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HEADQUARTERS
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VOLUME VII

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MOUNTAINEERING SECTION.

Mt. Tetragona

A First Ascent In Labrador

By A. P. Coleman

The Torngat Mountains in Labrador are only 1,300 miles northeast of Toronto, but to reach them means a journey of nearly 4,000 miles. The Rockies, though much farther off, can be reached in less than a week of comfortable travel, but the Torngats had the irresistible charm of being almost unknown, so my steps were turned toward them last summer. The journey did not lack variety, for it meant travel by railways, steamships, motor boats, a schooner, and an Eskimo skiff before my point was reached, and it was forty days after my departure from Ontario when our skiff slipped into Komaktorvik fiord before a gentle east wind on the 4th of August. East wind on that coast means fog, and all the higher parts of the shores were hidden as we advanced, feeling our way along the black bases of cliffs and hearing the sound of invisible waterfalls. It seemed a mysterious land of shadows and I wondered what clear weather would disclose. The landing in the fog at the rocky end of the fiord where a large river came in did not seem inspiring to me, but my Eskimos were in high excitement, for seals were bobbing up all around. As soon as camp was set one of the men was after them in the Kayak, and that evening we had seal meat for dinner.

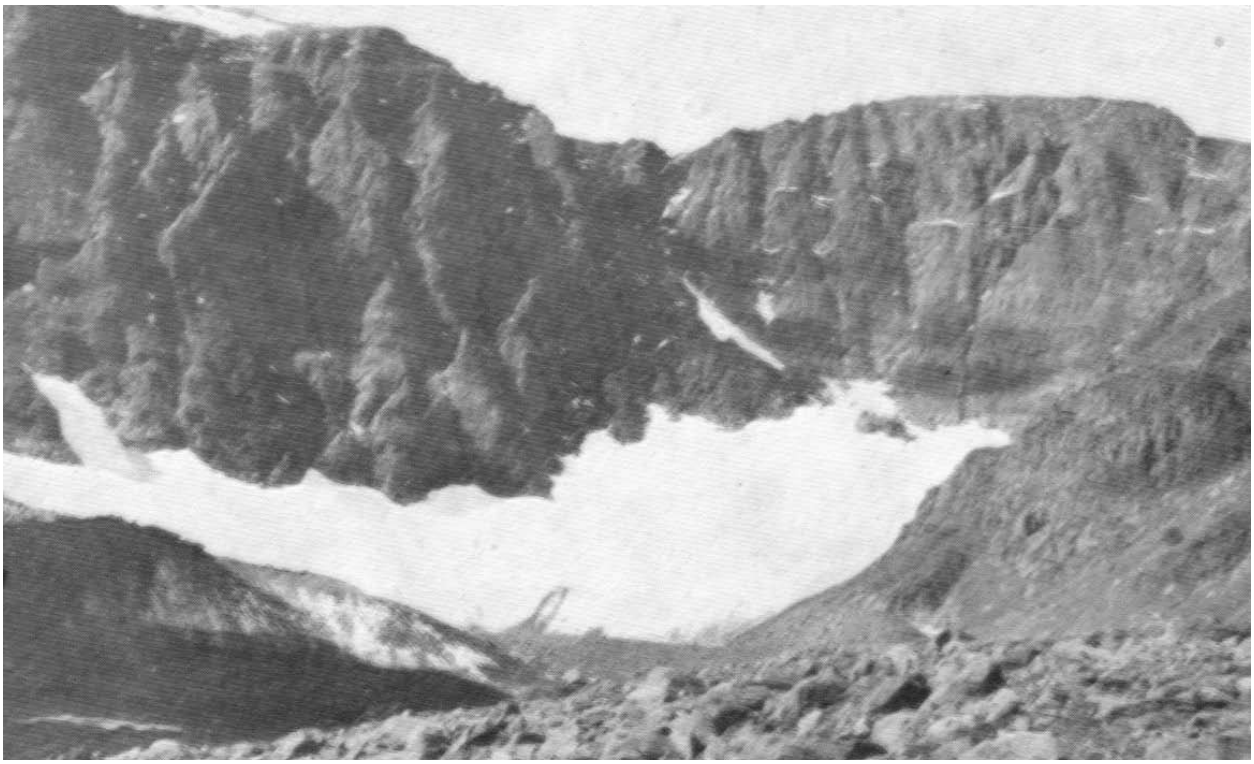
After a few days exploration, mostly in fog or with clouds hiding the mountain tops, and a climb of the nearest peak, 3,000 feet high, where I got above the mists, it seemed advisable to move our camp five miles inland to a valley sheltered from the northeast winds and the masses of vapor which they piled up along the shores of the fiord.

Next morning the three of us set out with heavy packs through a wide valley with a fine mountain and a small glacier at its southern end. Noon found us encamped 1,000 feet above the sea and actually in sunshine. The camp ground, beside a little canyon through which a river roared, and a grand cliff a half mile off, was excellent but for the lack of wood. The largest trees were willows a few inches high. Cornelius solved the fuel problem, however, by gathering white heather (Cassiope tetragona) with which he managed to produce enough smudge to boil water for tea. This plant it seems will burn even when green.

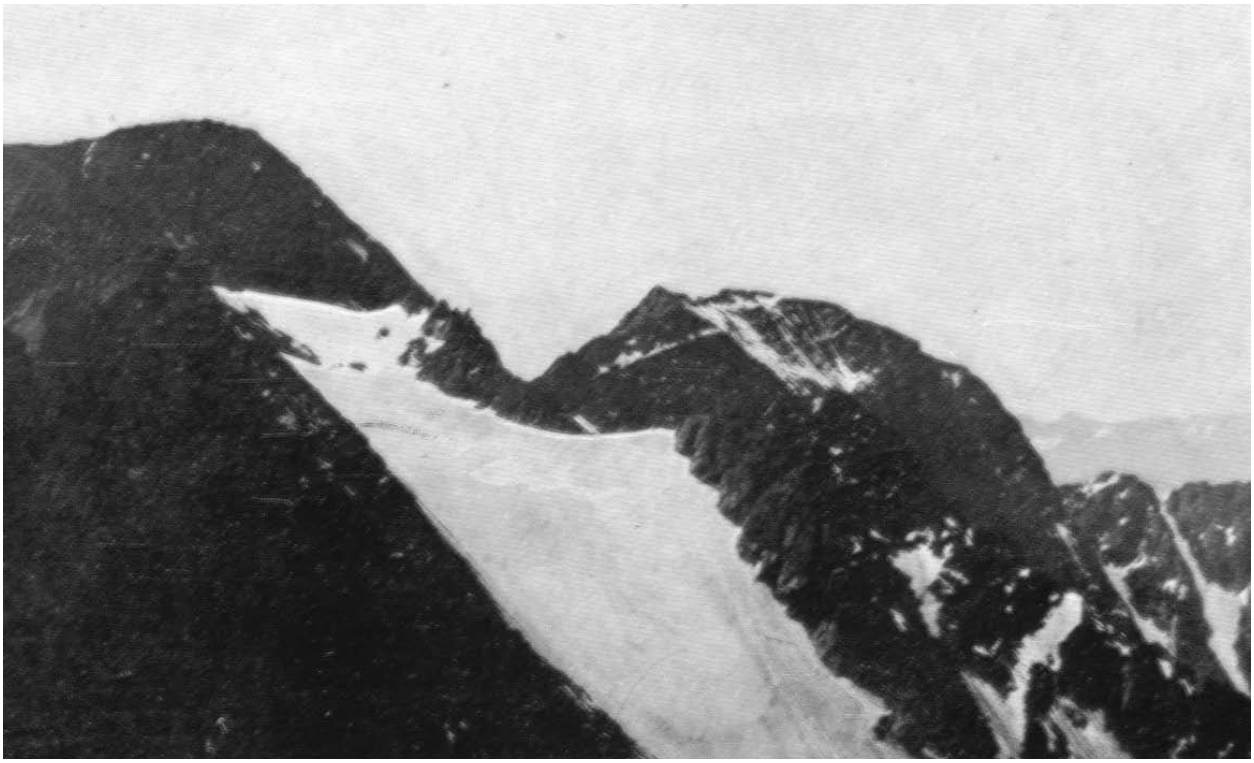
I christened the near-by mountain Tetragona. It was a joy to bask in the sunshine now that we had left the chill fogs of the sea coast and, to add to the homelike feeling, swarms of black flies attacked us just as they would have done in a Rocky Mountain valley.

As the face of the mountain opposite was unpromising for climbing, I spent the afternoon wandering up the pass in search of a better place and succeeded in finding a lake a mile long surrounded on three sides by cliffs equally impossible. The outlook to the -southwest was not good so, after supper, Cornelius showed me a way he had found for crossing the river in the canyon by jumping from rock to rock, and we explored in the opposite direction. From a hill we could see the cirque and glacier with steep walls behind it rising to the twin peaks of Tetragona, but beyond the mountain fell away toward a col which looked attackable. We decided on that route for the next day's climb.

The early morning of August 10th was cloudy and all the higher mountains were covered till 6.45 a.m. when the sun melted its way through the mists and we set off down the valley at a sharp pace so as to make up for lost time. We tramped over stony meadows with boggy places, just



First Glacier, Mt. Tetragona Main Summit To Right. Photo, A.P. Coleman



Second Glacier, Mt. Tetragona. Photo, A.P. Coleman

like parts of the Rockies above timberline but with scantier vegetation, rounded a bastion of Mt. Tetragona, getting a full view of the small glacier and snowfield, and crossed the stream coming from it on stepping stones. I managed to get my feet wet but Cornelius' sealskin boots kept him dry in spite of his shorter legs.

A mile more brought us to a second glacial stream, luckily bridged with snow, and this we crossed and followed up, climbing over rock ledges, each with a little strip of grass or moss on top. At one point my Eskimo pointed out a broad leaved sorrel and said "good." We helped ourselves to bunches of the sour leaves as we walked, and presently we rounded the foot of a cliff and reached the rim of a cirque with a blue-green lake and a second glacier rising above it. It looked attractive and if there had been three of us with a rope I should have taken that way up the mountain, but it was very steep and Cornelius' boots had no heels nor hobnails.

We turned off toward the col between Tetragona and the next peak to the north, and there could look down from about 2,000 feet upon the foggy sea. Then came a choice between a long snowslope and a bad looking stretch of loose stones beside it. I soon found that my companion was no good on snow at an angle of forty-five degrees, so we toiled painfully up over the stones, perpetually rolling beneath us, till solid rock was reached at 3,600 feet. Here melting snow provided a drink and we halted for our lunch of biscuit and Australian mutton. We were near the bergschrund of the second glacier and, looking over a cliff, could see the snowfield and then a crevassed surface reaching down into the cirque, followed by three tiny gem-like lakes. On the other side a sea of pearly cloud filled the valleys and billowed against the mountain sides. It was the "silver lining" of the fog which had been so depressing on the shores of the fiord. Beyond the fog one could see the Atlantic, whitened by long swirls of floe ice coming down with the Arctic current.

After lunch the ridge narrowed to a ragged edge of loose blocks and, before long, it was cut up into gendarmes and pinnacles decidedly uncomfortable to negotiate, particularly so as one looked down over cliffs and the snowslopes of the first glacier on the northwest, and on a wall of gneiss followed by a curious sheet of steep ice almost free from snow on the southeast.

I decided to make my way down one or two hundred feet and work along a wall of gneiss which had a tilt of seventy or seventy-live degrees. Here narrow edges of the rock could be followed, occasionally stepping up or down to another level. The work was strenuous and sometimes dangerous, with the steep ice slope waiting below in case of a slip, and a quarter of a mile of it kept me busy for an hour. It was a relief when the ridge widened again and I could sit down and get my breath.

Cornelius had kept close to my footsteps along the ridge, but when I started along the face of the cliff he was left behind and I felt rather worried about his sealskin boots on the rocks. The worry was quite uncalled for and I could see him cautiously making his way across by a route of his own, the soft and flexible sealskin clinging to the gneiss quite as well as my worn hobnails. Before long he was sitting beside me and his narrow eyes brightened when I told him: "You good climber."

The rising crest of the ridge widened to about 300 yards and was covered for a quarter of a mile by a steep and dazzling snowfield, where Cornelius was slow and afraid of slipping. Then the ridge narrowed again to ten or twenty feet of big gneiss blocks, safe enough but hard to scramble over, and at length we found ourselves on the highest point, though a second peak rose to nearly the same level beyond a break of a few hundred yards.

The top proved lower than I had expected, 4,700 feet by my best aneroid, and 200 feet higher by an older one, while I had estimated it at something over 5,000. Cornelius built a massive cairn,

while I sketched in the topography and enjoyed the magnificent view over sea and land. There was still fog in the deep hollow of Komaktorvik fiord and the lower valleys, but the mountains were mostly free from cloud. On all sides except seawards stretched an almost unknown wilderness of mountains, domes or ridges or separate peaks, with many small snowfields and a number of cirque glaciers, none of them large. Thirty miles to the south could be seen the depression of Nakvak fiord, the finest on the coast, surrounded by mountains apparently higher than those at Komaktorvik.

Our immediate surroundings were impressive. The cirque of the largest glacier yawned beneath us to the northwest with cliffs fifteen hundred feet high enclosing the snowfield, followed by blue ice and an exquisitely colored lake. Lower down in the shadow of cliffs were two other small lakes. The second glacier was out of sight, but we looked down on the ice sheet to the southeast and a half frozen lake below it. The wild and ragged coastline of the Atlantic could be followed for many miles till lost in haze northwards toward Cape Chidley and southwards beyond Nakvak.

It was a wide and splendid view but it lacked one great element of beauty in the Rockies. There were no wooded slopes nor groves of evergreens in the valleys, since Komaktorvik in latitude 59 deg. 30 min., is north of the timberline, and we looked out upon one of the stoniest and most desolate regions in the world. I was reminded of the view from Mt. Nordenskjold in Spitzbergen, where, however, the glaciers are much larger.

The top was reached at noon and an hour later we turned back. I had a good glissade on the snowfield, but Cornelius came down cautiously. The crossing of the steep face of gneiss was quite as bad as in the morning, but after that we made good time and reached camp about 5 o'clock, well pleased with our conquest.

As Cornelius was striving to make tea over a smoky fire of white heather, Johannes came in heavily loaded and covered with blood. He had shot a caribou in the next valley and had brought home the skin and all the meat he could carry. Cornelius opened up the bundle, cut off some titbits of the meat and ate them, then offered me a share and was rather surprised at my refusal. My turn did not come till the next day when we had gone back to the fiord, where a few sticks of driftwood made it possible to have a gorgeous venison stew, the first fresh meat for almost a month except the fishy tasting seal shot on the day of our arrival.

My friends of the Alpine Club, with bright visions in their minds of splendid peaks in the Rockies reaching 10,000 feet or more, may wonder why a mountain of only 4,700 feet should be worth counting as a first ascent. It should be remembered that these peaks of the Torngats rise almost straight from the sea instead of from foothills 3,000 or 4,000 feet above sea level as the Rockies do, and they are entirely above timber line They are as rugged and often as difficult to climb as most mountains in the Rockies.

