The Conquest of Mt. Logan

H.F. Lambart, B.Sc., D.L.S.ø

The Mount Logan region.

Mt. Logan (19850') the highest mountain in the Dominion of Canada and ranking second only to Mt. McKinley (20460') - the highest point on the North American Continent - is situated in the extreme southwestern corner of the Yukon Territory some sixty miles to the east of the Alaskan Boundary and only seventy-five miles from the shores of the Pacific Ocean.

Strange to say, though it may be clearly seen from a point one hundred and twenty-five miles out to sea, the existence of this great mountain remained unknown until the year 1891, when L. C. Russell of the U. S. Geological Survey, saw it from a point of vantage on the foot hills of the St. Elias Alps to the south, and reported the discovery in the following interesting way: "The clouds parted towards the north east revealing several giant peaks not before seen, some of which seemed to rival St. Elias itself. One stranger rising in three white domes far above the clouds was especially magnificent. As this was probably the first time its summit was ever seen, we took the liberty of giving it a name. It will appear on our maps as Mount Logan, in honour of Sir William E. Logan, founder and long director of the Geological Survey of Canada." (See Vol. III of the National Geographic Magazine of 1891.)

Apart from the South Polar Ice Cap and the continent of Greenland this region of which Mt. Logan is the predominating feature, presents probably the

---

ø Alaska, International Boundary Surveys, 1906 - 1913. Geodetic Survey of Canada to date, Dominion Representative and Deputy Leader of Expedition. Vice President, Alpine Club of Canada.

most intensely glaciated district of the globe and in its eternal solitude, its awful silence, its absence of any forms of life, vegetation or running water, one sees a picture of the utter desolation which once existed during the great Glacial periods of the earth's history.

This region though rather difficult to define with accuracy, comprises some twelve thousand square miles of territory extending back from the coast over one hundred miles and reaching from the Behring glacier on the west, to Disenchantment Bay on the east, a distance of one hundred and twenty-five miles.

Mt. Logan. The main mountain system of this region has hitherto been referred to as the St. Elias Alps, since the great peak of that name was long considered to be the monarch of all the vast and nameless heights which constitute the Range. Mount Logan now known to be the crowning peak of them all, lies twenty-six miles farther in from the coast than St. Elias and is so obscured by the ranges nearer the coast, as to be hardly recognizable from the sea. It rises fourteen thousand feet above its surrounding glaciers in a colossal mass of rock which appears - from specimens taken at an elevation of eighteen thousand five hundred feet -to be chiefly of a biotite-diorite gneiss. The mountain can be regarded, I believe, as the greatest in point of mass found upon the globe. The north and south walls present precipitous cliffs of sheer rock so steep that no snow can lodge upon them. These gigantic cliffs extend along the whole north and south faces while the east and west extremities of the mass are marked by two subsidiary peaks one on either

side, McArthur Peak (14400') on the east and King Peak (17130') on the west.

It was not, however, until the publication of the wonderful photographs taken by Sella of the Duc d'Abruzzi's famous Expedition which conquered Mt. St. Elias, that any true conception was obtained of the immense bulk of the Logan massif. If this mountain were cut through at the sixteen thousand foot level it would be found to be eleven miles in length, in an easterly and westerly direction, and would consist of a plateau thirty square miles in area. Above the sixteen thousand foot level is built up an amazingly complicated system of glaciers, snow fields, ridges and peaks, rising all the way from 18,000 feet at the extreme western end to the highest 19,850 feet on the eastern. The great mass of Mt. Logan towers, from glaciers at its base, in sheer cliffs along the northern and southern faces from about the six thousand foot level, some ten to fourteen thousand feet. From the innumerable indentations at its base, which stretches for twenty four miles along an easterly and westerly axis, spring glaciers which are tributaries of the two great glaciers of the region, the Logan glacier on the north side and the Seward and Columbus on the south. The Logan having a width of two and a half to four miles has a main trunk fifty miles in length flowing in a westerly direction which forms the main source of the Chitina river. On the south side issuing from vast névés,* the Seward launches its mighty bulk and forms the principal tributary of the Malaspina glacier.

---

*Névés are the fields of ice and snow which form the real birth places of glaciers.

From photographs secured at nineteen thousand eight hundred feet the whole of this vast and untravelled region appears as a chaos and desolation of ice and snow from which the greater peaks rise in splendid and terrible array.

The history of the Expedition.

It belongs to the strength and glory of human nature that when men are confronted with the unknown, the perilous, the impossible, the more daring spirits are straightway challenged to adventure themselves in some enterprise of life and death, that the secrets of the unknown may be dragged forth and the apparently impossible achieved. As soon, therefore, as it was known that far to the north a knightly and defiant peak - cut off from civilisation by rivers of ice and entrenched among a thousand barriers of snow - lay waiting the coming of man, the mountaineers of this continent began to turn their eyes to Mount Logan and to dream their dreams of its conquest. It was not, however, until the year 1922 that Professor A. P. Coleman of the University of Toronto, the veteran geologist and mountain climber, presented to the Alpine Club of Canada the suggestion that a serious attempt should be made to conquer the mountain.

In the Autumn of 1923 the Alpine Club of Canada called a special meeting in Vancouver to consider seriously Professor Coleman's proposal. This meeting made the momentous decision that an expedition should be undertaken, appointed an Executive Committee and tentatively named the personnel of the climbing party. The sister alpine clubs of Great Britain and the United States were asked to send representatives and thus the expedition was, from the outset, stamped as distinctly

international in character. Subsequently the American Alpine Club elected a representative in the person of Mr. Allen Carpe, and later three others who volunteered their services in any capacity to the expedition, were accepted. These were: - Mr. Henry S. Hall of Boston; Mr. Morgan of Dartmouth; and Mr. Norman H. Read of New York. The personnel as elected were as follows:- EXECUTIVE: Lieutenant Colonel W. W. Foster, D.S.O., Vancouver, B.C., Chairman. Colonel F. C. Bell, C.M.G., Vancouver, B.C., Vice-Chairman. A. O. Wheeler, F.R.G.S., Sidney, B.C., Director of the Expedition. Albert H. MacCarthy, Wilmer, B.C., and Summit, New Jersey, leader of the Expedition. H. F. Lambart, Geodetic Survey of Canada, Ottawa, Deputy Leader. H. M. Laing, of the Department of Mines, Ottawa, joined the Expedition at the last moment as biologist. TECHNICAL ADVISORS:- Major E. O. Wheeler, M.C., R.E. Surveys of India (1st. Mt. Everest Expedition). Belmore Browne, Banff, Alberta (1st. Mt. McKinley Expedition). ADVISORY COMMITTEE:- Prof. A. P. Coleman, F.R.S., Ph.D., University of Toronto, Canada. J. D. Patterson, Woodstock, Ontario, Canada. Prof. Charles E. Fay, Litt.D., Tufts College, Mass., U.S.A. Walter D. Wilcox, F.R.G.S., Washington, D.C., U.S.A. Benj. J.P. Farrar, D.S.O., London, England. A.L. Mumm, F.R.G.S., London, England. Finally at the Annual Meeting of the Alpine Club of Canada in 1924, Dr. J.W.A. Hickson, newly elected president of the Club, was appointed in that capacity as ex-officio officer of the Executive Committee, and Mr. H.S. Mitchell of Sidney, B.C., as Secretary Treasurer.

