the next day. Then we broke camp.

We reached our jumping-off ridge at 4.00 o'clock and decided to try to reach our camp 8 that night. We determined on a new route as we didn't relish going down on the smooth rocks. We found a creek which had worn a course through the steep N. side of the ridge, so we followed this creek, first on a goat trail, then on snow, then in the creek or as near to it as possible. Often we climbed through falling water. And then there were many steep waterfalls that compelled us to leave it. At 5.00 o'clock we were caught up short! We stood at the top of a cliff which could not be negotiated. We feared most that we might have to climb back to the top of the ridge. It would take three times as long, and it was now raining. We bushwhacked through the dense undergrowth and trees toward the west along the top edge of the cliff and finally came to another creek which broke through the cliff and we were able to reach the bottom of the valley. But we were compelled to bushwhack over an hour through alders and devil's club. Never have I walked through so much devil's club. We would knock down the devil's club ahead of us with our axes, and all this time it was raining so hard that when we arrived at camp shortly before 9.00 we were drenched to the skin. Our camp was on an island with almost no wood available. We shivered but tried to dry our clothes and equipment in a cold rain and a high wind at our miserable little fire. At 11.00 Tiefenthaler gave up and went to bed, but didn't sleep in his wet sleeping bag, and after 12.00 I went to bed in a dry bag, for the rain had stopped. Neither of us had a cold or suffered any illness during our trip.

We still had sufficient time and food left to cross over the N. Canoe Glacier to Tête Creek, but we felt that in view of the condition of the snow we should not attempt it. The snow was so soft that it would take some time to consolidate. We decided to return along the bottom of the Canoe Valley. We got back to camp 7 in half a day, for up to that point we were now familiar with the valley and avoided the mistakes of the way up, especially several hours' unnecessary floundering in alders. From there on we were again pioneering a route. On the second day we reached the S turns in the Canoe. These go from one side of the mile-wide valley to the other. Almost without exception animal trails follow along and near any body of water, so that ordinarily we would seek these trails near the river; for the game trails, while not always passable for man, were an improvement on bushwhacking through unbroken

growth. But when we came to the S turns, following the turns would mean going three times as far. So we tried to cross the bends, but soon regretted this, for the beavers had dammed up the area into ponds into which we wallowed, and occasionally our feet and legs got stuck so tightly in the mud that it was difficult to withdraw them. So on the second day we had to follow the S turns. On the third day we were able to cross the bends which, while wet and muddy, were without beaver ponds. On the third day a partridge collided with my axe and that evening we had a delightful change of diet. That night I sewed my trousers, which, though tough, were in rags, and left me too exposed to appear in the polite society of even the backwoods. We celebrated that evening the end of our hard work, for we had struck a man-made trail that afternoon. We were soon disillusioned, however, for the bushwhacking on the fourth and last day was as hard as ever because of steep grades. Alas, much of my sewing gave way! I never did sew well. But that afternoon we reached Doyle's Camp and the railroad.

My altimeter was tested before our trip, but the changes of weather were so great and the storms always so near us that I have little confidence in the altitudes I have given. Soon after we returned to civilization, we both independently realized that we had made a mistake when we gave up our attempted crossing after we had reached the divide. We should have waited a long time for the clouds to lift. Our only excuse is that our morale was low because of fatigue. We thought we did the right thing then. Now we know otherwise.

Mr. Bogardus, in whose opinion I have confidence, estimated that the distance from the railroad bridge to the head of the Canoe as 24-26 miles, that the McLennan penetrates the range less than one-third that distance, and that creek S2 is a little longer than the McLennan. These estimates are based on winter travel on snow shoes.

The Canoe Valley is a paradise for climbers. It is hard to understand why it has been so long neglected, except that without trails, it cannot be attacked except by laborious back-packing. Holway described the region as presenting difficulties greater than the Selkirks. But the cutting of trails would not be difficult, and six rivers reach the core of the range at quite low levels. Some day the Cariboos should attain among mountaineers the popularity of the Selkirks.