Tetragona is in a region hitherto unmapped and never visited by a white man so far as the records go, and it is several hundred feet higher than the highest point hitherto reached in Labrador, the next to it being Mt. Faunce near Nakvak, thirty miles to the south, which was climbed by Messrs. Delabarre and Adams in 1900. They made its elevation 4,400 feet.

Two weeks after our ascent of Tetragona we climbed three peaks in the Nakvak region, one going a little over 5,000 feet, and it is possible that a few mountains near by approach 6,000 feet, but I am doubtful if any go beyond that.

In altitude the Torngats cannot be compared with our western mountains, and until they are more easy of access it is not likely that many climbers will visit them, but there is a charm in their very remoteness and desolation that must attract the explorer. Virgin peaks, such as they are, may

be counted by the dozen and there are many fine rock climbs, but the glaciers are too small to be of much importance to the mountaineer. The rocks are usually very sound, a great comfort where cliffs have to be scaled, and in this respect the Torngats have a great advantage over many of our western peaks, particularly in the Selkirks.

Climbs And Explorations In The Purcell Range In 1915

By W. E. Stone

In the summer of 1915 through the hospitality of Mr. and Mrs. A. H. MacCarthy there assembled at Karmax Ranch, near Wilmer, B.C., in the Upper Columbia Valley, a small party of mountaineers who, under the enthusiastic leadership of their hosts, engaged in two most interesting expeditions into the Purcell Range.

The beauty of the Upper Columbia Valley has been described more than once but never to exaggeration. For more than a hundred miles it lies enclosed between guardian mountain ranges, its sheltered, peaceful meadows and placid lakes contrasting with the vast wilderness surrounding them. To dwell in this smiling region and at the same time feel oneself in intimate touch with the splendid mountain ranges on its western border is a lot which every mountaineer might envy and of which our hosts have shown themselves highly appreciative.

The original possessors of this country were the Kootenai Indians, who now linger a mere remnant within the prosaic boundaries of a government reservation. Some of the earliest explorers visited the valley and even pushed on over the more accessible mountain passes; in recent years settlers have entered the region attracted by its fertility and climate; miners have prospected the foothills; trappers and hunters have plied their vocations; but mountaineers discovered it only a few years since and as yet have scarcely penetrated into the labyrinth of valleys or trod more than a few of its multitude of peaks. Thus a great alpine region remains practically unexplored and unknown. A reconnaissance at the head waters of Bugaboo Creek, expeditions up Toby Creek to Wells Pass, and the partial exploration of the region at the head of Horse Thief Creek and its South Fork constitute all of the recorded efforts to explore this section. Of the vast array of peaks to be seen from any high station, barely half a dozen have been climbed. It might, therefore, be expected that the account of our two expeditions should describe new country and record the ascent of virgin peaks[1]

I. Mt. Ethelbert and the Region on the South Fork of the Salmon River

From the neighborhood of Spillimacheen, about fifty miles south of Golden, the traveler on the general purpose train which semi-weekly, and with great deliberation, proceeds up the valley, may observe a conspicuous snow-crowned peak visibly overtopping its neighbors on the

1 The records of mountaineering in the Southern Selkirks will be found in the following named articles:
Across the Purcell Range of British Columbia. T. G. Longstaff, Canadian Alpine Journal, 1911, page 26.
First Ascent of Mt. Hanrnond. C. D. Ellis, same, p. 14.
The Upper Columbia. Elizabeth Parker, same, p. 147.
First Ascents in the Southern Selkirks. Edward W. Harnden, Canadian Alpine Journal, 1912, p. 98.
Climbs in the Southern Selkirks. Edward W. Harnden, Appalachia, vol. XII., 1912, p. 350.
Exploration in the Southern Selkirks. Edward W. Harnden, Canadian Alpine Journal, 1914 p. 103. First Ascents of Mt. Farnham and Mt. Farnham Tower. A. H. MacCarthy, Canadian Alpine Journal, 1914, p. 112.
Pioneering in the Southern Selkirks. Marion Kandall Parsons, Sierra Club Bulletin, vol. IV., January, 1915, p. 240.

western horizon. Upon it in 1886 was bestowed the name of Ethelbert by Captain Armstrong of the Columbia River steamer Ptarmigan, in memory of a nun who died on his vessel. The mountain is the apex of a ridge extending toward the Columbia Valley at right angles to the main range and enclosed on the north and south by forks of the Salmon River. The region at the headwaters of these streams is practically unknown save to occasional trappers who have penetrated the valleys and there is no record of any attempt at its exploration, although there is a fugitive rumour of an unsuccessful expedition to the mountain a few years ago.

Setting out from Karmax Ranch on July 22nd for the purpose of visiting this region and hopeful of making the first ascent of Ethelbert, we made a day's journey down the valley on a primitive wagon road. The region through which we traveled is a bench of the valley composed of the debris deposited from the canyons which reach far back into the mountains, a rather desolate, burned over country reforested by a growth of Jack pine and dotted with many lakes. Towards the end of the day we found ourselves separated from the main valley by a rocky ridge known as Steamboat Mountain, and, turning aside between two blazed trees, came presently to two sedgy lakes and camped for the night. From our bivouac on Twin Lakes where we abandoned wagon transport, a pony trail (the old Golden Trail) leads westward one and one-half miles to Deep Lake, where the next day we established our base camp and for a week enjoyed the peculiar beauty of that solitary spot.

The lake is separated from the mountain range by wooded foothills beyond which the higher peaks rise and are mirrored in its clear waters. Save for the early morning cries of a family of loons, no sound disturbed the quiet of this lovely lake. An abundance of trout supplied our larder and but for the pestiferous yellow-jackets, who, on more than one occasion, routed us by their fiery onslaughts, there was nothing to mar the pleasure of the situation.

Deep Lake lies near the South Fork of the Salmon River and a preliminary reconnaissance indicated that the best route to Ethelbert lay up the valley in which this stream has its source, apparently near the foot of the mountain. On the morning of July 25th a party of six consisting of four men and two ladies, carrying on their backs supplies for four days, took advantage of the old trail for a mile or two in its northward course from Deep Lake and then turning toward the mountains, followed the winding course of the stream up the valley. For a time the going was easy through open, level places between clumps of trees. We found a deserted prospector's camp with a long abandoned cache of rotting saddle and blankets and a rusty miner's pan, hinting vaguely at disappointed hopes or even a darker tragedy. A little farther a trapper's lean-to was the last trace of man's presence which we saw before passing into the narrow jaws of the valley where soon we were forced to clamber high above the boisterous stream in order to make way.

The day was hot; the steep slopes and rocky ridges were scattered with brush and fallen timber, and our slow progress was toilsome and disagreeable. From the stream, which was often dammed by the debris of avalanches, both sides of the valley rose in steep "slides" alternating with timbered slopes. At noonday someone ventured the guess that it would require about an hour more to round the last timber ridge and reach the camp at the foot of Ethelbert. In actual fact it took six hours of strenuous effort under conditions which became constantly more difficult and our bivouac was finally made in the darkening twilight.

The day's course lay westward along the north side of the valley except at the last when a great mass of broken tree trunks piled impassably across our way testified to the power of snowslides and forced us to the south side of the stream. Soon after we entered a thick stand of timber, underbrush, fallen trees and moss covered rocks, where a tumbling cataract descended

from the south side of the valley, making a loud noise among the trees, falling without pause from its source which two days later we discovered in a desolate hanging valley. A passing shower had wet the underbrush, thus adding the final element of discomfort to our progress.

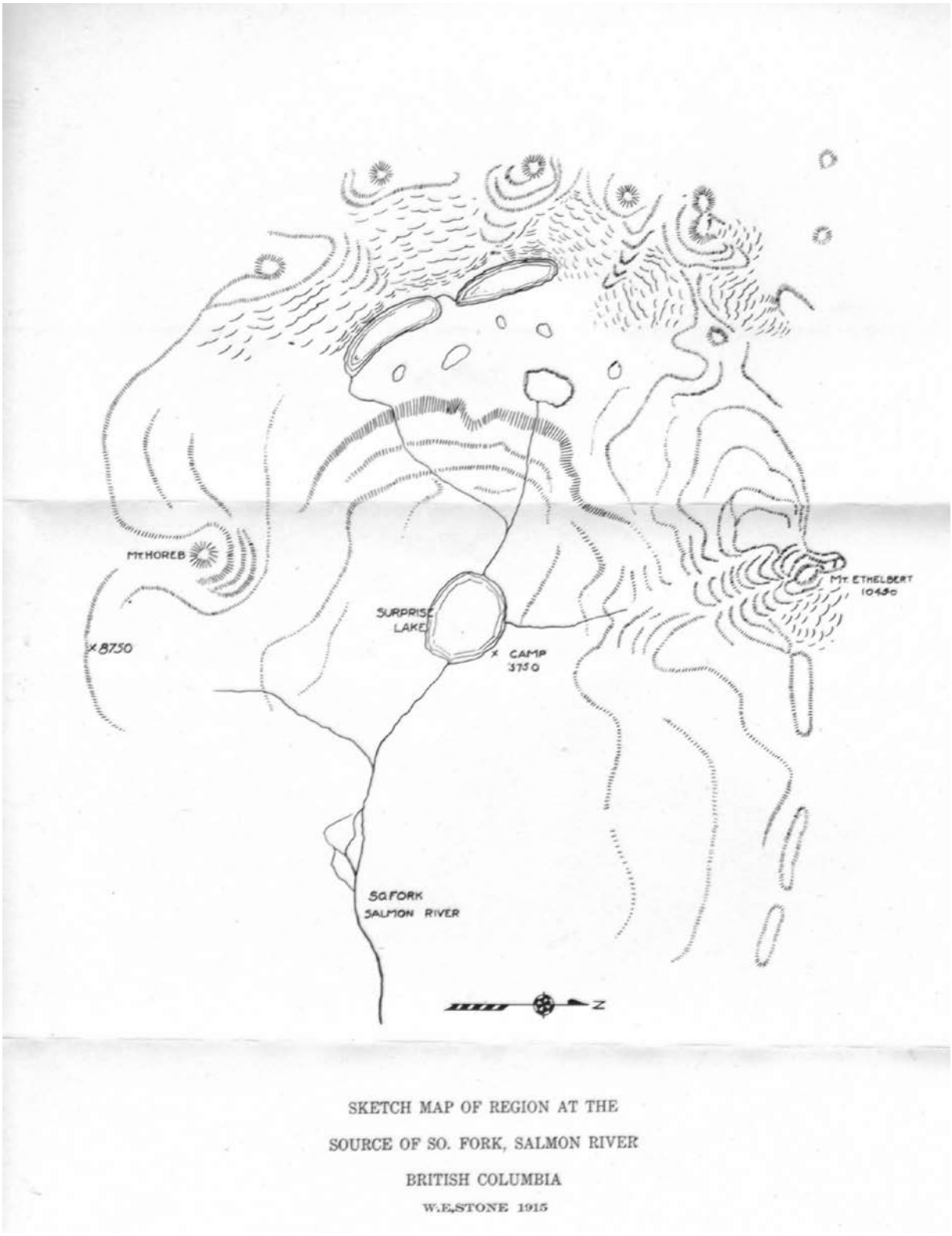
Then came the climax of the day. Emerging from the thick brush, we came with startling suddenness on a scene so dramatic and beautiful that for a moment our eyes could scarcely be trusted, while weariness and discomfort were quite forgotten. Before us lay a lake of exquisite blue color resting like a jewel in a setting between two rugged peaks, which mirrored in the clear water, rose abruptly thousands of feet on either hand like grim guardians of a lovely treasure. Beyond the lake the lifted eyes rested on a terrace stretched across the valley like a giant curtain eighteen hundred feet above the lake, down whose verdant slopes two gleaming cascades traced their foaming course and filled the whole amphitheatre with the sounds of falling water. Still farther and higher in the background, great snow crests appeared, inscrutably looking down upon us. No contrast could have been greater than that which this scene offered to the day's experiences. It was the kind of reward which the mountaineer so often wins and which is compensation for any toil or danger.

Soon our camp fire was burning on the north shore of the lake at the very foot of Ethelbert and in spite of weariness, it was late before eyes were closed to the beauty of that rare valley into which quiet stars looked down and where the falling waters made the only sound.

On the following morning we left camp for the ascent of Ethelbert at 5.45 o'clock. The weather was cloudy and the aneroid indicated an altitude of fifty-seven hundred and fifty feet at the lake side. Our course lay directly up from the lake over an open, grassy slide, where we surprised two antlered deer taking breakfast and willing to pause for several minutes while we made their acquaintance. The south face of Ethelbert which now confronted us is characterized by a long, forked couloir filled with snow which makes a conspicuous land mark and enabled us two weeks later to identify the peak when seen from different high stations in the ranges to the south.

We crossed the lower end of this snow to the rocks on the west side, working up easy slopes and chimneys to a point near the fork of the couloir at an altitude of about nine thousand feet where the steepness of the rock face compelled us to traverse toward the couloir. The ropes now became necessary although all of the party were experienced climbers. Not caring to trust ourselves in the snow trough, we picked our way cautiously up the west side of the deep gully clinging to the rocks and for a half hour or so enjoyed some exciting situations, this being the most difficult part of the whole ascent. Arriving at the head of the west branch of the couloir, we found ourselves on the western arête which led by a steep slope over snow and smooth rock slabs to the summit where we arrived at eleven o'clock. The barometer indicated 10,450 feet and in the absence of all evidence to the contrary, we claimed it as a first ascent and built a substantial stone man containing the following names: Mr. and Mrs. A. H. MacCarthy, Mr. and Mrs. W. E. Stone, H. O. Frind and Conrad Kain.

Through occasional rifts in the clouds which enveloped the peak, we had tantalizing glimpses of the lower world but, although we remained two hours on the summit, the genius of the weather would not relent and we were obliged to forego a view which under other conditions would doubtless have been unusual. Conrad felt his way across the ridge to a second peak a few hundred yards to the north and reported it decidedly lower than the one on which we stood. This summit ridge falls away sharply on the east and northeast where through the clouds we could discern a glacier of considerable dimensions. The mountain descends steeply to the north and on this account as well as the general cloudiness, we could see nothing of the valley of the main



Sketch Map of Region at the Source of So. Fork Salmon River, British Columbia. Sketch, W.E. Stone, 1915

branch of the Salmon.

At one o'clock we began the descent, retracing our steps only as far as the head of the couloir and then continuing straight down the west slope intending to explore the region lying to the left or south of the ridge above the terrace at the head of the valley. At about nine thousand feet we were well below the cloud strata and obtained excellent views of our surroundings. To the south and southwest a grand panorama of high peaks and vast snowfields was to be seen. Longstaff, looking in the same direction from a high station near Bugaboo Pass in 1910, says: "The great extent of the snowfields and the general altitude of the range was a surprise." The region which we saw was undoubtedly that at the head waters of Horse Thief Creek and confirmed our later impressions of that interesting section.