The active climbing party who reached the summit on the 23rd of June, 1925, at 8 P.M. are MacCarthy, Carpe, Foster, Lambart, Taylor and Read. It was the first hope of the Expedition that the attempt might be made during the summer of 1924 but the shortness of time available for preparation together with the lack of sufficient financial backing, made this impossible. The delay of one year proved, however, of great gain to the Expedition as it enabled Mr. A. H. MacCarthy to make a preliminary reconnaissance of the Logan territory which was of incalculable value to the enterprise. So important was Mr. MacCarthy's survey that some account of it must here be given.

The selection of the route.

It must be borne in mind that the first duty of the Expedition was to arrive at a definite conclusion as to the route to be followed to the point of attack on the mountain. Three means of approach presented themselves. 1st. The Kluanne Lake route, by way of the White Pass and Yukon Railway to Whitehorse and thence to Kluanne Lake by waggon road. It was at once agreed that this route was entirely out of the question as a gap of nearly sixty miles of unexplored and heavily glaciated territory existed from the lake to the eastern end of the mountain. 2nd. A route similar to that followed by the Duc d'Abruzzi in reaching the summit of St. Elias, namely, by taking a straight course up the Malaspina glacier direct from the Pacific Coast near Yakutat Bay, sixty miles to the Seward Glacier and thence by this glacier to the foot of the Logan massif and from there traversing around to its south western side.

An examination of the photographs taken from the summit of St. Elias revealed the fact that there were no feasible approaches along the south face and that the snow cornices

were perilously heavy occasioning innumerable avalanches. Furthermore it was known that the moisture laden atmosphere from the Japanese current coming in from the coast, caused incessant fog in this region. It was, ~~however~~ therefore, agreed that this route also was impracticable. There remained the third course, namely, by way of Cordova, on the Alaskan Coast, over the Copper River and Northwestern Railway, one hundred and ninety-one miles, to the little frontier town of McCarthy and from thence by way of the Chitina River Valley, eighty-eight miles by pack-train to the foot of the Chitina Glacier. From that point the approach led across the Walsh Glacier, on to the smoother surface of the Logan Glacier, which carries a straight course in an easterly and westerly direction and continues on to its source at the foot of the steep north face of the Logan massif. The Chitina Valley and Logan glacial route was well known through the explorations of the International Boundary Surveys in 1912 and 1913.

The judgment of the joint leaders of the Expedition (MacCarthy - Lambart), was that this line of approach offered the best chances of success and it was, therefore, selected.

MacCarthy's preliminary reconnaissance.

It is, however, one thing to plan a route on a contour map, it is quite another thing to follow it through the actual territory. To test the feasibility of the plan - to put the judgment of the leaders to the test, Mr. MacCarthy undertook to go over the projected route. This reconnaissance was to be carried out successfully during the months of June and July in 1924. Traversing the valley of the Chitina River, he with his pack train reached

the foot of the Chitina glacier. Here, abandoning the horses, he and his men laboriously packing on their backs the bare necessities of life, succeeded in ascending the great glacier for fifty miles to the foot of the King glacier which lies at the western end of Mt. Logan.

The result of this summer patrol in which Mr. MacCarthy in forty-four days covered five hundred and fifty-two miles completely confirmed the decision as to the route to be followed. His report, moreover, revealed another and most vital matter, namely that because of the distance to be covered before reaching the mountain itself and the impossibility of conveying the necessary supplies for the Expedition without employing a small army of packers - if the project was to be carried out in a single summer, it was absolutely necessary that advance caches of supplies be laid down along the route and the bulk of the equipment deposited as near to the base of the mountain as possible. Plans were therefore immediately considered for a winter freighting expedition which should establish a line of supply depots and transport the great bulk of equipment to the point of attack on the mountain.

The winter freighting expedition.

Once again the success of this undertaking so indispensable to the success of the Expedition was due in no small degree to the leadership of Mr. MacCarthy who returned to the north and took command of the work.

On February 15th, 1925, the freighting parties pulled out from McCarthy on the long and arduous trail. They had nineteen thousand pounds of supplies, equipment and fodder (over 50% of which was cached or consumed enroute) to transport one hundred and thirty-three miles in the depth of winter, over incredibly difficult terrain, breaking their own trail the entire distance and enduring the arctic cold and the biting gales.

The first eighty-eight miles to the foot of the Chitina glacier were accomplished in seventeen days by the use of horses and dogs; once, however, the ice was reached they had to resort to the dog teams alone and the wearisome business of relaying load after load across moraines and around crevasses. At this juncture a most critical decision had to be made. Hitherto, the few parties who had traversed the glacier had followed its northern shore deeming the southern quite impassable. Mr. MacCarthy himself in his summer reconnaissance had taken that route. But now faced with a tremendous task and a very small margin of time in which to achieve it, Mr. MacCarthy and his right-hand man, Mr. A. M. "Andy" Taylor, were drawn to consider the shorter but infinitely more hazardous route by the South Shore. They discovered that between the wall of the glacier and the land there was a deep canyon through which flowed a turbulent and icy stream. This stream had, as the winter wore on, fallen lower and lower, leaving to mark its former level, ice ledges protruding from the canyon face. Could they penetrate the gorge on these precarious platforms of ice? It was a fateful moment for the history of the entire Expedition. Did they fail, the attack on the peak could not be made that year, as the supplies would not be in position. There on the ice the two men weighed the pros and cons of the proposal while the Gorge of Fate loomed menacingly before them. They decided to take a chance; they gambled on their ability to get through and they won. During the month of March the entire equipment was relayed along this incredible route. In all, eight camps were established

from three to seven miles apart, the equipment cached at "Turn" at the junction of the Ogilvie and Logan glaciers and an advanced Base Camp set up at a point five miles nearer to the foot of the mountain. In April Mr. MacCarthy and his men were back in McCarthy having literally prepared the way and made possible the assault on the great peak. The news of this success immensely heartened the climbing party who were on the eve of departure for the great adventure.

The start of the Expedition.

ϕ On May 2nd, 1925, the Mt. Logan Expedition sailed from Seattle; six men facing the unknown, full of confidence and hope.

After an uneventful but magnificent voyage up the Pacific coast the six members of the Expedition arrived at Cordova on May 7th and there joined Mr. MacCarthy.

The following day the journey of one hundred and ninety-one miles to McCarthy was made by way of the Copper river and North Western Railway. It is doubtful if any railway on the continent passes through scenery of such majesty and beauty. Those stupendous glaciers, the 'Childs' and the 'Miles', seem as if they would obliterate the line, so close do they come in their silent and menacing approach, while above and around tower the mighty peaks whose eternal fields of snow and ice give them birth. At McCarthy the party was completed by the addition of Andy Taylor. The next three days were given over to the preparation of equipment and the multitudinous detail of the start.

Leaving McCarthy.

On the morning of May 12th, 1925, the loaded train

ϕ From this point of the narrative it is proposed for the sake of clearness and coherence, to recount the progress of the party in diary form. By reference to the accompanying maps, the exact location of the expedition from day to day may be seen.

of six horses and four mules passed through the streets of McCarthy. The Mt. Logan Expedition was on its way.

May 12th: The eighteen mile journey to the Martin & Harris Cabin on Young Creek was by way of the one piece of genuine road on our way. This road leads by way of Sourdough Hill, eleven miles from McCarthy down to the Nizina river. This wide and treacherous glacial stream was crossed by the newly constructed and imposing Alaska Road Commissioners Bridge. It was a clear May morning. Much snow and ice still lay on the river beds but the soft gray of the pussy willows gave promise of the conquering Spring.

May 13th: A twelve mile journey through the dismal brulé country lying between the valleys of the Chitina and Nizina rivers brought us to a green and pleasant camp under the frowning cliffs which front the Chitina.

May 14th: This day saw us by noon on the open bars of the Chitina valley. Our first sight of this great valley was deeply impressive. It is of immense width, pierced by a thousand shifting channels; on the farther shore we could see the undulating timbered slopes rising gently to four thousand feet where abruptly all vegetation ceases and in rocky tiers the hills rise to snow clad peaks. Night found us camped twelve miles up stream on the open sand bars.

May 15th: To the old Survey camp known as "Brysons", twelve miles, a steady and monotonous plodding across the bars.

May 16th: As we moved out from our camp in the chilly early morning air and commenced our fifth day's march, we came within sight of the upper reaches of the valley lying away beyond and above the brush and timber covered bars. These first views of a country are never forgotten. Only a few miles ahead Gibraltar Rock stood out a sheer tower six hundred feet from the level surface of the bed of the river and beyond and to the left the Hawkins and Barnard glaciers came down to the edge of the valley with very broken surfaces. Beyond and straight up the valley the whole landscape seemed to converge upon the vast bulk of the terminal moraines of the Chitina glacier. Over the whole terminal face of this glacier grows a thick mantle of spruce which gradually thins out and is replaced by the hilly and rough surface of the ice completely buried by the glacial debris. Far beyond this again a long thin shimmering line held our gaze. It was the white clean ice and the mighty bulk of the Logan glacier.

At the margin of a tree island we camped that night in the vicinity of Short river and the next day (May 17th), covered the short run of seven miles to Hubricks camp on the north side of the valley.

Here, in the timber there had been cached provisions for one week, supplies for the party on the return journey, it being the intention to remain in this camp on the way out to whip saw sufficient lumber for the building of boats by which we hoped to navigate at our ease the swift Chitina river; of the failure of this

plan we shall hear later.

It was at this camp also that Mr. H. M. Laing was to remain to make collections of specimens in connection with his biological studies.

As we had reached almost the last stage of the journey with the horses, we were faced by the heart-rending duty of cutting down our kit, as from this point forward, everything had to be carried on our own backs. It was only with great mental anguish that we parted from this and that personal treasure. But it had to be done. We were beginning to realise the enormous task which confronted us and how vital it was that the last ounce of strength should be conserved for the actual climb.

May 18th: A three hour journey took us to the end of the trail. There we bade aurevoir to Laing and watched the pack train disappearing on the return journey to McCarthy, with a sense that now we were facing the test of our lives.

May 19th: The morning dawned gloomy and wet, but before long the clouds began to rise and give promise of a better day. At 10.30 we were off burdened with tremendous packs, from seventy-five to one hundred and five pounds per man. A steady grind of some three hours brought us to Chitina Point where we made camp at the Cache deposited by the winter freighters.

May 20th: Before starting we further reduced the dead weight of our packs; up among the branches of a friendly spruce we swung the discarded goods which weeks later were to prove such a blessing to us. This day's march of seven miles was far easier than the first -

in fact because our packs were lighter and also because the "going" was good. We followed along the margin of the Walsh glacier managing to get good footing on game trails and through stretches of Alpine meadow and were only forced out on the surface of the rough moraine near the end of the day's journey. Our camping that night was in the last timber and verdure we were to see until our return. From a snug little spot at the foot of the ravine running up the mountain side, we looked out over the Walsh glacier on the broken surface of which we failed to discern a single stretch of smooth ice. Here in 1913 the Boundary Surveys camped and carried on their operations using it as one of their base camps to which the parties returned after their work on the glaciers.

May 21st: The day was largely spent in this camp marking a trail through the chaos of ice and debris across the Walsh glacier two miles with half the loads to its junction with the mighty stream of Logan ice whose clear surface promised more rapid progress.

May 22nd: An excellent day. We made sixteen miles up the Logan to another of our advance caches where in addition to needed supplies we secured the snow-shoes so indispensable for the coming journey. The night we spent on the open ice - the first of forty-four succeeding nights thus passed before we turned our backs on the ever-lasting winter of that region. We were at this point at an elevation of some five thousand feet - on the edge of that vast world of snow whose pitiless storms and unyielding cold so nearly claimed us forever.

From this point forward the condition of the surface of the glacier had everything to do with our progress, as we now intended to use hand-sleighs for our transport. The winter's snows still lingered on the glacier, and it was necessary to use the early morning hours for travel that we might have the hard crust of snow which had frozen overnight. But soon the power of the noonday sun caused such melting as to make the drawing of a sleigh almost impossible.

May 23rd: Up at 1 a.m. and after a royal breakfast of porridge, bacon, eggs and coffee, the sleighs were loaded, snowshoes adjusted and we were off. It was at first an immense relief to be rid of the intolerable packs, but as the snow surface became soft and as we ran into stretches of chaotic ice over which the sleighs had to be manhandled with immense toil, we realized that with all its pain, back packing was on the whole easier than dragging a sleigh. As we toiled up the glacier the dim uncanny light of dawn threw into relief the mighty outlines of the surrounding heights. Slowly the light grew, brightening on the peaks till they stood about us radiant and indescribably beautiful.

It was morning and a new day. At 9.30 we stopped for lunch. The intense glare of the reflected light from the surface of the snow burnt us terribly. At noon the snow commenced to soften and the sleighs sank deeply and often upset, adding greatly to our labours. This tiring and steady grind lasted until five in the afternoon when we came to rest on one of the medial moraines of the Ogilvie Glacier, two miles above where it joins the great lateral moraines of the Logan.

At this point known as "Turn" we found new comforts in the cache of stores and equipment left by the winter Expedition. We slept that night for the first time on the air mattresses. These mattresses, condemned by many writers, proved to be a great boon and were used in the very highest camp. Being inflated by a light pump, they were easily made ready and through the severest weather gave us not the slightest trouble. They proved an effective insulator from the ice and were later considered almost indispensable.

May 24th: A day of needed and welcome rest spent in camp.

May 25th: Leaving the broad valley of the Logan we struck out on the surface of the Ogilvie glacier which sweeps down twelve miles from the south where it takes its rise in a huge basin fed by a number of small glaciers entering it like the spokes of a huge wheel and straight at its head an ice cataract two thousand feet high. A short run of five miles brought us to the last main cache established by the winter party - the Advance Base Cache. Here we had the great bulk of our stores and equipment (enough for ten men for over sixty days) of which we transported the greater part, now a dead weight of over five thousand pounds, seven miles farther up the glacier to the Cascades, from which point the ascent of Mt. Logan was to begin.