But close at hand at our very feet lay a scene of unusual interest and beauty. The snow ridge which yesterday we had seen above the terrace at the head of the valley, now resolved itself into a fine cirque of snow peaks clad with glaciers with a charming hanging valley dotted with varicolored lakes nestling at their feet. There were a half dozen of these peaks approximating, we judged, nine to ten thousand feet in altitude, arranged in a semi-circle about the head of the valley, and at the northern extremity of the group somewhat isolated but probably belonging to the range, were two other conspicuous mountains. Of these latter the one farthest to the west was marked by a peculiar snow cornice resembling a pair of wings. Longstaff mentions a "Septet Range" seen by him to the southwest from a point between the north and south forks of Bugaboo Creek. It is possible that he referred to the range upon which we were now looking, but this cannot be verified at this time.

A lively glissade brought us down to the park-like hanging valley where for two or three hours we lingered, charmed by the beauty of the situation. Here upon a lofty bench (7,650 feet altitude) were scattered a dozen or more lakes ranging in size from a mere pool to a mile in length, of every variety of colour and aspect. One with deep indigo waters was enclosed by precipitous walls; others were bordered by grassy slopes; others bathed with their greenish waters the feet of descending glaciers. Little hillocks were crowned with larches; a brood of ptarmigan, unaccustomed to men, gave little heed to our presence; a humming-bird flitted past; and alpine flowers were abundant. We basked in the warm sunshine and surrendered ourselves to the spirit of the lovely place, unique in its setting and its peculiar beauty. The stern encircling mountain range seems to cherish this beauty spot in its sheltering arms, from which looking out to the eastward between the sentinel peaks, Ethelbert on the left and its unnamed counterpart on the opposite side of the valley, the eyes ranged down to the lake of our bivouac, followed the winding course of the stream to the end of the valley; then out across the broad plain of the Columbia to the far blue outlines of the Rockies. We lingered here to the last moment delighted with the beauty and novelty of the situation, impressed with the belief that we stood where man had not been before. Then, dropping down the face of the terrace, we reached our camp at six-thirty. Supper and the ceremony of retiring were enlivened by a hard rain storm, but we forgot all discomforts in the thoughts of the day's events.

Breaking camp at five-fifteen the next morning, we climbed out of the valley over the range to the south, where we had been told a "low pass" would be found. This imaginary topographical feature turned out to be a rock ridge over eight thousand feet in altitude, which we reached after a toilsome scramble over rocks and snow consuming five hours from the camp. Lunch was seasoned by a snow squall and at intervals during the day we enjoyed snow and rain alternately. From the summit of the ridge we looked into an unknown valley winding down to the southeast. Opposite

us to the south were several fine rock peaks which ought to prove interesting- to some aspiring mountaineer in the future. No trail was in evidence and four hours of hard going through alders and fallen timber completed such mutilation of our suffering limbs as had been left undone in the scrambles of the last two days. Late in the afternoon we reached the trail in the valley of Creek No. 3 and, regardless of the flight of time, boiled tea and consumed all our food reserves. Eight miles farther over a fairly good trail brought us into camp at Deep Lake at seven o'clock where the cook's fried trout, flapjacks and hot coffee agreeably dispelled all reflections of the day's hardships.

This region about Ethelbert will repay more careful exploration. The description, the sketch map and photographs fail, of course, to give an adequate idea of its interest, which all members of our party agreed was equalled by few or none of the regions they had visited. In the absence of a trail up the south fork of the Salmon, it is not easily reached but the old Golden trail could be extended without difficulty to the head of the valley which could then be reached in two days from Lake Winder-mere with attractive camping grounds en route. Previous to our visit the region has been seen apparently by no one save an occasional trapper or prospector. Virgin peaks await conquerors and a new field for explorers offers its attractions. We refrained from bestowing names except to suggest for purposes of identification that the lake at the head of the valley be called Surprise Lake and the mountain opposite Ethelbert, its counterpart except in altitude, be called Mt. Horeb, in scriptural allusion to the stream of water which, seen from the lake below, appears to gush out of the solid rock high up on its face.

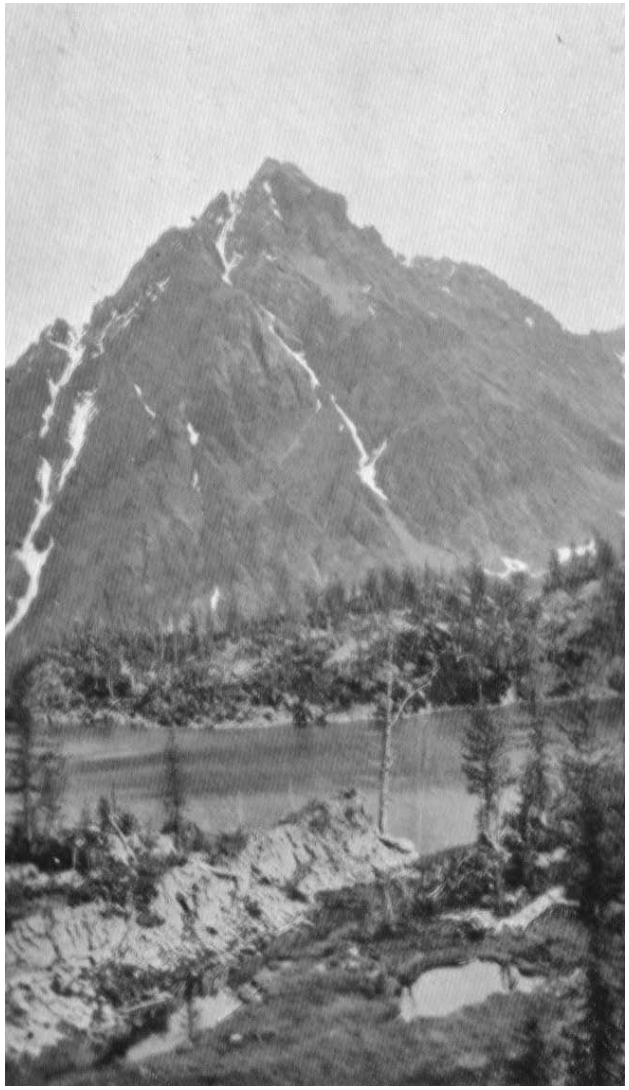
On the 29th we broke camp at Deep Lake and returned to Karmax Ranch.

II. Climbs on the South Fork of Horse Thief Creek

The expedition up Horse Thief Creek left Wilmer on the morning of August 2nd, lunched at Starbird Ranch, now fire-swept and deserted, expended a lot of energy clearing the trail of fallen timber, transferred the packs from wagons to the ponies a mile or two beyond the junction of the North Fork, and made a night camp about a mile farther up the creek on a gravel flat a little distance below the junction of the South Fork. At this point the valley becomes narrower and the mountains higher and more threatening. A fine waterfall plunging over the cliffs on the opposite side of the creek and the prominent snow peak far up the valley were the noticeable features of our camping place, while all day we had been impressed by the force and volume of the stream whose turbid current gave strong evidence of its mighty sources.

We were awakened the next morning by rain and thunder, a not very favorable portent, which fully sustained its prophecy before the day was over. A ubiquitous filly,' offspring of the bell mare of the pack train, had received a deep cut on the breast while struggling through fallen timber the day before and a surgical operation became the first business of the morning. The little animal was hobbled and thrown and received eight stitches at the hands of Mrs. MacCarthy, who thus achieved the standing of veterinarian in addition to other accomplishments. Bill, the Indian packer, surveyed his property and laconically commented, "He learn, be pack pony."

After breakfast four of us were sent ahead with our packs and instructions to locate a camp at the farthest limit of pony transport up the valley of the South Fork, the pack train to follow later. The trail which we followed soon branched off near the crossing of the main creek, led sharply uphill and, after a couple of miles, brought us to an interesting box canyon in the depths of which the waters of the South Fork almost entirely disappeared from view. At the very head of the canyon is a fine waterfall and the two slender logs bridging the creek at this point seemed a slight safeguard against disaster as we teetered across step by step. To lose balance on this slender bridge



Mt. Horeb From Northwest. Photo, W.E. Stone

Mt. Ethelbert From The South. Photo, W.E. Stone

would precipitate one into the flooded stream to be drawn into the canyon in an instant. We forgot our own danger, however, in conjecture as to how the pack ponies could pass this point, the stream being too swift and deep for fording. It was found necessary when they arrived later in the day to reconstruct the bridge, which delayed their appearance at camp until late in the afternoon.

From this point on the valley became less steep and more open, with charming vistas through the mountains on both sides. As we came out of the forest across the foot of one of the grassy slides which occur at frequent intervals, we surprised five elk feeding at a little distance up the mountain side and enjoyed the splendid sight for several moments before they took fright and fled. A little farther on we sighted the flagstaff used by Mr. Harnden in his triangulation work in 1913 and nearby found his last year's camp. Flood conditions existed in the valley; frequently the trail was converted into a water course and some of the time it rained, so that we were thoroughly wet most of the day. Finally the trail lost itself in the gravel flats, the valley narrowed to a wooded canyon impassable for horses and we concluded that we had carried out our instructions.

The camp site was located in a fringe of timber just below a fork in the creek where we found traces of former occupancy. Opposite rose Sir Charles and St. Peter and through the gaps between and beyond them could be seen Farnham and Delphine. The centre of attention, however, was the great glacier heading the valley to the southwest. Ten minutes from camp brought us to the curiously marked snout which in the photographs resembles a huge claw reaching down into the valley. The glacier itself leads by a series of terraces and slopes to the skyline, broken by two or three curious small conical peaks, while to the right appears a massive mountain peak with rounded crest and precipitous walls. We somehow got the impression that this was Jumbo Peak, although we could not reconcile it with the map or with any of the published photographs. Later we learned that the Jumbo Peaks are not visible from this valley or from the basin of Lake Maye on the west side of the range. The aneroid at camp indicated an altitude of 5,650 feet. The rain kept up far into the night but the following morning and all of the remaining days of our stay were perfect in weather conditions.

To climb the peak noticed at the western boundary of the glacier was the object of our first day's effort. Warned by the experience of Harnden's party in 1913 in crossing the icefield, we selected a course up the north or left lateral moraine of the glacier with the intention of climbing into the saddle shown in the photograph to the right of the main peak, and then following the rock and snow arête to the left up to the summit. At the end of the moraine we crossed a small branch of the main glacier and attacked the steep rock face of the saddle. Unexpected difficulties developed on account of the steepness and smoothness of the cliff. We headed for a snow gully leading up on the left but found it impassable and were obliged to traverse toward the right over a difficult corner. Falling rocks were a constant danger, one formidable missile whizzing through the air close to us, clearing the whole slope at one bound and burying itself in the snow far below.

When at last we stood on the sharp ridge of the saddle an entirely new scene burst upon our gaze. We were looking to the westward. Immediately on the left, high cliffs extended across the valley topped by a hanging glacier; beyond, jagged peaks with snow and ice fields made a long sweep to the north ending in a high peak which we recognized as Eyebrow Mountain; and at our feet a splendid piedmont glacier with a long, plainly marked medial moraine, sloped gradually down into a lake which we identified as Lake Maye. We were, in fact, standing upon the divide between the headwaters of the South Fork and the Main Fork of Horse Thief Creek.

We now made our way easily up a narrow rock arête to the left to the snow line, where, six hours from camp, we stopped for lunch. Looking up the snow slope ahead of us, the summit

Commander Peak Jumbo Peaks

Commander Glacier From Summit Of St. Peter. Photo, W.E. Stone
Looking West And Southwest.

of the peak was concealed from sight, but, as we proceeded, a fine sharp peak emerged to view toward the southwest across an extensive snow field. Climbing was not difficult, requiring only care to avoid crevasses and possible avalanches, the snow being still soft. At the top of the ridge, we saw the real summit farther along toward the south, which we reached soon after three o'clock, the barometer showing an altitude of 10,950 feet. We built a cairn on the rocks although the snow cornice overtopped this by some ten feet, leaving a record of the climb and the climbers, namely, Mr. and Mrs. A. H. MacCarthy, Mr. and Mrs. W. E. Stone, Miss B. Schultz, H. O. Frind and Conrad Kain. The view in all directions was superb. To the east Farnham, Sir Charles, St. Peter, Delphine, Boulder, Nelson seemed all within arm's reach. Far beyond all of the well known land marks of the Rockies were recognized. To the north Ethelbert was conspicuous. Westward was a confused array of unknown but grand mountains.

Looking across a snowfield of a mile or so toward the southwest, we saw two peaks which we identified as the Jumbo Peaks of Harnden's description, the westerly of which had been in view for some time. Now we realized that the mountain on which we stood was not only a virgin peak but not even christened, a deficiency which we supplied later. It was late in the afternoon but weather conditions being favorable, we decided to push on to at least the first of the Jumbos. A glissade down the steep western slope of our peak soon placed us on the snowfield which by a smooth and not difficult slope led up to the gracefully corniced summit of the main Jumbo Peak, which we reached at five o'clock, all of those mentioned above participating. There was no opportunity to build a cairn here on account of the depth of the snow. The barometer indicated 11,125 feet. It was too late to attempt the ascent of the twin peak which lay still some distance to the west and which on account of its remoteness from any suitable camping place will be reached only after a long and strenuous effort. We had a splendid view from this point which, with the exception of Eyebrow Mountain, is, perhaps, the highest in the range. Many fine peaks to the far west showed that there still remain in this region splendid entertainment for mountaineers. We left the summit at 5.30, choosing a course over the pass between Jumbo and the mountain first ascended, down across the glacier where we had some difficulty in threading our way through a labyrinth of crevasses, reaching camp without mishap at 8.30, elated with the success of the day which had won for us two splendid mountains and a view of the vast unknown region to the west.

The glacier descending into the valley of the South Fork lies in a great depression on the northeast side of the range and evidently has little or no connection with the Jumbo Peaks. The large snowfield lying at the foot of the latter drains away toward Lake Maye and the Main Fork of Horse Thief Creek. It is doubtful if any appreciable amount of the true Jumbo névé reaches the South Fork. The mountain which we first ascended dominates the South Fork Glacier, bounding it on the west and along the south is a high ridge marked by three small conical peaks; between them a narrow pass connects with the Jumbo névé. Later the fine view of the entire massif from the summit of St. Peter confirmed the conviction that the glacier and its boundaries are separate from the Jumbo Peaks and the glacier at the head of Lake Maye. The fancied resemblance of the mountain and the lesser peaks to a military formation suggested for them the names of Commander and the Three Guardsmen, and Commander Glacier for the great icefield below them.

The foreshortened slopes of St. Peter culminating in a turreted peak of architectural aspect, rose opposite our camp on the east side of the valley and seemed to offer just the program for the day following the ascents of Commander and Jumbo. Bill, the Indian, out of consideration for our feelings, felled a big fir tree across the creek and we passed over dry shod, but during the day the rising waters carried away our bridge and on our return in the evening we were forced to

Lake Maye Eyebrow Mt.