May 26th: - June 3rd: These days were occupied in the monotonous and heavy work of relaying supplies from the Advance Base Cache to the Cascades and on to a point one thousand feet above, known erroneously as Quartz Ridge. The completion of this task brought to a successful close

the first phase of our enterprise. We had reached, so to speak, "the jumping off trench" for the actual assault on the mountain.

At this point a most important decision had to be made. We were now in position for the attempt on the mountain. How long was it going to take us to make the peak? With how many days' supplies were we to burden ourselves as we moved up from camp to camp? These questions were crucial. We could not trifle with the short and precarious season on the mountain, nor could we exhaust our strength in carrying one unnecessary pound of weight. After long and earnest consultation we agreed to fix our time for the attack on the mountain at twenty-eight days. This decided we selected the necessary supplies, packing them in sacks containing the rations for eight men for two days. These sacks weighed in all seven hundred and sixty-four pounds, the equipment another one thousand and eighty-three pounds, making a total weight of one thousand eight hundred and forty-seven pounds to be carried forward. This meant something over four relays between each point. Those who have done any climbing in the mountains will appreciate the enormous labour which thus lay before us.

A rather unique feature of our equipment was the inclusion of one thousand willow wands with which we proposed to mark the trail. These wands, about 3 feet in length, were stuck into the snow at intervals of about 100 feet on the right side of the trail. They proved veritable beacons upon the snow clad slope of the mountain where without them our task would have been utterly hopeless.

It was from the Cascades Camp (7800 feet) that we got the answer to another and most critical question, which had been in the leaders' minds ever since they decided on our line of approach, namely, did the King glacier which took its rise somewhere above the ice fall of the Cascades, give access to the upper heights of Logan? When the leaders chose the route they did not know this.

The Boundary photographs taken show the Cascades guarded by towering portals of rock and ice - they show the sweeping curve of the King glacier and those from St. Elias reveal the very summit of the glacier directly below the steep cliffs of King peak, but of the intervening reaches, and whether they ended abruptly in vast cliffs or led by gradual ascent up to the high levels of Mt. Logan, no one could say. The only available photographs threw no light on that critical question. And critical it was. If a reconnaissance from Cascades Camp had revealed that the King glacier let into some cul de sac of ice cliffs - the whole Expedition would have been turned back and forced to traverse the base of the mountain seeking a possible line of ascent. Had that been the case it is not likely that Logan would have been conquered in 1925. When the leaders of the party resolved on the route to be taken, <u>they risked everything on the possibility of getting on to the mountain by way of King glacier</u>. The success or failure of the Expedition turned on what lay up the King glacier - an impassable barrier? or an open door? Imagine then with what keenness the reconnaissance party left the Cascades Camp - skirted the ice fall and came to a point from which a clear view of the King glacier was to be had. Imagine with what elation they saw that the way

was clear - that by the narrow trench of the glacier, they could reach the heights. With a few photographs taken at a great distance as our only guide we had guessed the existence of this narrow defile and we had guessed aright. The spirits of the whole party soared at the news and with increased vigor we gave ourselves to the heavy labor of transporting our supplies from the Cascades up to Quartz Ridge, on another 1150 feet to a point we named the 'Dome' and so up to the site on the King glacier which we called Observation Camp. By June 4th we were completely consolidated at this new height, - wearied but full of confidence and hope. We were by this time suffering considerably from blistering sun burn caused by the intense reflected glare of light from the snow. Our faces were peeling and our lips cracked and bleeding. It became a necessary part of the day's routine to annoint our faces liberally with Lanoline, and even with this protection we did not cease to suffer these discomforts till we were off the ice altogether.

June 5th: Under ideal weather conditions we began the ascent of the King glacier. For four and a half miles we had comparatively good going with our loaded sleigh, over firm surface until a great fall of ice blocked further progress. Abandoning the sleigh we took our packs and made our way up the ice-fall. We had reached the top and were almost at the saddle or col which marks the head of the King glacier when a sudden change in the weather brought down on us a slashing and penetrating blizzard which forced us to abandon our packs and return to Observation Camp.

June 6th: We repeated the attempt to make the

King Col. With a fresh load of supplies we retraced our steps of yesterday and succeeded in reaching our objective. There we received a disconcerting shock. Instead of connecting with the heights above, the King Col brought us up abruptly at the foot of a tremendous face of ice and snow up which it appeared impossible to ascend. It was immediately decided that a reconnaissance of the situation be made by ascending the east arête of King Peak with a view to ascertaining whether there was a possible route over the barrier which loomed before us. The report of this party on rejoining the others that night at Observation Camp was cheering. They were satisfied that the ice slope was not unscalable and that a feasible route could be worked out. Reassured we listened to their account of the amazing view which greeted them on the slope of King Peak. Away to the south-eastward rise the giant peaks of the Alaska boundary, Alverstone, Hubbard, Vancouver, and more to the south, the huge ghost-like mass of Mt. Cook fills the scene obscuring from view Disenchantment Bay on the coast and the Fairweather range beyond. Across the southern horizon a thin gray streak can be distinguished, the line of the Malaspina Glacier where it meets the sea along a frontage of sixty miles and with its fanlike surface furrowed with the graceful flow of its moraines. Around the southern base of Logan stretches the dead white surface of the Seward, and south-westward the Columbus glacier, so close relatively and yet so far away that not a ripple can be detected in its surface. Immediately beyond the Seward rise the apparently insignificant peaks marking the

Mt. Augusta-Mt. Newton range and off towards its western extremity, separated only by the Newton Col, Mt. St. Elias rises like a huge shrouded sea lion, twenty six miles distant. Away to the west one hundred and fifty miles, Mt. Blackburn and Mt. Regal ranges stand isolated in their distant shimmering whiteness, a magnificent panorama and yet depressing in its effects, with the silence of the ages pressing it down. Over this vast stretch of country most of which has never been seen by human eyes before, only the rock, so steep that no snow may lodge upon it, breaks the boundless expanse of snow.

Camp at 13,875 was finally consolidated in the open sweep of the Col, and across which rises to the skies, King Peak the loveliest of them all and down whose terrifically steep face the avalanches ever tumble. The eastern end of the King Col terminates in a precipice whose steepness and proportions and drop of 6000 feet - over a mile - to the south to the Seward is one of the most overpowering sights ever seen in the mountains.

June 7th: In camp at Observation Point, resting.

June 8th: The whole party moved up with loads to King Col. Five of us spent the day relaying supplies to this point. MacCarthy, Foster and Read who had brought their sleeping robes with them, spent the night on the Col to be in position for reconnaissance on the following day.

June 9th: While the reconnoitering party went forward in the hope of discovering a route up the ice slope which shut us off from the heights, the remainder of the party put in a toilsome day continuing

the transport of equipment from Observation Camp to the Col. When that night we made camp on the Col, the report of our three explorers heartened us all. They had discovered a hazardous but feasible route up the ice barrier. Their day had been strenuous but wholly successful.

The surface of the ice they found to be clear of snow and rapid time was made using crampons and picking out their way through the chaos of ice. After making over a thousand feet with success they were barred apparently effectually by a great crack through which thousands of feet below the rocky precipices of the south face could be seen. To their delight they discovered a point under a great overhanging and threatening block of ice where the ice chasm was bridged with snow. This we subsequently called "MacCarthy's Gap" after our sturdy leader. Through the narrow gate the three passed and climbing still, came at last to the upper plateaus seventeen thousand feet high. Above there seemed promise of a clear way and with feelings of satisfaction at their day's work they turned their steps homeward reaching again the King Col at 7.30 in the evening.

June 10th: In camp at King Col resting.

June 11th - 13th: These days were occupied in incessant packing. We transported the remaining supplies from the caches on King glacier up to the Col and took one small load to a point one thousand two hundred feet above. The weather was indescribably bad and the incessant wind, the heavy snow-fall,

the cold, all added to our labour. But by the night of the 13th we were ready for a further advance.

June 14th: The last rope left King Col camp at 7.15 a. m. on a clear and promising morning. We had not gone far, however, before a storm broke upon us and we were enveloped in blinding snow. Progress was infinitely slow. At one point we made only a few hundred feet in forty minutes. At last, however, we cleared the "Avenue of Blocks" - so called because of the colossal masses of ice which flanked us in - and at 6.15 p. m. made camp on the open plateau at fifteen thousand six hundred feet. This we named Ice Cliff Camp. Although exhausted we were well content with the day's progress since we had succeeded in bringing to this point three tents and sufficient provisions for four days.

June 15th: We were keen to continue the advance but the weather made this impossible. The anxiety caused by a delay is often worse than the facing of difficulties themselves, and during the day when nothing was actually done, all manner of alternative plans suggested themselves by which we could utilize the time to the best advantage, but in the end we held tight and prayed for a change.

June 16th: At 8 o'clock with the thermometer standing at three degrees below zero, we began a general advance. We made steady progress till noon when a sudden wall of fog blocked out all vision and further advance would have been out of the question had it not been that the reconnaissance party who had passed this way

on June 9th, with amazing accuracy, picked out a route through a chaos of ice blocks and across an immense cravasse which barred the way. At 6.30 we made camp at a spot to be known as "Windy Camp".

June 17th: During the night the temperature dropped 32 degrees below zero - nevertheless we had a good night, thanks to the perfection of our equipment. At 3.30 a.m. we made ready to start but did not get away until 9. The whole party succeeded in advancing to a point on the highest opening in the peaks above to an elevation of about eighteen thousand five hundred feet trusting that at least a glimpse would be obtained beyond this point which would reveal the whole of the top of the Logan massif. We even dared to hope that the summit might be revealed as unexpectedly close. On gaining this elevation and from a point which would have given us a clear view out towards the east but for the ferocity of the storm and driving snow, we sat huddled together for some time, trusting that the way would be clear. Some of the party lingered as the rest finally moved down to Windy Camp, hoping that from a point further to the northwest and on the other side of the double peak which rose above us, a better view could be obtained if the weather should clear. Although remaining for an hour the effort was fruitless and the return to Windy Camp was reluctantly made.

A serious realisation of our position now confronted us. We were encamped at an elevation of sixteen thousand seven hundred feet but with one day's provisions left, the bulk of our supplies being two

thousand feet below us, and without an accurate knowledge of the position of the final peak upon the summit of the massif or what the conditions of the intervening northern slopes of the massif were like beyond our point of eighteen thousand five hundred feet elevation. Mr. MacCarthy rightly decided that the party should split and while part brought up provisions from the lower camp at the King Col, the rest should again proceed to the eighteen thousand five hundred foot level and then gaining a point where the terrain could be seen, make certain if possible, of the exact location of the highest point of Logan, determine the condition of the intervening country and decide on what camps were still necessary to insure a successful assault upon the summit.

June 18th: Most of our plans were realized through the work of this day. The reconnaissance of the heights beyond eighteen thousand five hundred feet was made under the most severe weather conditions, but by making a long day of it they succeeded in securing a fairly clear knowledge of the nature of the ground ahead of us. The carrying party in the meantime made their way back to King Col camp where they spent the night. This night (June 18-19) we recorded our lowest temperature 33° below zero Fahrenheit.

June 19th: A day of never-to-be-forgotten toil. Burdened to the limits of their strength the carrying party laboured through deep snow. It was an immense relief to all when the reconnaissance party met us, having come down from Windy Camp to lend a hand with the loads. Just beyond our old Ice Cliff Camp, the

storm reached the height of its fury. Blind with the driving snow, every step an agony by reason of the depth of the snow and the labour of drawing breath at that altitude, we struggled on. We had reached the limit of our endurance, we were on the point of retreating but summoning the last ounces of our strength we laboured forward and at 9 p.m. reached "Windy Camp". There still remained the effort of digging out our camp which was almost obliterated by the drifts but at last it was done and night closed in on our exhausted party. Unlike many other explorers we generally slept in comfort because of the splendid quality of our eiderdown robes and the air mattresses which kept the cold of the ice from reaching our bodies. This night, although the storm beat upon our frail silk tents and the cracking of the fabric in the blasts was like rifle shots - we were too worn to heed the tumult but slept the sleep of exhaustion.

June 20th: The morale of the party had been greatly heightened by the report of the successful reconnaissance of the previous day. At 2.30 in the afternoon we continued our advance with supplies, reached our "18.5" camp - a little saddle in the upper group of peaks where our feet touched open rock for the first time since leaving Quartz Ridge - and returned under a leaden sky in the dim mountain twilight to "Windy Camp".

June 21st: Sunday and a day not of holy calm but of fiendish storm. The worst blizzard so far encountered closed in upon us.

On this day with very deep regret, we took

farewell of two members of our party, Hall and Morgan who had both suffered greatly from the effects of altitude and exposure. Morgan especially had had great difficulty in keeping his feet in condition as some years previously he had frozen both severely. Yet through the preceding weeks these men had worked magnificently giving their best to our common cause. That now when so far advanced they should have to turn back, foregoing their share of our coming victory, was to them a bitter necessity and to the whole party a great loss. It was with a great sense of regret and no little anxiety that we saw them move out into the storm to be almost immediately blotted out in the whirling drifts. For the remainder of the morning the diminished party slept gloriously while the storm raged with unabated fury. At 3 p.m., however, the sun suddenly shone out, the wind died away leaving a world of dazzling white. An immediate advance was resolved and accordingly we moved off at once on snowshoes, determined if possible, to establish camp at our "18.5" level. We reached this point at 9.30 p.m., set up our tents and after a wonderful meal prepared by the indefatigable Andy Taylor, we crawled into our bed rolls for a night of warm rest.

At this our highest camp, and we believe the highest point at which a camp has ever been pitched on this continent, we recorded last night a minimum temperature of 17.5 degrees below zero and yet in the late afternoon with the bright sun overhead, the thermometer stood at five degrees above. These sudden

variations in temperature were somewhat trying in our condition. By this time we were all feeling the altitude greatly. Our respiration was laboured and consequently our movements were slow to distraction. It was wearing on our spirits to see our route above us and yet not be able to do more than crawl interminably forward.