From Commander Ridge. Photo, H.O. Frind
Looking West And Northwest.

wade the stream. Crossing a little meadow where the grasses were crisp with frost, we pressed up through the timber near a fine clear stream, coming down from the valley, over which the summit of Delphine could be seen. A game trail assisted not a little in getting through the timber and in a little while we came out into a fine open grove of larches which gradually yielded to dwarfed pines at the edge of timber line. Just beyond we encountered a nanny goat and her kid who did not delay seeking safer quarters in the direction of Mt. Farnham.

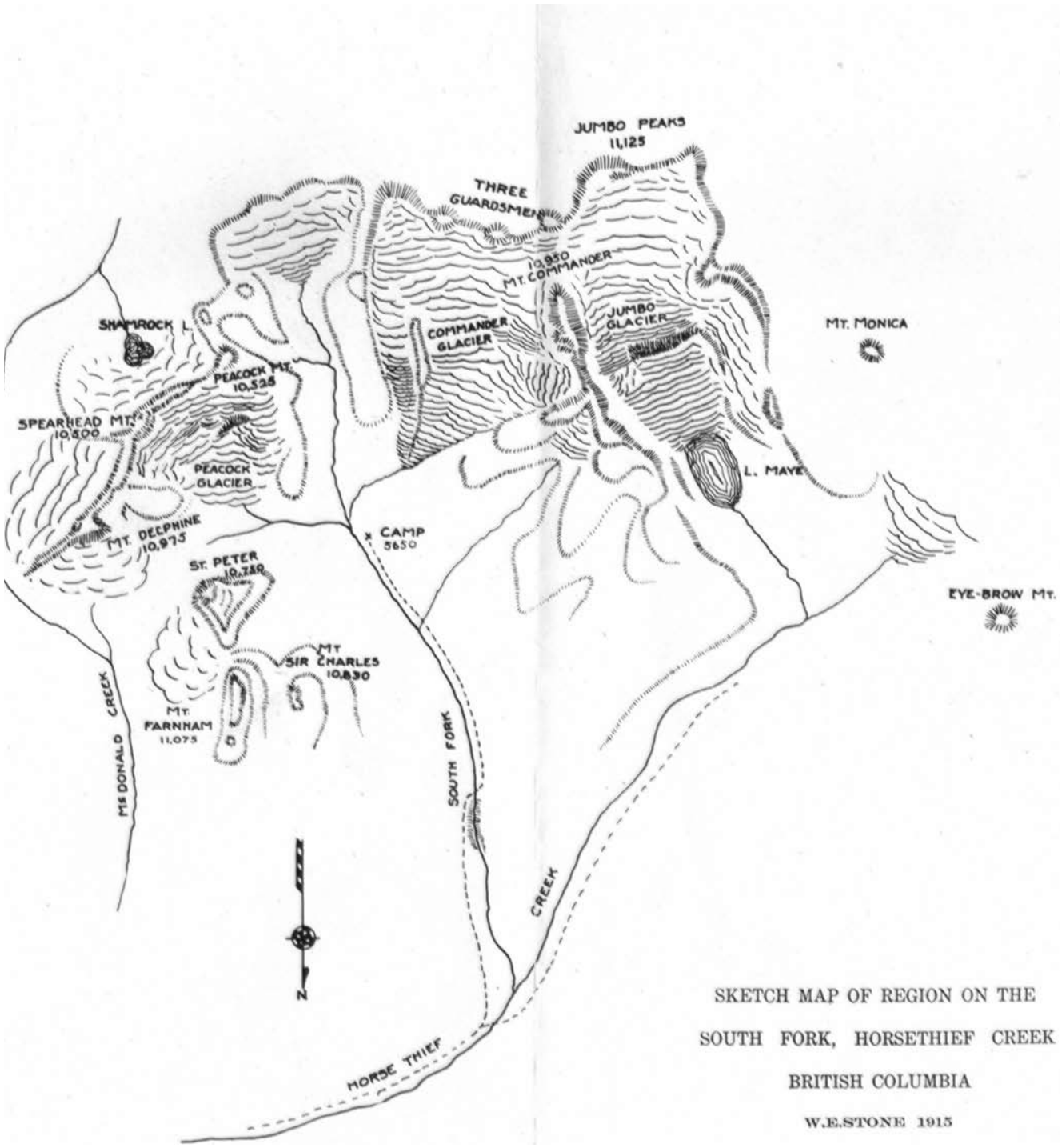
A considerable portion of the western slope of St. Peter is covered with loose shale-like slabs which reminded us of the fossil beds on Mt. Stephen. Interspersed were fragments of quartz and we picked up some fine cubical crystals of pyrites. Above this are strata of more enduring rock which give to the upper part of the mountain a characteristic castellated appearance. It was noon before we reached this point (altitude 9,250 feet), where the real climbing was to begin, so we halted for lunch, melting snow for drinking water, for St. Peter is distinctly a "dry" mountain. At 1.30 we put on the ropes and started up through a chimney where we found plenty of loose stones but otherwise not difficult climbing. Coming-out on the skyline as seen from the valley, we found the upper part of the mountain to consist of a concave slope steeply inclined to the northwest and covered with snow so as to be impassable. The only approach to the summit was therefore along the arête above the western cliffs which was accomplished without special difficulty, reaching the top at 2.45 p.m., the altitude being 10,750 feet.

The weather was exceptionally clear and we enjoyed fine views in every direction. Close at hand was Farnham with its terrifying precipices quite confirming all estimates as to its difficulty. To the southeast Delphine and a long ridge extending from it to the southwest lay in beautiful detail. We were struck by the interesting appearance of two other peaks on this ridge, one a fine rock tower, and examined them with more than usual interest with reference to the morrow's climb. To the southwest the Commander Glacier with its encircling heights and in the distance the Jumbo Peaks lay spread out before us with map-like clearness, while to the north Ethelbert was seen with great distinctness. We claimed this as a first ascent and a cairn was built in which we placed the names of our party: Mr. and Mrs. MacCarthy, Miss B. Schultz, W. E. Stone and Conrad Kain. The mildness of the day permitted us to linger and the beauty of the outlook claimed our attention until 4.30 p.m., when we began the descent, reaching camp leisurely at the fall of darkness.

On the following morning, August 6th, the weather conditions being still exceptionally fine, we set out with the expectation of making a long day on Delphine, whose snowy summit lighted by the last rays of the setting sun was always a lovely contrast to the dark spruce-clad gap through which we saw it every evening. Following up the clear creek which we noticed on yesterday's climb, we came after about an hour into an enclosed valley bounded on the north by St. Peter and on the east and south by the Delphine ridge. This valley, devoid of vegetation, its altitude 7,500 feet, proved to be of more than usual interest. The floor was covered with glacial debris which seemed to have been deposited from various directions, one deposit overlapping the other in broad, swirling, plastic fields.

At the head of the valley Delphine appeared as a fine, massive, pyramidal peak, its steep snow slopes broken here and there with bare precipices. The long ridge extending from it toward the southwest again attracted our attention. Midway in its course the fine rock tower noted from St. Peter rose a sheer perpendicular cliff a thousand feet from the glacier, its front marked with horizontal bands, its symmetrical profile culminating in a sharp point like the head of a spear or lance.

At the southern extremity of the range, a beautiful snow peak discharged its glacier into the



Sketch Map of Region on the South Fork, Horsethief Creek, British Columbia. Sketch, W.E. Stone, 1915

valley where we stood. This glacier, owing perhaps to the topography of the slope or possibly to the eddying effects of the winds in the great amphitheatre, was pitted in many places with depressions, which filled with brilliantly colored pools of water, gave to the whole an effect resembling that of the "eyes" or jewels in a spreading peacock's tail. We thought it fitting, therefore, to suggest the name of Peacock for the mountain and the glacier, and for the tower-like rock peak the name of Spearhead.

Crossing the glacier, where the recent trail of a bear was visible, we made for a flanking buttress extending to the northwest at right angles to the main ridge. This buttress leads directly up to the last minor elevation on the main ridge before coming to the real arête of Delphine. A sharp scramble up a chimney filled with loose stones placed us on the roof of the buttress, whence we went straight up rock and snow slopes to the summit of the ridge at eleven o'clock, the barometer reading 10,400 feet. Looking to the northeastward to the summit of Delphine, the ridge and final arête presented a far more difficult appearance than when seen in profile. Deep clefts, gendarmes, and snow cornices were obstacles which gave us more than an hour of active work to reach the summit, and reminded us vividly of the summit of Mt. Victoria. It was 12.15, six and three-quarter hours from camp when we reached the summit, altitude 10,975 feet.

Delphine peak is not only the highest point in this ridge but it marks an angle from which two wings diverge, one extending to the east and the other to the southwest. The summit is heavily corniced with an overhang to the east and south, preventing an outlook in that direction. We found here no evidence of any previous ascent and constructed our cairn on the rock ridge at the northwest point of the cornice, leaving in it the record of the climb with the names of Mr. and Mrs. MacCarthy, W. E. Stone, H. O. Frind and Conrad Kain. The writer has since been informed that Mr. A. A. McCoubrey, of Winnipeg, and Edward Feuz, Jr., the well known Swiss guide, going in by way of McDonald Creek, ascended the northeast side of the mountain and left a cairn in 1914. That this was not found by our party may possibly be accounted for by its being buried in the snow or it may have been set up on the ridge to the eastward on the opposite side of the snow capping cornice from our position and thus escaped our notice.

The fine clear weather was favorable to observations and photographs but too cool to make a long stay enjoyable. Furthermore, we had now conceived the plan for a complete traverse of the southwest ridge, including ascents of the two peaks, Spearhead and Peacock, and the hour, 1.10 p.m., left none too much time for this undertaking.

Retracing our steps along the ridge to the point of our initial ascent, we continued to follow the sky line, crossing two elevations of over 10,000 feet alternating with snow gullies, to the foot of Spearhead, which, seen in narrow profile, looked anything but inviting. On either side the cliffs fell away precipitously. In many places one could easily sit astride with feet hanging off into space on either side. The character of the rock was very bad and, as we realized, no one had been before us to throw down the loose stones. The conformation of the ridge left us no choice but to go over all of the high points. It was impossible to make any lateral traverses and oftentimes the only resting points on the ridge consisted of balanced rocks. On this account every foot of the climb had to be carefully negotiated, requiring the utmost caution and steadiness. At 2.55 p.m. we reached the highest point of Spearhead at an altitude of 10,500 feet and left here a monument and the record of our names.

Some discussion arose among the party as to whether this should be regarded as a separate peak or not. Conrad decided the matter by saying: "This is a real mountain," pointing out to us its altitude above the ridge, its peculiar conformation and more particularly the topography of the

Mt. Peacock And Peacock Glacier. Photo, H.O. Frind

Looking Up S.W. Arete Of Mt. Delphine. Photo, W.E. Stone

region to the south, where the peak dominates a considerable snowfield and glacier descending into the valley with a lake of peculiar form, which we named Shamrock. This lake, which was quite covered with ice, is the source of a stream which is doubtless a tributary of the North Fork of Toby Creek. One looking up this stream would observe a watershed and glacier hemmed in by an encircling ridge, of which Spearhead Peak is the climax.

Continuing our course over the southwestern arête of the peak, we found the whole slope of the ridge descending rapidly by a series of abrupt benches. On this part of the traverse we continually faced new problems.

In one place it was necessary to lower down with the rope each member of the party singly for a considerable distance. Scarcely was this difficulty overcome when we encountered a genuine Chamonix letterbox, or, as one of the party named it, a "straddle crack," consisting of a perpendicular cleft in the rock, transverse to the ridge, which it was impossible to avoid and down which we had to pick our way by standing astride the opening and using hand holds and steps on alternate sides of the cleft, gradually lowering ourselves to the bottom. At 5.30 p.m. we reached the lowest point in the entire ridge, the barometer indicating an altitude of 9,750 feet.

We now faced the northeast arête of Peacock with nearly a thousand feet to climb and a survey of the ridge ahead told us that it would be no easy task. Moreover, it was certain we could not return by any part of the route of ascent, while beyond the summit all was unknown. We had now been climbing twelve hours, of which more than half had been spent above 10,000 feet and much of the time our strength and skill had been under test. But now we nerved ourselves for the fastest and hardest work of the day. Halfway up the arête we encountered the most difficult passage of the entire climb, a narrow icy couloir at the head of a steep ice slope with perpendicular sides of smooth rock and scarcely room to wield the ice axe in cutting steps. It required nearly an hour to negotiate this brief crossing of a few feet. Beyond it was easy going up a snow slope to the last peak of the day, which was reached at seven o'clock, finding an altitude of 10,525 feet.

We remained here just long enough to take observations, hastily built a cairn leaving the record and our names, and to pick out a route for the descent. Fortunately an easy slope to the south brought us to the head of a long snow-filled valley down which a glissade brought us at tremendous speed and some damage to our clothing, which already had suffered quite as far as respectability could approve, in the strenuous exertions of the day. In an hour we descended over 4,500 feet, reaching the valley of the South Fork about a mile above camp. By this time it was beginning to be dark and there remained only the unromantic task of wading the creek, floundering through bogs, climbing over fallen timber, until the gleam of our camp fire welcomed us, ending a day's mountaineering full of achievement, of unusual experience and pleasure.

The Delphine range furnished the climax of our climbs on the South Fork, combining a variety of problems, an extent of territory, and a degree of novelty rarely met in a single day. Next to Farnham it is undoubtedly the most interesting and difficult ascent or series of ascents in the region.

We were now content to enjoy a day's rest, having in three successive days accomplished six first class ascents, five of which were of virgin peaks. We regretted the lack of time to explore the glacier at the head of the valley in which the South Fork takes its rise. Mr. MacCarthy climbed one of the foothills to obtain a distant view and found it of no small extent. Its altitude is much lower than that of Commander Glacier, while its conformation and location strengthens the conviction that it is fed by drifting snows from the surrounding ranges rather than by actual precipitation.

On August 8th camp was broken, the writer and Mrs. Stone regretfully leaving the party,

which camped a few days on the main creek, climbing Monica, Eyebrow and a virgin peak near the latter, named Birthday Peak in honor of Conrad's natal day. Sally Serena and two or three neighboring peaks were also climbed, the party being favored with good weather and composed of an unusually able personnel.

Experiences In The Canadian Rockies In 1915

By J. W. A. Hickson

It was with but little expectation of being able to come to grips once more with the mountains that the writer looked forward to a vacation last summer. He had been done out of a season of mountaineering the previous year, through the outbreak of the European war which obliged him to make a hurried departure from Cortina in the Austrian Tyrol after a couple of minor rock climbs, which were to serve as preliminary training to a campaign in the Dolomites and Switzerland. He had pretty well resigned himself to the necessity of putting aside all mountaineering plans until after the present crisis of affairs, when a fortunate conjunction of circumstances enabled him to start westwards at the end of July, and the beginning of August saw him at Calgary looking with hopeful anticipations at the "old Rockies."