June 22nd: It was almost noon before we commenced our movement onward with eight days' provisions and our camp equipment. Our loads were very heavy and although we resented our descent of nearly a thousand feet during the day before coming to rest in our new camp (Plateau Camp), the downward slope materially helped in making our way through the snow. The day was a short one and the traverse of the northern slopes of the mountain in an easterly direction encircling a great basin of snow took us hardly more than four miles further along. After a very promising morning the day changed to snow, wind and fog as we entered our new camp about five o'clock. With less labour than the night before our two tents were pitched on the outskirts of a vast plateau of snow which sloped gently towards the north.

June 23rd: This the 23rd of June, the day of the successful ascent of the summit, broke the storm, and from the doors of our tents we viewed the scene with little short of consternation. We were wakened, however, again at eight by Mac's cheery voice outside saying that it looked as if this was to be "the day" and with a bright sun and the thermometer at about fifteen degrees - it was the same amount below zero during the night - we made our careful preparations

for the journey ahead into unknown territory. Even in this camp we were completely cut off from the view towards the direction of the final summit and did not know what lay before us. Well provided with emergency rations, a supply of extra clothing, our cameras and aneroid barometer, we set out at eleven with Foster leading on the first rope. Our feelings were tense: buried in our own thoughts we moved along, our gait the slow rolling movement of progress on snow-shoes.

We followed around the margin of a great basin of snow and then dropping slowly to a lower level climbed again to the summit of a long projecting north shoulder of our "double peak" which rose now some one thousand five hundred feet or less above us. We had lunch resting in the snow beside the trail and as the view was still quite obscured towards the east, we decided on climbing the summit directly above. With little difficulty, having changed from snowshoes into crampons, we made this summit by 4.30 in the afternoon and were at once confronted with a new situation, as before us now in plain view lay the whole eastern end of the massif of Mt. Logan, and away across an intervening depression one thousand feet below, rose only slightly above our present position the true summit of Mt. Logan distant about two and a half to three miles. The whole of the Seward glacier at our feet and the Mt. St. Elias range were in full view but we were so occupied with our main problem that we gave little attention to scenery and with hardly a minute's delay

we commenced the descent of the slope intervening between us and the summit. The peak of Logan lay straight in front and upon this alone our whole attention was focussed. At the bottom of the depression between the two peaks we rested on the rocks, dangling our feet over the edge of the steep slopes which dropped away towards the south, right to the surface of the Seward glacier, thousands of feet below. We nibbled at our "Iron Rations" disinterestedly, anxious only to have enough strength to accomplish the summit which seemed so very close and which under normal conditions of atmosphere and full strength would have been mere child's play to ascend. Snowshoes and all unnecessary weights were cached just above this lowest point and we commenced the slow grind up the gentle slopes. Soon these, however, gave place to a steep triangular icy slope running back to the apex which constitutes the summit. By the fury of the almost incessant winds at this altitude this stretch is of the hardest flinty ice carved by the winds into the most fantastic forms in which it is easy to imagine all manner of distorted faces and shapes. These irregularities, however, added materially to the ease with which this ice was climbed. MacCarthy was leading and in a masterly way, making use of every scrap of natural foothold, wove back and forth and finally stepped out upon an easterly arête having made these slopes with a minimum of ice step cutting. The arête was less steep and we made good progress but lost a little ground in descending into a small hollow from which rose steeply along another sharp arête, the way to the final summit. With a strange feeling of unconcern almost of unreality, we came to the final culmination of all

the months of planning and weeks of labour and stepped out on to the small triangular summit of the highest point in the Dominion of Canada and the second highest on the continent. The sides were bulging and the top appeared as a huge acorn, below which the huge cliffs descend for thousands of feet to the Seward glacier. On reaching the summit we were met with the strange apparition of "the spectre of the Brocken", that weird phenomenon seen on the tops of very high mountains under certain conditions of light and atmosphere whereby the figure of each observer is seen silhouetted in the centre of a complete circular rainbow of miniature size against the fog banks. We set foot on the summit of Mt. Logan at 8.00 in the evening and as we stood there in a little knot, with the distance completely obscured by fog and storm, we were reminded by Andy Taylor that a storm of no little intensity was upon us, so with a hearty hand shake, the reading of the aneroid, and Carpe's depositing of a small brass tube in the snow containing the record, we commenced our downward journey after a bare twenty-five minutes stop on the summit. Our thermometer which was exposed only for a short time and which was observed to be rapidly dropping read four degrees above zero Fahrenheit.

It is worth commenting at this point, on the remarkable records obtained by Mr. Read with a small vest-pocket kodak, when the use of a larger camera was entirely too difficult. To Mr. Read's indefatigable zeal for photography under the most severe conditions we are indebted for the photographs of the actual summit and the party at the moment of victory. Our records have

also been greatly enriched by the way in which Mr. Carpe has at all times and under all conditions made cinematographic photographic records of the movements of the expedition under circumstances of great difficulty and hardship to himself.

We materially quickened our speed in retracing our steps down the steep arête and along the icy slopes, arriving at our cache of snowshoes without mishap. The storm by now, however, was full upon us and so completely closed in were we that only the dead whiteness of the ground under foot and a few yards ahead were visible.

We had come to the end of our willow wands before reaching the summit of the first peak early in the afternoon, and now we groped along, guided only by the general slope of the ground; we continued thus stumbling forward for upwards of an hour, though the time might have been much longer, in a fruitless effort to locate the end of the trail. The utter hopelessness of the task was soon realised, however, and we gave up on the side of a fairly steep snow drift, called a halt and bivouacked for the night, digging in as best we could by the aid of our snowshoes. As nearly as we could judge our elevation here was about nineteen thousand feet, as after our descent from the final peak we had again been steadily rising in an encircling movement in rounding the northern shoulder of the first peak climbed.

June 23rd - 24th: Our shelters were miserable affairs but we managed to make them roomy enough to get everything under the protecting overhang except our legs. Here we rested intermittently during the interminable

night and into the late morning of the following day. By great good fortune the latter part of the night was calm with just the constant quiet falling of the snow. The last reading of our maximum and minimum thermometer, taken just before crawling in, registered twelve degrees below zero Fahrenheit; the night no doubt was somewhat colder but our thermometer was irretrievably lost in the snows. The condition of the party was low in the extreme, all suffering more or less with frozen fingers and the effects of snow blindness. One member froze the toes on both feet while asleep, this being due to tight socks.

June 24th: By noon of the 24th the conditions had not changed and it was a question of hazarding another night in the open or striking out into the snow and fog hoping against hope that just one little willow twig might show itself. It was the most critical moment of the whole expedition when we turned our backs on our "Bear Caves" at about one o'clock in the afternoon and commenced our search for the lost trail by groping downward and then traversing the slope, keeping the rising ground on our left. Shortly after starting, Andy Taylor on the lead, and on a fairly smooth surface of a glacier, suddenly dropped from view and all we had in front was the rope disappearing into the blank whiteness. The other rope, with MacCarthy, Foster and Carpe, coming up, crept forward and swinging to the right, MacCarthy could peer over the edge and saw that Taylor had dropped to snow some ten or fifteen feet below the surface we were standing on, and was safe. A gradual slope to the right connecting the point we were on with the ledge

below, Taylor was, with the dextrous handling of the rope by the leader, guided to the upper level and regained his companions none the worse for the experience.

Changing our direction now half left and climbing on a heavier slope, an incident occurred which can be chronicled as being one of the supreme moments of the whole expedition. Suddenly we came upon a willow sticking out of the snow. It appeared to us like a huge telegraph pole. Our joy was simply unbounded and no words could possibly describe the ecstasy of spirits which filled us all. This discovery it must be remembered meant a sudden change from a situation in which a bewildered little company of climbers were fighting for their lives in fog and storm to one of certain security leading back to shelter, food and rest.

Our pace was strangely quickened as we followed from switch to switch not daring to allow the last man on the rope to leave the back one until the forward one had been found. Through some mishap one rope separated from the other with the result that one reached the two tents at seven in the evening while the other did not arrive until 3.30 the next morning, having practically reenacted the terrible experiences of the night before, again in a miraculous manner stumbling upon the trail after they had lost it. It is not an exaggeration to state that some members of the expedition during these latter experiences had certain hallucinations: at one moment the ground would appear to drop away in front and expecting a descent, we would instead experience a sharp rise; and then again, a wall of snow would seem to appear to one side and stretching out one's hand, one found nothing there at all; and yet

again a wild procession of fencing, barns and houses seemed to be following our trail on the right side, so realistic that looking at them one doubted one's senses. In comparing notes the next day we found that the other rope had experienced exactly the same thing. It is difficult to account for all this. The snow glasses cut off much of the dim diffused light and besides, being clogged with the drifting snow and sleet, they offered at best but a poor field of vision. The truth is we were nearly spent and in our exhausted state, our minds undoubtedly wandered.

June 25th: This was a glorious day of rest in which we could see to our injuries, and the storm having cleared during the night we had bright skies in which to take some photographs.

June 26th: Friday, June 26th, we decided upon a desperate effort to get down off the mountain if at all possible and to reach our camp at the King Col. Of this day it seems as if volumes could be written. We experienced dangers from blizzards as never before but finally arrived at the King Col Camp in safety at midnight. The day had broken clear and we felt confident that all would go well but shortly after we had started, leaving behind us our little tent village just as it was, the storm again closed in and the wind gradually growing in intensity, reached a hurricane velocity, whipping up the loose sandy snow of the surface and driving it along the surface of the ice in a belt some feet in thickness. The willow wands kept us to the trail and all went well where the footing was good and the snowshoes could be used, but the time soon came when we had to rise more abruptly to get through the rocky gorge - the site of our "18.5" camp -

and here the surface became glare ice and it was impossible to keep one's feet. Snowshoes had to be taken off and crampons substituted and with frost-bitten hands and feet this task simply could not be accomplished by some of the members of the party so to our injuries were added a few more frost-bitten fingers. One rope was a little in advance and above the other and looking down MacCarthy, Carpe and Foster could be seen struggling, so disfigured with ice as to be quite unrecognizable. Frozen to their beards and helmets protruded long icicles, tinged red in one case from sore and bleeding lips; they looked like huge pelicans beating against the storm. Thanks to the efforts of the strong members of the party all arrived, after what seemed hours, in the shelter of the granite crags flanking the "18.5" summit. Finally all joined in the shelter of the rocks. These last few hours were perhaps the most severe ordeal of the entire expedition.

A remarkable photograph of the party in the "18.5" Col shows the condition in which everyone was in and the effects of the driving snow congealing upon our faces.

After a short rest we moved down the southern slopes of the mountain and although dealing here in some measure with heavy wind and driving snow, we had left behind us the storm area, and soon came to a point where deep snow was encountered and we could dispose of the crampons. The willows were still showing their heads above the snow and we plodded on hour after hour greatly relieved and assisted by the downward slope and the gradual return of better breathing conditions.

At the "Windy Camp" site all was completely buried in snow, staying only to dig out a few of the personal effects,we left the rest behind. The snow on the slopes immediately above the site of "Ice Cliff" camp was so deep that we just floundered down in a very disorderly manner, then came the hours of toil wallowing through the deep snow that had accumulated amongst the great blocks of ice. Changing from snowshoe to crampon time and time again was wearisome work during the hours of the night but the slow and steady sustained effort brought us on and we finally passed safely through the crevassed surfaces and the "MacCarthy Gap". Vancouver Cook, Augusta and St. Elias, their sharp outlines silhouetted against a most extraordinarily deep blue, stood out in the distance like great white sentinels of the north frowning on the inroads of man.

The sight of the three tents still standing away below us on King Col brought a cheer to our hearts that one cannot describe. Soon we were beside them and made a cautious inspection to see how best we could crawl in without expending too much labour in removing snow that had crushed in the sides and blocked the entrances.

Andy Taylor who never failed to rise to an emergency, becoming disgusted with our slow crawl, had gone on ahead and reaching camp sometime before the rest had done wonders in getting things started, so that before long we were settled for the night with a profound sense of relief that the toil of the day was behind us.

June 27th: June 27th was a day of complete rest. Col. Foster brought into play his ever efficient clinic and doctoring us gave great relief to frozen parts.

June 28th: Again we were forced to leave behind most of what we had in this camp but salvaged amongst a few things

one of the brown tents. Our way now lay straight down the King Glacier and with a good surface upon the snow we reached the sleigh which we had left at the base of the King Ice Fall, with an expenditure of effort, which after what we had been through seemed very small. After some digging we got the sleigh out of the snow and for the first time for many a long day we moved forward with free backs and with all that we had loaded upon the sleigh. At the "Observation Camp Site" we "tunnelled" for some few articles left behind, and pressed on. A mile further down coming to the "ice dome" the place of our first stop above the "Quartz Ridge" we had to abandon the sleigh with many other articles which it had been supposed might be useful and even indispensable for the journey out, and again submitted to the toil of back-packing.

From the summit of the "Quartz Ridge" we saw the tents of the Cascade Camp one thousand feet below and after about two hours of struggle down through the deep soft snow where our snowshoes were impossible, we came to the wreckage of what was a month before, our luxurious base camp upon the gentle upper slopes of the head of the Ogilvie glacier. The whole surface of the ice had dropped several feet leaving the tents and their contents precariously perched upon ice pillars. One big tent was repitched and in the early hours of the next morning we finally had the camp in order and had consumed appalling quantities of food. Carpe and Lambart crawled in amongst the boxes and bags of the cache tent

and while MacCarthy and Foster occupied the one and only "Brownie Tent" Read and Taylor spent the night amongst the pots and pans of the kitchen tent, so the honours were equally divided.

We were actually off the mountain and permitting ourselves to relax, we became more conscious of the strain we had been through. We were not, however, lulled to sleep by any false sense that all was over, as there still separated us from the railway at McCarthy, one hundred and thirty eight miles, fifty of which lay over the ice and moraines of the Ogilvie and Logan glaciers with heavy sleds to be hauled and heavy packs to be borne.

June 29th-30th: Two blessed days of rest passed in this camp. Here we celebrated in royal style the conquest of Mt. Logan: the celebration consisted in dining largely upon almost every conceivable "delicacy" that the genius of man has contrived to put up in a can, and in sleeping at great length. The larger oil stoves provided abundance of water to drink - and the old fashioned practice of washing in the mornings again came into vogue. The sun came out and we sat basking in comfort. Our faithful "medicine man" was hard put to it, and MacCarthy's eyes which had been giving him great pain necessitated special attention.