On the average, August is a month of uncertain weather in that part of Canada; or, perhaps, it would be more correct to say that from ten days to a fortnight of the month is usually impossible climbing weather. Fortunately for one who could not choose the time of his holiday, the bad weather had occurred in July—usually the best climbing month—and thereafter it continued almost uniformly excellent until the first week of September. The shortening of the day, however, after the middle of August is a considerable handicap on long climbs, which owing to the lack of huts or shelters in the Canadian Rockies are frequently unavoidable. This factor caused us an unpleasant experience on one of our climbs.

Preliminary Climbs

I reached Field on August 9th, and on the following day walked with Ernest Feuz into the Little Yoho via the Takakkaw Falls and the Upper Trail, which, as all know who have been over this route, affords the most charming panoramic views of peak, forest, glacier and alp. We camped on the admirable site of the A.C.C. Camp of 1914, which to those who are not acquainted with it, may be recommended as one of the best centres for a number of delightful and easy climbs, and took some exercise next day by climbing the President over the Rock Ridge. This affords quite sufficient work for an initial climb. In a couple of places it is not altogether simple. Reaching the summit a few minutes after 9 o'clock, we spent an hour of peaceful beauty, enjoying the wide impressions and the vast and harmonious visions of the scene; and then, traversing the top ridge which was covered with deep snow, descended on the right over snow and loose rock to Emerald Pass. Thoughts of trying Mount Marpole on the way were fortunately put aside; and instead we hastened down the snowfield and across the much crevassed Emerald Glacier. The snow and ice were left behind about noon, and then followed a tedious descent over scree, shale, boulders, and again over more of each to Emerald Creek. The absence of any trail along the stream makes the couple of miles of descent here very wearisome for those who are not in good condition. The flats at the end of the Lake were reached about 3.30, and half an hour later we were refreshing ourselves with excellent tea at the charmingly situated and admirably conducted Chalet.

On the 13th of August, my most constant climbing companion and guide in the Rockies, Edward Feuz, joined me, and on the following day my brother-in-law, C. B. Waagen, turned up from Calgary, and the trio ascended Mount Stephen, which the writer had climbed ten years before, from the direction of Lake O'Hara. Tedious as part of the ascent is, and trying as most of the descent is, Mount Stephen almost repays you on account of the superb views which clear weather on its summit affords. Our party was specially favoured after what looked like a threatening morning, and we had the great joy of basking in the glorious sunshine and gazing at some of the big peaks—Hungabee, Deltaform, Assiniboine and Douglas—which suggested many pleasurable and exciting memories. How serene Nature presented itself here and how uplifting its aspect above the terrible turmoil and chaos elsewhere on the globe!

Mount Moloch

The following morning, the weather being still very warm and fine, Feuz and I went to Glacier; and the next day saw us in Revelstoke to buy a week's provisions and make arrangements with a packer for a trip up the north fork of the Illecillewaet, the start for which was to be made from Albert Canyon. We were assured that the trail and its bridges were in fair order, and that horses could be safely taken, if procurable. We managed to procure two ancient beasts. After lunching in the last mentioned place at the domicile of a certain Carlsen, whose household seems to have a thorough understanding of these matters and appeared keenly interested in our trip, the party, consisting of Feuz, his brother, packer Peterson, with two horses and myself, started on the afternoon of August 18th and proceeded the same day about 7 1/2 miles up the trail. It was on the whole surprisingly good, the bridges having recently been repaired. The weather was showery, and the wood and brush very wet, and a good camping ground was hard to find, the Selkirks in this respect notoriously falling far behind the Rockies. We had to pitch our tent partly in the trail and the night was passed not very comfortably.

For a great part of the way up the Valley, the road runs through lines of magnificent cedars and hemlock, which would excite the admiration of the dullest observer. Two miles from our first camping place, we crossed Klondike Bridge, close to which is fair camping ground, of which we availed ourselves on the return journey, and after which the Valley, hitherto very confined and not very interesting, opens out and affords views of some of the distant peaks and snowfields. We pushed on to what is strangely called "the Farm" (about 3,300 feet), which to one of the party at least proved a great disappointment. It is an unattractive spot frequented by porcupines. Here we rested, and indeed had to rest for some two hours, in the interests of a thirty-year old horse which appeared unlikely to make the remainder of the journey if we didn't. On the way we had obtained an excellent view of the very striking Fang Rock, still unclimbed, on the west side of the North Branch. It was our intention to try it on our return, but we were now anxious to reach as quickly as possible our objective, Mount Moloch, the aim of several previous mountaineering attempts, and now again as we had heard at Albert Canyon the goal of a rival party.

After some five miles from the Farm, one reaches the second of the two large tributary creeks which flow into the main torrent from the west, and "up its narrow valley a grand glacial amphitheatre surrounded by precipitous walls and occupied by wide confluent ice streams could be seen through the trees."[2] At the head of this valley on the left lies Mount Moloch. We camped

2 Howard Palmer, Exploration in the Selkirks, chap. XX. Mr. Palmer's careful description of the valley of the North Fork, and Mr. Sissons' sympathetic article in the A.C.C. Journal, vol. V., pp. 34-43, relieve me of entering into details.

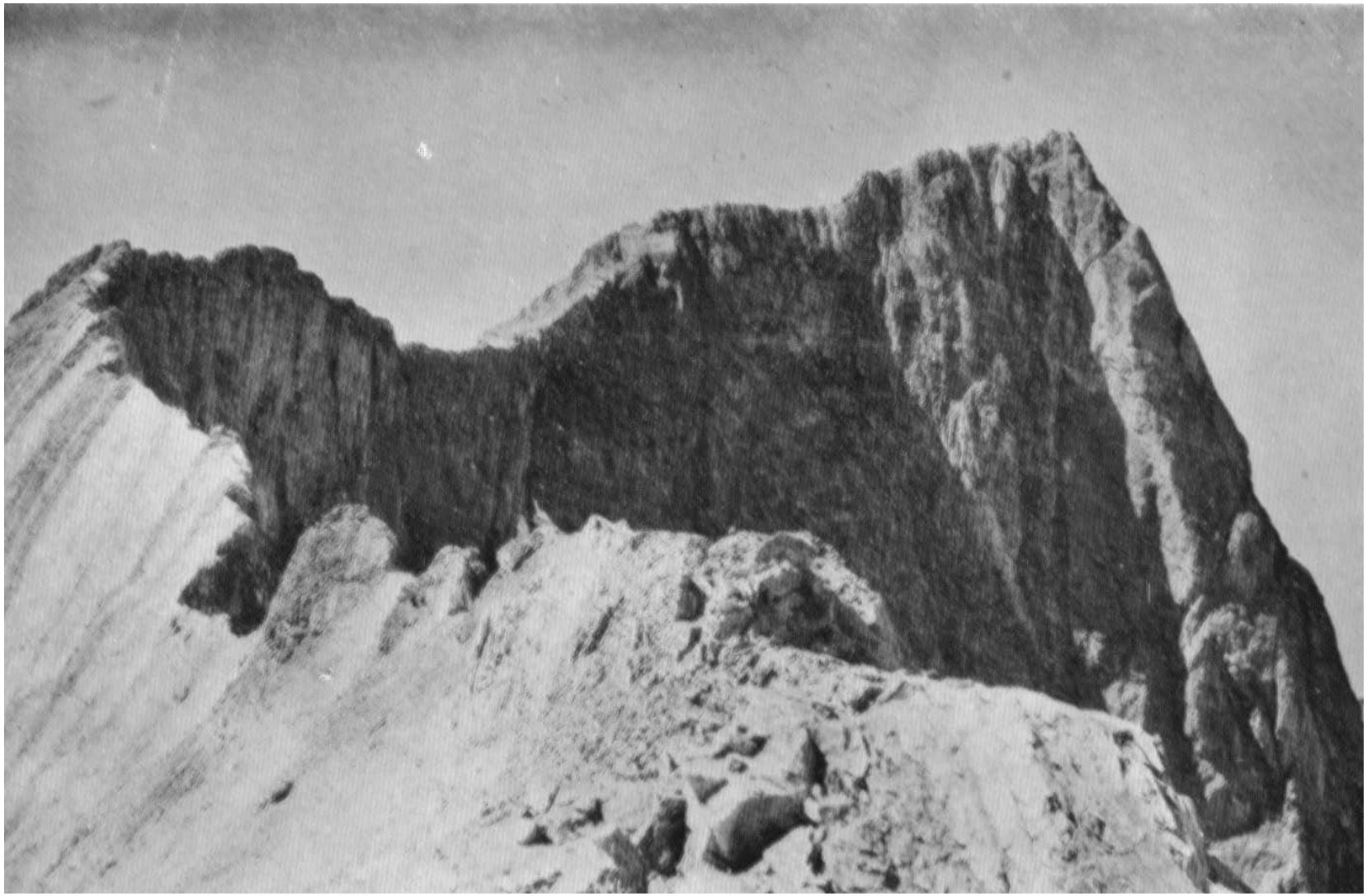
in view of both valley and peak on the trail, which at this point runs several hundred feet above the North Fork. We were now about twenty miles from Albert Canyon, and at an altitude of approximately 5,000 feet.

We intended, of course, not to lose any time in trying a contest with the peak, and had determined making a side camp as near to its base as possible; but uncertain weather next morning, August 20th, deterred us making an early start. While at breakfast about 7 o'clock, Edward Feuz, who had been eagerly scanning the mountain with his glasses, caused some excitement by informing us that he saw a party of three men crossing the upper moraine at the head of the lateral valley, and making for the lower snow on the northeast side of the peak. The party, who provided us with this experience rare in the Rockies, turned out to be Mr. C. B. Sissons, an earlier visitor to and admirer of the valley, and two friends from Toronto, of whose intentions we had heard rumours. We watched their progress intently for the next hour, during which they appeared to advance at a good rate. After losing sight of them for a while, we again saw them very clearly about 10 o'clock on the upper glacier approaching the higher rocks on the north side of the mountain. Again we lost sight of them until towards 1 p.m., when we saw one of the party on the top of a lower snow peak, of which it was impossible for us to tell whether or not it formed an arête continuous with the main massif of Moloch. If it did, the peak was assuredly theirs. As we learned afterwards, it did not afford an accessible approach to the summit, but in the meantime I lost a bet with one of the guides over it.

Having watched our rivals with varying feelings as long as we could, we set about completing our own preparations for making a fly camp up the side of the valley. Carrying two days food, a blanket each, and a small tent, the guides and myself left the packer to look after the horses and the remainder of the camp material. After a quick descent towards the main stream and crossing it by means of a little maneuvering, we had to struggle with alders, which were succeeded by heavier timber, and then alders again. Nearly three hours were spent in reaching a camping ground at the side of the black and dirty torrent which pours down from Moloch Glacier. Mr. Sissons' capacious tent was nearby, admirably pitched on a small tongue of land commanding a fine view of the little valley and the precipitous northeastern wall of Mount Moloch. Our expectations of seeing him and his friends the same evening were not fulfilled.

The glacial torrent was high and very strong, and it was obvious that even in the morning it would not be easy to cross, as would have to be done since we had decided to attack the peak on the southeast side. Consequently after the tent was brushed, we looked round for a conjunction of suitable crossing place and suitable tree, and were lucky to find the latter right on the edge of the bank, and at such a place that when it was felled it lay across the stream conveniently high above the water and held fast by the further bank. The night was very cool and the air very damp, and being without my sleeping bag, and having far too few blankets, I scarcely slept, and felt fatigued when we started out next day.

August 21st opened favourably, and we set out at 4.30 o'clock, crossed the stream by our tree bridge, and after a few minutes in the alders reached shale and rock, over which we ascended to steep grassy ledges covered at places with nasty and impeding scrub and bushes. These afforded unpleasant work for about an hour, after which we came out on a grassy knoll and thence ascended over heavy boulders and terminal moraine to a glacier, fairly dry but considerably crevassed. On the glacier we roped, and working our way without any difficulty across the ice, reached a snowfield on which we were able to advance more rapidly. Unfortunately, owing to wide crevasses, we could not make straight for the base of our peak, but were obliged to describe a wide semi-circle to the



Summit Ridge Of Mt. Moloch. Photo, E. Feuz

left, which cost us about an hour's time. Thereafter we swung to the right, and by carefully turning several large holes and crevasses, gained some lower outcropping rocks beneath the southeast face of the mountain. Here we rested at 8 o'clock, and partook of the usual second breakfast.

Further snow intervened between this point and the base of the main massif, which we approached on the southeast. The peak from this side bears a certain resemblance to Sir Donald seen from Glacier. Its sides, however, are steeper, more ledgeless, and offer but few decent hand-holds. Our ascent was much slower than we anticipated, I being hampered through lack of rope-soled shoes, heedlessly left behind, which lend a certain lightness to your body, and enable you to step confidently on almost imperceptible ledges on perpendicular cliffs, so that it required almost two hours of fatiguing and really difficult work to reach the main arête. This is very sharp and steep, with much rotten rock, but the going on it was fairly easy for a time, until a steep buttress was reached which forced us to traverse leftwards. The traverse brought us to a couloir by the side of which we ascended for several hundred feet; then a sharp traverse to the right led again to the arête, which, steep and narrow as it was, we followed to the first summit at 12.30 o'clock. Just immediately below this, there is a smooth and difficult nose of about fifteen feet to overcome.

Mount Moloch is really a twin peak, and there being no stoneman on either of the peaks, we drew the correct inference regarding Mr. Sissons' attempt. Although partly prepared for it, we were still a little disappointed to find that the higher peak of the two (about 100 to 150 feet higher than the point we were on), lay at a distance of about a quarter of a mile, and was approachable only by means of an exceedingly narrow and much indentated ridge, the traverse of which in both directions would probably have required at least three hours. For most of the way it would have been a case of only one man moving at a time. The amateur felt very tired, and, not relishing the prospect of remaining out over night on upper rocks or on snow, decided against its being undertaken. We were satisfied in having solved the problem of the route of ascent, and in having reached 10,000 feet; and after an hour's laziness in summit sunshine began the descent, a process which required considerable care and alertness.[3] Above the bergschrund, the negotiating of which demanded experience as well as caution, steps had to be cut in dirty, flinty ice for almost an hour. Having varied our route it was not so simple a matter as it looked to reach the lower snowfield, and we were not well down on it until 6.30 p.m. It presented a most extraordinary appearance, which had increased as the day wore on, and was now seamed by intensely bright lines of colouring matter which had come down from certain adjacent chocolate-looking cliffs and ribbed it with streams of what looked like tomato sauce. Re-crossing the snowfield and glacier by the route of the morning, we reached the grassy knoll in waning daylight at 7.45 o'clock. A lantern had to be used in getting down through shrub and alder, a particularly unpleasant bit of work in the dark. At 9 p.m. we reached the stream, where we found Mr. Sissons and his companions, greatly interested in our activities, waiting to receive us with most welcome refreshments. They had found the mountain practically unscalable from the side of their approach.