July 1st: Frozen parts having been cared for when the 1st of July arrived and we started on our long homeward trek across the glaciers, we were sufficiently patched up to feel confident that the journey could be made without much trouble. Even at this altitude of 7,800 feet we were

delayed in starting by fog but succeeded in reaching the old base camp site and "Turn Cache" by 6.20 in the evening. We saw here the first signs of life and were back to the luxury of running water and not melted snow from our stoves. The snow conditions on the Logan had now to be considered as we proposed to use sleds down the glacier just as long as it was at all feasible. We therefore decided to wait the day here and leave in the evening when the snow crust would have formed and the labour of drawing the sleigh greatly reduced.

July 2nd - 3rd: A steady night's toil down the glacier and over moraines, across one of which we had to carry the loads in relays, brought us at about noon to a point where the condition of the surface made pulling quite impossible.

July 3rd: Here we finally abandoned the sleighs with an oil stove and other items of equipment which we felt impossible to carry. After resting until late in the afternoon we again shouldered our burdens and made towards a point on the glacier a mile beyond the end of the Boundary mountain point. Here we bivouacked on the ice.

July 4th: In the morning we crossed over to the Baldwin-Fraser cache where our feet once more touched terra firma after forty-four days on the ice. The ecstasy of being once more amongst the green shrubbery and of feeling the soft turf under foot cannot be understood except by those who have had a similar experience. At this camp we found that a bear had successfully solved the problem of a bear-proof cache and had made away with most

of our store of provisions so that perforce we had a slim meal.

July 4th - 5th: At 4.30 in the afternoon we again continued our journey to the end of the Chitina Point and there found that marauding bears had treated us in exactly the same way and but little of anything remained. It was one o'clock on the morning of the fifth when we got in. In consequence it was noon before we again resumed our journey of the next day and finished our close relationships with the glaciers of the region by crossing the Chitina glacier to "Trail End" on the main land, where in the distance we saw safely swinging from the limb of a tree our cache of food untouched. That night we had the luxury of a camp fire and turned in to sleep as never before.

July 6th: Monday July 6th we walked in the remaining eight miles to Hubricks camp and there rejoined the Canadian Government Biologist, Mr. Hamilton M. Laing, who had made a very satisfactory collection during our absence. He told us that no later than that morning Morgan and Hall with heavy packs had left for McCarthy. It was a relief to know that the two whom we had last seen in the driving storm on the height had come so far in safety.

July 6th - 10th: At Hubricks camp as previously stated, material and tools had been left for the purpose of whipsawing lumber and building two boats to take us down the swift stream of the Chitina river, but with a total party now of seven, of whom but a few were in a fit condition to undertake such work, it was finally decided

to abandon any idea of the boats and instead to trust ourselves to the mercies of two rafts. Our rafts, five logs in width and sixteen feet long, were designed to carry three men each, with the dunnage lashed on an elevated rack in the centre. With difficulty these two rafts were made ready to take the water on the eleventh.

July 11th: Leaving Laing behind to continue his work until the middle of August, when a pack train was to come in from McCarthy to carry his collections and what remained of our stuff, out to the railhead, we left on our water journey at 1.15. With some few forced stops when we grounded violently on the gravel bars the exciting run of the swift waters, continued the whole afternoon. At dusk the three on the first raft (Taylor, Read and Lambart) lunched and then continued on until Taylor with his keen eyes and expert knowledge of Alaskan rivers detected in the fading light, the depression in the contour of the hills indicating the spot where we should land to make "Rush Pond". It was a fine piece of work; bringing the raft to the bank of a sheltered lagoon we soon had camp up and spent the evening with great comfort before a blazing camp fire. In twelve hours we had come some sixty miles. We were greatly concerned, however, as to the safety of the others, as the last we had seen of them was only a short distance below the starting point where they passed us in another wide channel of the river all in high spirits and apparently elated at the speed at which they were putting behind them all that pertained to the Logan region. We kept hoping that they were in front somewhere, and had probably landed below this point.

The Alaskan glacial stream is a power to be dealt with in no trifling manner. It is quite unlike other streams. Excessively cold and carrying in suspension great quantities of silt, the water has a decidedly thick appearance and, in the case of the Chitina river, careers down the wide open valley at six miles per hour in treacherous constantly changing channels.

July 12th: On July 12th we set out on our long walk of thirty-two miles into McCarthy. We were fortunate in having an excellent day and as following the old horse-trail we gradually climbed to the summit of the ridge between the valleys of the Chitina and Nazina rivers we could look back over the shimmering channels and the magnificent distant view of the valley which we were now leaving behind. We were travelling light as we had left the bulk of our equipment at Rush Pond to be brought later into McCarthy by horses. Our way now lay down the slopes of the Nazina through the burnt timber and finally in the evening we reached the Nazina bridge and felt that our labours were ended as here we had expected to telephone into McCarthy and have some conveyance come out for us. It was, therefore, a bitter disappointment to find that the place was deserted, as the road gang had moved out. There was nothing for it but to continue across the long Nazina bridge and commence the weary trudge of eleven remaining miles into McCarthy, over a road which proved to be indescribably bad and so muddy that it would have been quite impossible to get any car over it. We were surprised and overjoyed to find a

new "road house" just beyond the far side of the bridge and sought its inviting comfort, and accepted gladly the hospitality of "Dad Wakefield", a veteran Texan rancher who entertained us with tales of the old days of hunting buffalo for their hides. We anxiously enquired whether the other members of the expedition had passed along the road and he said that he was sure that they had not. This was the first intimation we had that somewhere back in the Chitina valley were our other three companions of whose fate we could only surmise. It was after eleven when we again stepped out on the road and feeling particularly brisk and in high spirits we set a terrible pace into McCarthy, arriving there at 1.30 on the morning of July 13th.

Thus closed the Mt. Logan expedition for three of its members. Hall and Morgan had arrived just the day previous and had taken the train immediately on arrival to Cordova. On the 15th just as a relief party was about to set out in search of the other three we were greatly relieved by the news that they were on their way in and would arrive at noon. Of the disaster which overtook them when ten miles from the start (they had been wrecked, their raft completely overturned, their packs soaked and many of Carpe's precious films absolutely ruined) a thrilling story might be written. But at least they were safe and the record of the expedition unspoiled by tragedy.

We remained in McCarthy for a week during which time we were most kindly treated by the citizens of the little town and in particular by Mr. Douglas of the Kennecott copper mines and Mr. J. B. O'Neill. We owed more than a

little to the men of McCarthy who did all in their power to help in the preparation and successful start of the expedition. It was with genuine regret that we parted with Andy Taylor whose home is in McCarthy. By his unselfishness and courage, by his unwearying efforts for the common good of the expedition and his loyal friendship, he had won the admiration of the whole party. Thus ends the story of the Mt. Logan Expedition. Sailing from Cordova on July 28nd, we left behind us the bleak shores of Alaska and turned our faces southward - and Home .