On our return journey we stopped below "the Farm" to consider what chance there was of having a try at Fang Rock. Exploration of the banks of the North Fork, which was very swollen and almost as black as if it were a coal-dust chute, showed that it would be impossible to ford it, either on foot or by means of the horses: and since there was no chance of making a tree bridge, we were obliged to give up the plan.

3 The views from the summit ridge were neither especially fine nor remarkable, except for two beautiful glaciers in the southwest, which sweep down in most symmetrical fashion towards Mt. Moloch and unite.

Mount Goodsir

After several delightful days spent at Glacier, where Feuz and I climbed Sir Donald by the northwest arête, which was in capital condition, for rope-soled shoes, and which affords the best bit of pure rock climbing I am acquainted with in our mountains, when both quality and length of climb are taken account of, we met again at Field on August 30th, and on the following day went by train to Leanchoil where we joined our pack train for the Ice River Valley. The afternoon of September 1st saw us encamped immediately below our goal, the south tower of Mount Goodsir, of which we proposed to make a complete traverse, it being almost the only important peak within sight of the C.P. Railway which we had not climbed. Much to my annoyance, the packer insisted on camping too low down in the main valley of the Ice River instead of up in Zinc Gulch, which ends at the base of the southwest ridge of the south tower. There was thus entailed on us some 3,000 feet of extra labour on the climb.

Clouds rested on the top of the south tower all afternoon of the 1st, and on the following morning Feuz wakened me with the disappointing news that the weather was unsuitable for climbing. After a little rain it brightened up, and we set off on the interesting work of reconnoitering the peak. Far up in Zinc Gulch we found the remains of several camps, and an excellent trail running up by the stream on the right hand side. It was not a difficult matter to make out in general the route we should have to take, only the last few hundred feet appearing at all uncertain. We returned to camp early in the afternoon, and had some excellent fun catching the white trout which could be easily counted and watched taking the hook, in the clear water running into the main stream.

Next morning the omens in the shape of weather being propitious, we started at 2.30 o'clock, and crossing the stream issuing from Zinc Gulch made up through the wood on the right of our camp, and reached the aforementioned trail. Following it to the end, we struck to the left and ascended over grass and through light bush to an outjutting shoulder of the southwest ridge of the south tower. The ascent was very simple for a considerable distance, and we were much interested and amused by the antics of numerous goats which allowed us to approach comparatively near. These early hours of fresh energy, of freedom from care and of eager expectation are the best and richest of the climbing day. At about 9,000 feet the rocks became steeper, and Feuz, who never takes any unnecessary chances, brought out the rope. The only possible source of danger lay in the disintegrated character of the rock which crumbled and fell away under one's attempts to find any hand-holds. At about 10,000 feet we traversed to the left, and went up a little couloir containing ice and snow. This brought us out to the main arête on which we found little difficulty until a reddish colored and almost horizontal line of rock was reached, in regard to which we had speculated a good bit when below. It was several hundred yards in length, extremely fragile, and, to our surprise, so extremely knife-like in places, that we had sometimes to sit down and cross it straddle-wise. Here only one of us could move at a time, and that too very gingerly. It felt at times as if the whole bridge might give way. Once across it we came to the wall of red-banded rocks which form the summit crest, and skirting these to the right found a practicable route of ascent to the finely shaped summit, which was covered with snow, but did not present any of the striking features formerly noticed by Professor Fay. It was a clear still day, and actually warm on the summit, where three-quarters of an hour passed all too rapidly.

Thus far I think there is little doubt that our route was practically the same as that taken by Fay's and Outram's parties. From here we intended to vary the climb; the new part of the mountain lay before us.

Leaving the summit shortly before noon, we descended by the steep, north side of the

arête, on which no difficulty was encountered for the first 400 to 500 feet. Then several prominent pinnacles were met with which barred the way. We tried to climb over the first of these, but were forced to desist on account of the impossibility of finding any decent footholds or secure hand-holds on their perpendicular and crumbling faces. By descending, however, some distance on the left, it was possible to make a traverse and circumvent these obstacles, and thereafter regain the arête, on which we made a fairly rapid descent for 1,000 feet more. The rocks were sharp and treacherous, but not difficult.

When we had traversed the greater part of the main arête, we were tempted to alter our original plan by leaving it for a broad couloir which appeared to hold out the prospect of leading directly down to some upper snow on the west side of the mountain whence further descent would be a relatively simple affair. After descending some 1,200 feet, doubts presented themselves, however, as to whether it would be possible to reach the snow, and whether there would be any means of escape from a not improbable impasse. Such a possibility seemingly presented itself on the right in the shape of a slender ledge under some black cliffs over which poured a regular waterfall of melting ice. We thought it might lead us out of our difficulty, but as it looked risky we in the meantime let it alone and descended several hundred feet further. We looked around in all directions for a solution of the situation, and thought that a way of escape might be provided through a rather difficult traverse to the right and a subsequent roping off from a protruding rock pinnacle. We began the traverse but quickly realized that the eroded character of the rock, the length of the drop, and the possession of only one rope, would render the whole operation an extremely precarious one; and it was even doubtful whether with the utmost exertion we could reach the roping off place at all. We decided, therefore, that there was nothing to do but to retrace our steps upwards for several hundred feet and make another examination of the already mentioned ledge. During all the time down and up these cliffs we had constantly to look out for falling stones, which frequently hurtled past us in unpleasant proximity.

Besides being most unpleasantly wet, the position near the ledge was very awkward. To actually reach and stand upon the ledge involved a both difficult and dangerous outside traverse, below which the rocks fell away very abruptly, and above which the hand-holds were extremely slight and very scarce. Further on the ledge broadened out and might be all right, if attained. It was certainly a case of the first steps counting. I supported one of Feuz's feet in a very slight niche in the rock, and after several attempts he managed to draw himself around the curved and bulging buttress, but was then stuck until, while hanging on his right hand, he managed with his left to hammer out with his ice-axe a further somewhat precarious foothold. I disliked the place very much, and having made several not very energetic and quite ineffectual attempts to follow, I decided to desist; firstly, because it was not possible for the leader to hold me on the rope if I slipped, and secondly, because we were not certain that the route would lead to safety. Next day Feuz was of opinion that it would have afforded a solution of our difficulties, but under the circumstances he did not urge me to try it. For him to retrace his footsteps was a difficult and risky operation, but by wedging the rope between a jutting bit of rock and the main cliff, and by my supporting his right foot, he was able, after a couple of preliminary essays, to swing himself around to the place where I stood in the line of the dripping water.

To face the remaining alternative of spending a fairly long night on the mountain was most unattractive, but it was unavoidable; for by this time it was 6.30 p.m., and in less than an hour it would be totally dark. The thought of re-ascending the couloir and of regaining the main arête in order to survey the ground once again had to be put aside before we were half way up, owing

to failing daylight, and so, making a short traverse to the left, we stopped a little after 7 p.m. on a fairly broad ledge or terrace covered with gravel and stone at an altitude of some 9,500 feet. Here we at once set about scooping away some of the loose stuff with our ice axes, so as to render the ground a little less unsuitable for the extension of our bodies. By 7.30 it was quite dark. And having taken off our boots, put on our canvas shoes, puttees and gloves, and partaken of a little unpalatable food, we tried to induce sleep by stretching ourselves; but I found it extremely hard to rest owing to the feeling of chilliness which followed on our previously overheated condition, and to the startling sensation of falling over the cliffs whenever I was about to fall off to sleep. We could see the fire of the camp thousands of feet below, which intensified our longing for a bowl of steaming soup or a cup of hot tea. Feuz thought he could improve things by lying on top of me; but though well intentioned, the method didn't work satisfactorily. And for a great part of the night we went alternately through periods of recumbency and all sorts of bodily exercises, having for a time also to listen for falling stones which sometimes bounded down over our ledge. It was fortunately a windless night, and the experience was not so unnerving as it appeared in prospect. Yet it is not one to be repeated light-heartedly. Shortly after 4 a.m. the heavy mists and threatening clouds began to dissolve, and our enforced bivouac came to an end. We continued our traverse along the ledge, and then ascending for some 300 feet, reached the main arête, whence we were enabled to gain the couloir by which we had originally planned to descend. Down this we could make good progress, having only to be cautious about the footholds, and were able to unrope at 6.30. At 8 o'clock we were on the lower moraine; and on our way to camp (where our packer was beginning to be restless over our absence), we passed what was doubtless the site of Fay's and Outram's earlier camp under two fine trees on a grassy island dividing Zinc Gulch from the moraine. The enjoyability of the climb, apart altogether from the disciplinary character of our experience, was marred by the unreliable character of the rocks. For this reason we refrained from attempting the undoubtedly easier north tower.

This was our last climb: for, a couple of days later on our arrival at Field, the expected break in weather came, and with it the end of the mountaineering season of 1915. Once again the mountains had refreshed my tired nerves, and I had experienced the wonderful joy of alpine life, made up of countless, almost indefinable sensations, "sensations begotten of the changing scenes, the lightness of the air, the transparency of the sky, the scent of the rocks, the solitude which is without us and the peace which is within us, of the sense of height, expectation of danger, the thrill of freedom, instinctive love of a natural life and forgetfulness of all earthly things."—Guido Rey.

Elusive Mount Moloch

By Paul A. W. Wallace

Few virgin peaks of Canada boast a history of six assaults repulsed. One that does is entitled to respect. In the northern Selkirks, some twenty-five miles by trail and bush from Albert Canyon, stands a mountain the prestige of whose gaunt and massive walls has grown fat upon the defeats of its assailants. Wherefore, to the initiated, romance is wound about the name of Mt. Moloch.

Aesthetically, Mt. Moloch belongs to the masterpieces of nature. Its altitude of 10,198 feet permits it to dominate the immediate neighborhood, while its extraordinary ring of precipices compares favorably with those of loftier peaks in the qualities of the gracefully gigantic. No less attractive to that combative type of mountaineer whose footprints leave such pleasant marks upon

the printed page, is Mt. Moloch's comparative inaccessibility, for it excels in a quality withering to the cragsman's art but charming to his pugnacity: the quality of unmitigated nastiness of rock. From base to pinnacle there is not a thing adhesive. The surface rocks, like boarders, are perpetually on the point of moving away. The climber's art consists in letting them go. If a trained cat could be sent ahead with ropes . . (Censored).

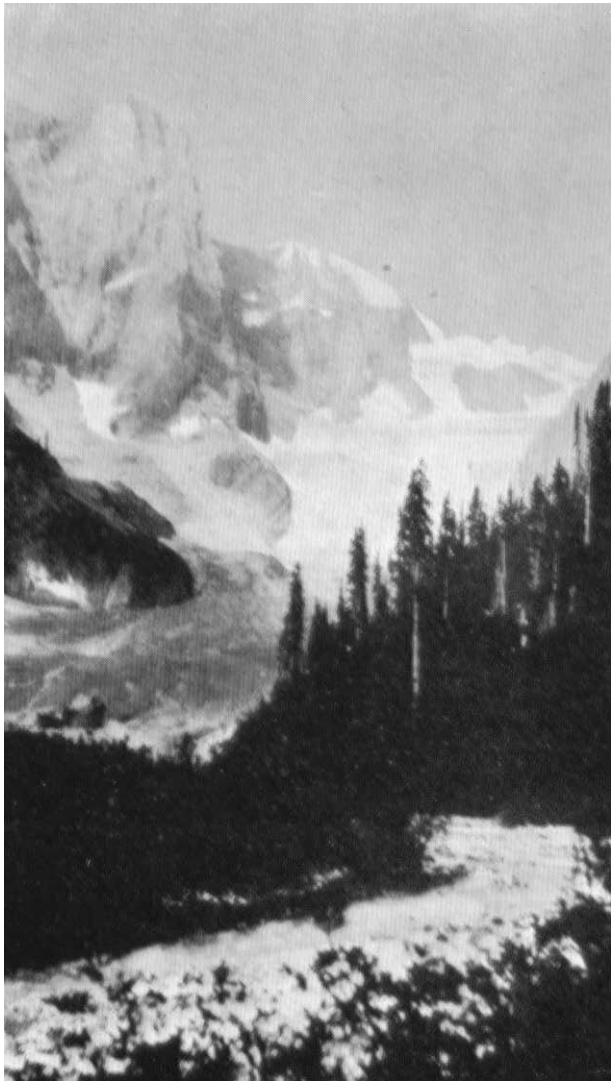
In August, 1915, Prof. C. B. Sissons organized a fifth attempt to put the apex of this graven image into print. The initial stages of the journey were inauspicious. Prof. Sissons, H. Bennett, companion of two earlier expeditions, and the writer as official eyewitness, donned after-midnight packs at a C.P.R. switch called Flat Creek, accursed, and devoted themselves to a sweltering pass with a phantom trail somewhere above the headwaters of Caribou Creek. An old mining trail, the Waverley Road, approaches Moloch Valley from Albert Canyon along the North Fork of the Illecillewaet, but our information warned us against trying the regular route, for the Klondike Bridge had been destroyed by an avalanche, and the river is everywhere unfordable. The Caribou Creek way was our unhappy alternative. Storm delayed us on the pass until evening of the third day, when we penetrated some Selkirk abatis with barb wire entanglements, stumbled on to the trail above the Klondike, and found the road completely renewed, bridges and all, even the grass being cut. We had spent three wilderness days avoiding a graded road. . . . The verdict was unanimous.

A night at the Farm and a day under packs brought us face to face with Moloch. Afternoon found our tent commanding a view of that quaintly carved cirque sweeping up to the grim old idol, lap full of ice, where the two tree spears stand out like measuring sticks against the pallor of the shadowed glacier. Though the scene as a whole is of a type unique in our collective experience, Moloch itself, a fortress cliff of naked rock, from this point of view, suggests comparison with the Wetterhorn. The types differ in this, that where the Wetterhorn finds glaring contrast, Moloch revels in harmonious setting. Seen from the Kleine Scheidegg, the Wetterhorn spurns the tame little pass at its feet, using it in one sense as a foil, but not at all as a background while Moloch, abrupt a mountain as one could wish, is nevertheless in subtlest harmony with the minaretted cirque which partially enfolds it from the rear and wholly walls in the upper reaches of the valley. Ice and rock are mingled there in exquisite proportion. With sweeping arms, the crumpled glaciers clutch at Gothic towers of peak and cliff. The blue sky, cramped by dazzling roofs of snow, is slashed with a smooth, gray spire that pierces both. Through a cleft among the crags, a trickling glacier crowns the barren precipice with a green fringe of ice. There is majesty and magic in the hills.

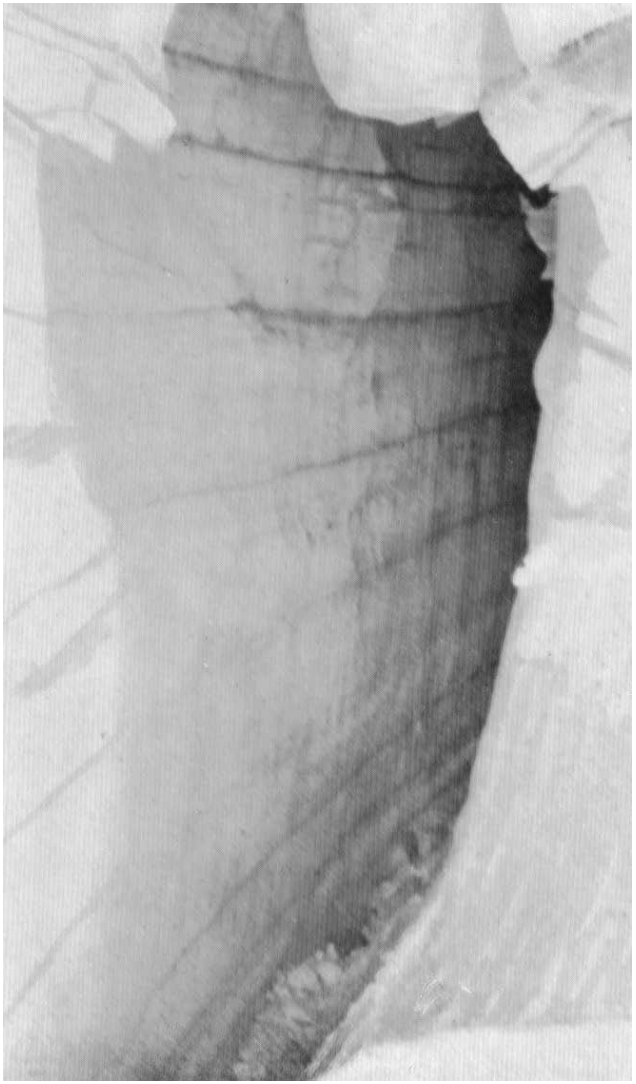
Also porcupines; but more of that anon.

We were growing maudlin with scenery when a fortunate dispute arose regarding the period likely to elapse before the companies run a scenic railway to the spot. The pessimist said fifty years ; but the others, more sanguine, placed it at five hundred.

That same night, we bivouacked higher up toward the Candle Extinguisher (or the Fool's Cap as it might be called, with small loss to rhetoric and none at all to antiquarians, to distinguish it from others of that ilk). A huge tree protected and at the same time betrayed us. for, while promising to ward off the rain which never came, it delivered us into the jaws of a gormandizing porcupine who left home among the roots that formed our pillow to partake with us of the delicacies of our boots and leather pack straps. I awoke just as he was about to step from our containing log to Bennett's chest. If I had held my peace, I might have seen a good fight. I was an eyewitness, not a reporter. But there, man is human first and intelligent afterwards. Involuntarily I blurted out a "noli proscqui," whereupon the procupine offered me his tail to shake and, gentlemanlike, withdrew. They are very modest animals, porcupines. A word to them is better than a blow. But the



Glacier Valley Below Mt. Moloch. Photo, P.A.W. Wallace



The Temple Of Baal. Photo, P.A.W. Wallace

rescued Bennett turned himself over with his elbow, and made a few laborious suggestions about moderating my conversation in my sleep.

The apex of Moloch is the focus of four ridges. On the south lies a hanging ridge whose jagged contour and isolation from approach render it impracticable. On the east, two ridges unite to form a "Y," the trunk of which leads from the great shoulder of Moloch to the peak. From below, this shoulder seems worthy to be called a second peak, but photographs taken at its own height from Mt. Sorcerer to the north, show it to be merely the undistinguished end of a long, level ridge which culminates at the other extremity in a perpendicular tower. Prof. Sissons in 1912 had twice assaulted the shoulder unsuccessfully by way of the northeast ridge. Across the stupendous gulf of the "Y," the southeast ridge presented too many points of similarity with its mate to inspire confidence. Remaining attempts by Prof. Sissons were accordingly made upon the west side, where one attack in 1913 petered out in opaque meteorological phenomena, and another of the same year terminated at the jaws of an avalanche-devouring bergschrund. But a reformed bergschrund is always a possibility, and even Selkirk weather must have an occasional Sabbath.

The west ridge, descending steeply from Moloch, sinks into a col between Moloch and a flanking peak which we named Mt. Baal. To storm the face of the col is impracticable. Accordingly, we planned to reach it via Mt. Baal.

Baal is a twin summit down whose broad bosom flows a very steep but singularly regular glacier, broken clean across the middle by a straight and gaping bergschrund. We reached the bergschrund at nine o'clock on the morning of August 20th. Our route, which had entailed the half circuit by glacier of the Fool's Cap, presented no difficulties unfamiliar to any who have ascended Mount Royal in winter by the Cote de Neige. Its scenic attractions are absolutely startling. We retain vividly in mind the apparition of a gigantic obelisk spuming in the torrent of the clouds. That was Moloch, a mile or two away across the angle of the valley. No less spectacular were the interiors of the Temples of Baal, more than palatial caverns hollowed from the glacier, relics of an ancient bergschrund, into which we delved by balustrades of snow. Here the blue of heaven, rescued from the flat, perspectiveless cupola of the sky, lay radiant and carven, embodied in the pure, deep ice of decades. The next traveller will find these halls much changed, for they move upon a ceaseless voyage towards dissolution where mud and scree conceal the transformation of royal ice to a smutty vagabond of a stream brawling seaward through the scrub.

The schrund was bound by unattractive, ice-varnished rocks on either flank. It slashed through a remarkably steep snow-slope, and therefore the one lip greatly overtopped the other. There were no snow bridges, the walls seemed everywhere sheer, and only in three places did they approach each other. We selected the narrowest point and went to work. Even here, owing to the manner in which one lip overtopped the other, progress would have been obviously blocked had it not been for the happy juxtaposition of a tapering crest of snow, raised wall-like, from the lower side, and a corresponding trough gouged neatly from the upper. Our problem was to use the wall without destroying it. To clamber straight over and jump would crumble it to pieces. Moreover, even if the snow did justify its use as a point d'appui, there was no certainty of adhering to the far side after the jump.

The omens indicated an unpleasant traverse of precipitous avalanche grooves in search of a better crossing. But the omens lied. Prof. Sissons made his way into the schrund and slid along to the end of a ledge that brought him almost beneath the ridge and funnel. He cut a step in the vertical ice across the way, straddled the gap, and then continued to cut steps back and forth, mounting straddlewise toward the desired point. A few feet below the crest of the precarious wall,

a firm projection brought the step cut from its surface within five feet of a final step gouged in the lip of the funnel. Here Colossus made his final stand, then flung his weight across, gripped the snow with axe and elbows, wriggled to his knees, and squirmed to terra firma.

The only difficulty for those roped behind was to adjust their scarcely adequate limbs to the exigencies of a five-foot span. It is said that the Dolomite guides can stretch themselves. Goodness knows we don't doubt it. For some hundreds of feet the snow kept a very steep angle. Under certain weather conditions, this climb might prove extremely unpleasant, or even precarious, as, indeed, one party had already found it; but we made it under ideal conditions, finding the snow of such excellent texture that there was neither a tendency toward avalanches nor any necessity of cutting steps. At twelve o'clock, Mt. Baal for the first time felt the foot of an invader.

Baal is part of the Moloch massif, but deserves home rule in the matter of nomenclature. It is separated from the mother peak by a deep col a good (or, rather, excruciatingly bad) four hundred feet deep and a quarter of a mile long. This col, by the way, belongs to Baal rather than Moloch, as we soon discovered. The glacier gives Baal a pleasing character of its own and in marked contrast with the austerity of Moloch. In shape, color, and the matter of raiment, the two mountains are utterly unlike.

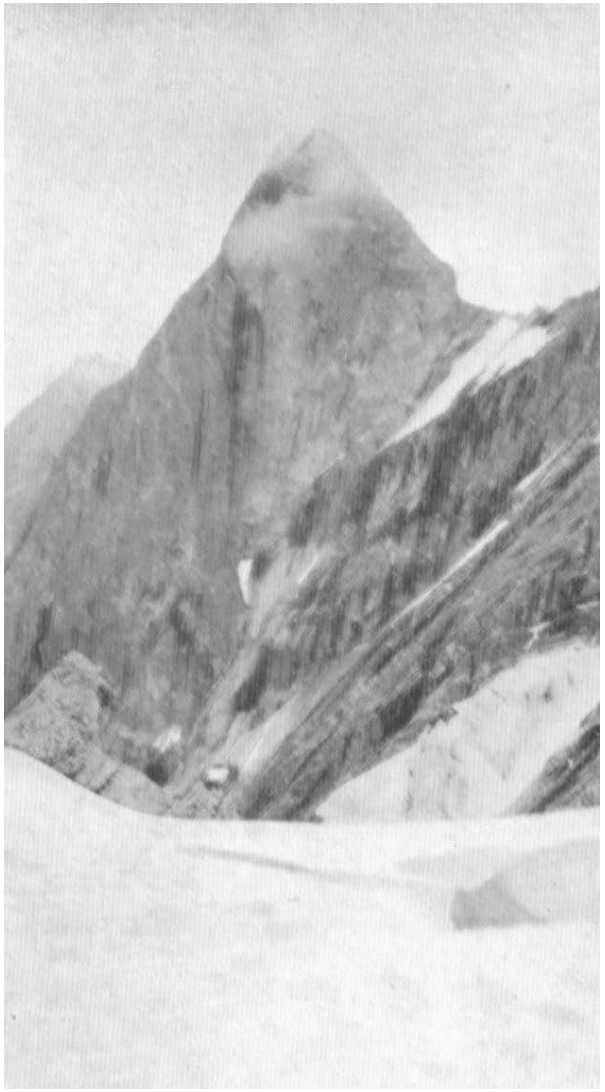
Thanks to its middle stature and proximity to a spectacular neighbor, Baal is not easily to be excelled as a point of view. Now, the duties of an official eyewitness, being, as everyone knows, to acquire the maximum of local color with the minimum of inconvenience, necessitated the division of our party on the basis of athlete and aesthete, the former girding up their ropes while the latter picked out some soft rocks with which to facilitate his investigation of the panorama.

To the right of Moloch's desert cliffs, that is to say, to the south and east, lies a field for discovery in a wilderness of ice drained by twin glaciers, with a beautiful system of crevasses and moraines. Nearby stands Fang Rock, and, to the left, like more teeth against the sky (molars, in this case) lie Sir Sandford, Iconoclast and Sorcerer. Westward, towards the Columbia River . . But if I attempted to describe a tithe of what I saw in the white seas fading blue on the shattered horizon, I should merely inspire the bored reader with regret that I had ever been allowed to look upon this thing at all.

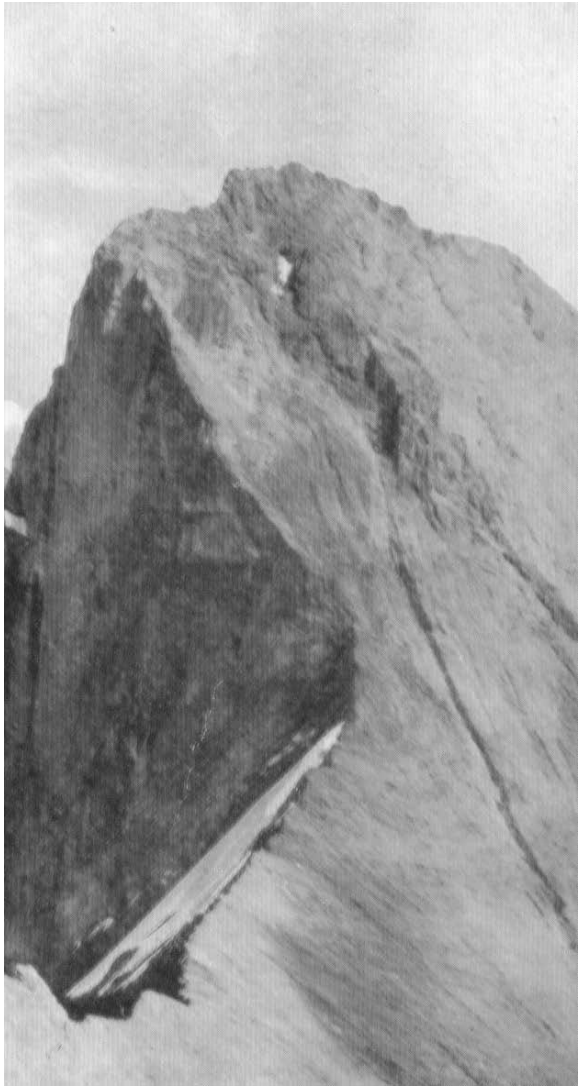
We were still a good two hundred feet lower than the summit of Moloch. The advance involved a descent of some four hundred feet over disintegrated rock lying at a hazardous pitch. Then followed a long, level ridge, with a sharp spine and a few notches at the critical junction with the peak, which raised half a thousand feet of presumably heathenish rock with an average inclination of about forty-five degrees. But although there were some very abrupt passages among the lower reaches, there was nothing visible from a distance to annihilate hope.

The athletes made their way clattering, pawing, crawling, over the first few yards of descent. It took them half an hour to get back up again, but they had to come. Baal is not neatly jointed with the col. Selecting a new route, one modelled on a damaged coal-shoot, they allowed themselves to be lowered on the rope over a preliminary bit of nastiness that merely introduced the unpleasantness to follow. Slithering scree coated everything. Odd finger-holds and inch ledges were as jewels to the touch. Once Mr. Bennett found himself hanging by three fingers of one hand. Through lack of anchorages, relaying was impossible, and rare were the opportunities of recovering a slip. Climbing under such circumstances is as much a matter of nerve as of agility and cannot be hurried. Two o'clock was striking in the towns beyond the ranges when the climbers reached the far end of the col.

The nature of the place was soon apparent. The notches seen and feared from Baal, proved



Mt. Moloch. Photo, P.A.W. Wallace



Mt. Moloch From Baal. Photo, P.A.W. Wallace

to be divisions between four or five camels, or gendarmes, too sheer and rotten for a practicable traverse. Investigation of these cleverly contrived outworks of defence, forced from the party the reluctant admission:

"It may be possible, but it is not mountaineering."

These camels are the keys to Moloch. If they could be passed, as they probably could be under favorable conditions of time, there is at least an even chance that nothing baffling would be encountered on the slope beyond, although the ridge itself, owing to occasional perpendicularities, would have to be forsaken for the less inhospitable face of the cliff. The route would be to angle across to the right into the couloir beneath the little patch of snow.

Roughly speaking, there are now two routes of ascent in sight: via Baal on the west, and via the shoulder on the east. Prof. J. W. A. Hickson, with Edouard and Ernst Feuz, reached the shoulder on the day following our ascent of Baal, thus bringing the total of attempts to six. They attained an altitude about equal to that of Baal, and brought back no very sanguine report of the prospects between the shoulder and the peak. A comparison of the two routes makes it evident that while the camels on the Baal side present a serious obstacle, in the other quarter the interminable reaches of untrustworthy rock, added to the uncertainty beyond the shoulder of avoiding precisely the difficulty that baffled progress on the west (bad plumbing at the joint), render climbing both precarious and disappointing. "There is nothing worse in Canada," remarked Ernst Feuz at the end of his sixteen hours climb. For scenery, Baal is the ascent of the neighborhood. As a way to Moloch, it will at least allow the climber to come to grips with the final peak unexhausted. To scale the mountain from either direction, it would appear advisable to spend a night on the rocks. This could easily be accomplished on the Baal side, either at the col, or lower down at the Fool's Cap.

Sissons and Bennett made their way back in about two hours to Baal, where a cairn had been erected during their absence. Having plenty of time to spare, the eyewitness perversely neglected to place any records in the cairn, but the field glasses of Prof. Hickson, who watched our operations from the valley, will corroborate the details here set forth.

At 4 p.m. we struck for home. Some careful relay work brought us over the sun-loosened snow to the bergschrund, which we cleared with a leap, and by dark we reached our bivouac among the balsams.

Next day, we went scouting for a feasible route, a sort of forlorn hope, by the southeast fork of the "Y" on the east; but the report which Prof. Hickson brought that night from the shoulder was not of a nature to encourage new enterprises from that quarter.

Accordingly, on the following day, we shouldered our packs and struck for the Waverley Road, which we followed northward to the pass. On August 23rd, Sissons and Bennett put in a long and interesting climb upon Mt. Sorcerer (10,410), the account of which is here given in Prof. Sissons words:

'"We traversed the whole length of the southeast ridge. First occupying a peak (about 9,000 feet high) on the southeast of the ridge at 9.30, we journeyed till 4 p.m. up and down along an arête whose excellent rock (sometimes very steep and in one place super-perpendicular) contrasted favorably with that of Moloch. Only near the top did we take to the snow, where we had to cut a few steps. At about 1.30, we passed a cairn, doubtless erected by Messrs. Palmer, Holway and Butters on the little peak mentioned on page 289 of Mr. Palmer's book. There were records (damaged by the water) in a bottle. We descended by their route of ascent."

Meanwhile, the eyewitness, after eyewitnessing some of the numerous waterfalls for which the Waverley Road will one day be famous, returned to camp and concocted from the commissariat

remains some gravitative bannocks with which to lay to their rest the peak-hunters "home from the hill."

The twenty-six miles (avoirdupois) to town, we accomplished on porridge and cocoa. On the train, an American naval officer gave us a synopsis of ten days' war censorship, and elderly female tourists returning from the Panama Exhibition buttonholed us, as eagerly as entomologists do butterflies, to ask: "Are you the people that climb mountains?"

As the Million Guide has pathetically put it: "Ze whole trip and ze whole choy vas over!"

Ascent Of Mt. Black Douglas

By C. A. Richardson

After a delightful two days' stay at the camp on the Red Deer, we (J. C. Oxborough, Christian Jorimann and the writer) prepared for our attack on Black Douglas. Our plan was to skirt the north slope of Oyster Mountain and bivouac as near the Douglas as possible.

Leaving camp at 4 p.m. with our packs, we circled the lake and entered the woods on the east. Our way was fairly easy at first, but increased in difficulty as we continued. Windfalls and large boulders were numerous. We decided at last that we were keeping too far up the slope so worked our way down and at last came to good going in a grassy plain. We were fortunate in finding the trail blazed by the party who had made the climb a few-days previously. By following this trail we at length came to a higher alp almost park-like in appearance.

A passing thunderstorm had been drenching us for the past hour and we were wet to the skin. The storm was clearing as we entered the open valley and we took time to light a fire and dry our clothes. We then continued to the head of the valley and found a delightful camping place a few rods from the glacier leading to White Douglas.

Supper and the preparation for the night occupied our attention until 9.30. We made our beds under a large spruce and were quite cozy. It was the intention to rise at 3 a.m. and start at 4, but owing to our fatigue and the comfortable beds we slept until 4.

From the site of our bivouac, we had but a few steps to cross before we came to the slopes of the mountain. We could easily trace complete strata from our campsite at a grade of perhaps sixty degrees to the snowcapped peak.

To the west of the Douglas peaks there is a beautiful amphitheatre with the White Douglas glacier on the south. This glacier seemed of easy gradient and made a splendid approach to the cliffs of White Douglas. We had splendid views of the latter peak from our bivouac and as we climbed the north peak we could see more clearly the difficulties to be overcome in a climb of the southern peak. Sheer cliffs rose to a great height, in many parts overhanging and with scarce a crack or crevice visible. We concluded that two hours from our camp would easily bring us to the base of the cliffs and decided that it would be an ideal spot from which to make an attack on the White Tower.

Leaving the bivouac at 5 a.m. we crossed to the foot of a cliff that rose from a height of a few feet at the base of the mountain to many hundreds towards the top. The going was very good close in to the base, and the slope not too steep. It was a grind, however, and after about two hours of it we were not sorry when Christian said we would try a rocky gully that opened up directly from the scree. It was from four feet to six feet wide and seemed to come out on a wide ledge some hundreds of feet above.

The morning was cloudless and quite warm and we had made no preparations against the cold. When we entered the gully we found the temperature considerably lower than was pleasant and although the air was quite calm in the valley there was a strong cold draught blowing down the gully. The first part was fairly easy, perhaps one-third the way, then we came to solid black ice filling the gully from side to side and quite smooth.

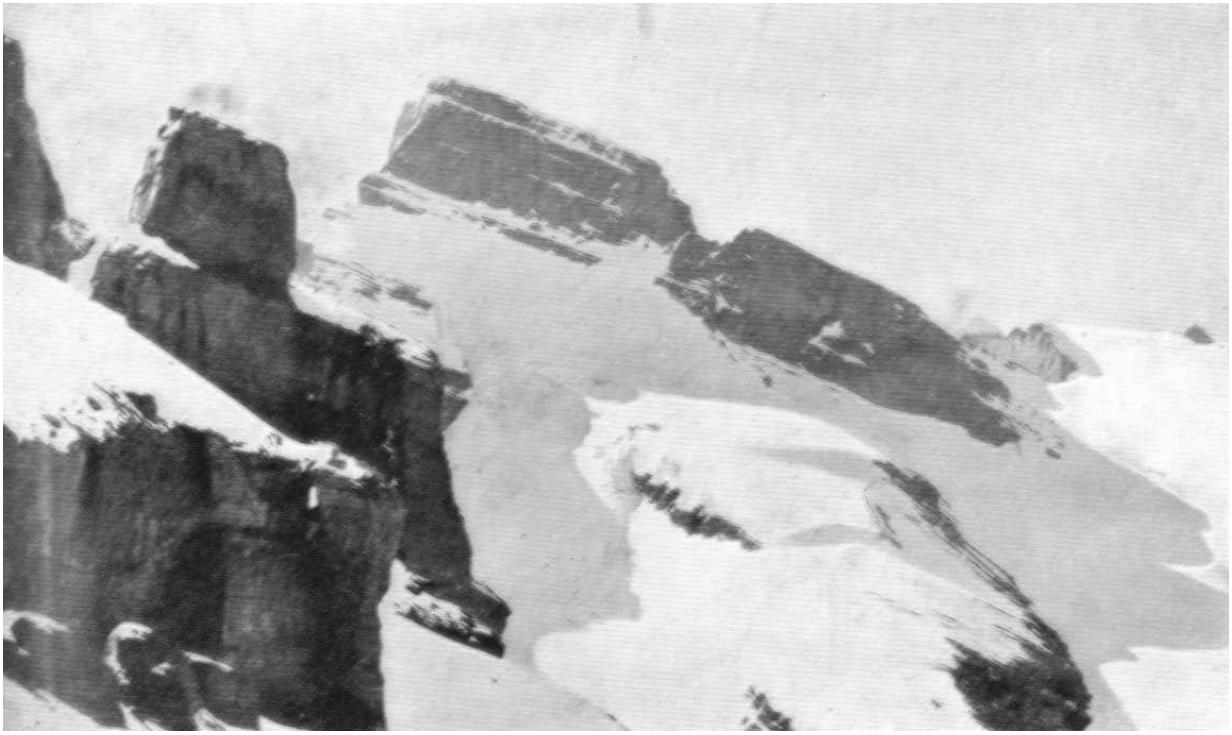
Christian began step-cutting and Oxborough and myself had the pleasant experience, for the next hour, of being showered with ice-particles. To make matters more unpleasant, we were continually passing under little streams of water from the overhanging walls above. It was not an easy matter to dodge these, as the ice steps were none too large and one had to be careful of one's balance. However, everything must have an end, and so with the gully. The ice gradually finished off to a sharp point with just space enough on one side for a person to squeeze between the ice and the rock wall.

Here we had our first real thrill. Christian climbed on the point of ice to negotiate a rock wall just above. As he put his weight on the point a large piece broke off and started slowly down the slope. It blocked the gully from side to side and the writer was directly in its path about ten feet below, still standing in the ice-step. Christian shouted to me to come up quickly, but, alas! I was in the last step next to Oxborough and could not move. Oxborough by this time had wedged himself between the ice and the wall and as the large piece of ice moved down it caught him across the chest and jammed him to the rocks. He served as the necessary trig, however, and its progress stopped. I did not envy Oxborough in his position, but he seemed much concerned about me. After a few seconds he was able to move his foot from the last step and I moved up to it. This brought the loose ice about my shoulder. I crouched and wedged in as well as I could to the cliff and then called to Christian to start the ice moving. This he did and the ice sliding swiftly, one edge brushing my shoulder, went crashing down over the spot where I had been standing a few seconds previously.

We had now come to a rock wall about twenty feet high with a narrow ledge at top. Christian started on the climb and found after getting part way up that he had no grip in his hands, as they were by now numb with cold, and there he was, spread-eagled on the rock-face. He could move neither up nor down. If he dropped he struck the ice and followed the broken fragment. The writer scrambled over to Oxborough and tried the cliff from the outer end. On touching the rock I found that the first joint in my fingers had no feeling whatever and I hardly liked to attempt the climb. Something had to be done quickly, however, as Christian was calling that he could not hold on much longer, so I made the attempt. The climb was fairly difficult with one's hands in good condition, but as mine were, it seemed hopeless. Christian's condition by this time was serious and I must have been assisted by the excitement of the moment, as I soon found myself on the narrow ledge above. How I did it I do not know. I moved directly over Christian and stretched full length on the ledge, reaching my left arm down to him, while my right was anchored securely about a pinnacle of rock at the back of the ledge. By grasping one another's wrists a fairly safe grip was secured and Christian was enabled to get his other hand over the square edge of the shelf. I then pulled with all my strength and his other hand was clasped over the edge. He was then able to reach the pinnacle of rock and slowly drew himself on to the ledge. Two such thrills as we had experienced in the last few minutes were quite enough for one climb.

I took the rope from Christian's rucksack and passed the end down to Oxborough after drawing up our own sacks and axes. I enjoyed the sight of Oxborough with benumbed fingers essaying the climb. I took care to have the rope well anchored and with this support he soon made the ledge. We then moved along the ledge through a natural doorway onto a broad flat surface

The Black Douglas From Hatchet Lake. Photo, F. O' N. Fisher



The White Douglas From The Black Douglas. Photo, F. O' N. Fisher

about thirty yards square. It was now nearly nine o'clock. The sun was quite bright and the flat well sheltered from any breeze. We stretched out and for half an hour soaked in the sunshine and heat and enjoyed a second breakfast.

From this flat the going was easy and we soon reached the snow-slope on the northwest side. Here we found the steps of Ernest's party still in good condition so we made good time to the summit, which, to our great disappointment, was shrouded in mist. We remained on top for over an hour and were rewarded at last by having a magnificent view to the south. Close at hand, seemingly only a stone's throw away, was the square tower of White Douglas. We examined it as well as we could, and Christian said he would like very much to attempt it if we could remain another day, but as the main camp was breaking up, we could not do so.

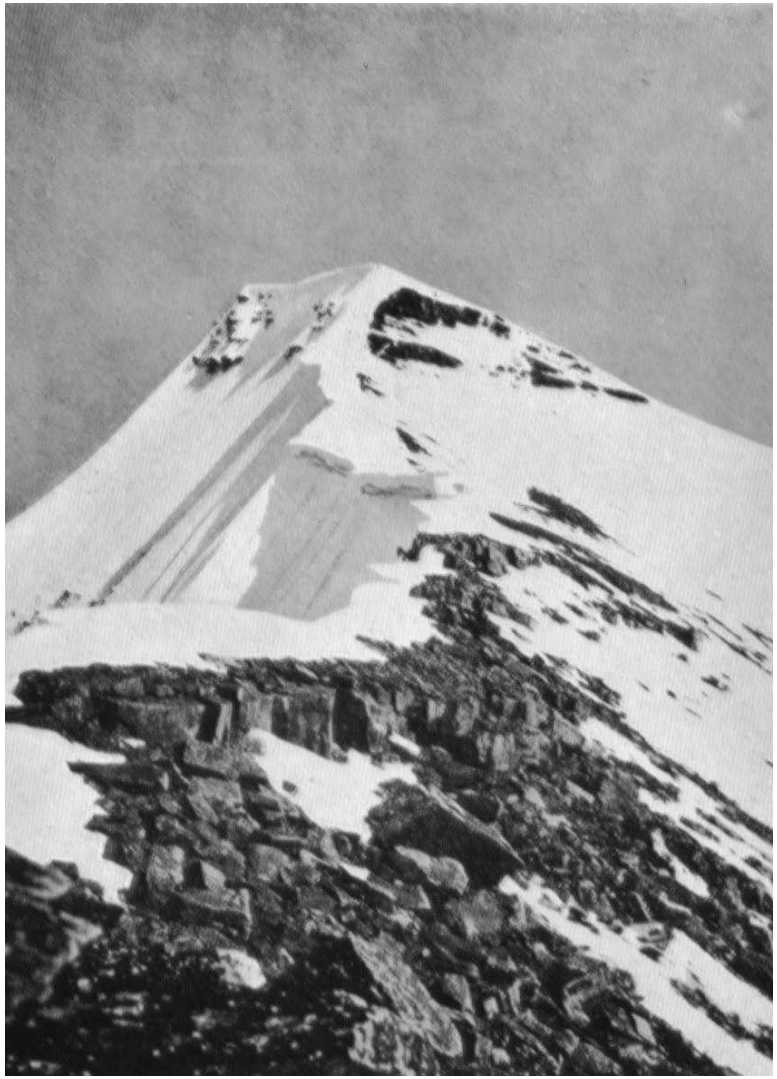
The descent was easy except in one or two places, where we had to cross wet slabs of rock. The strata all sloped outwards at an angle of about thirty degrees and as the snow was melting rapidly they were wet and slippery.

We arrived at the "Bivouac" at two p.m. After a lunch with a plentiful supply of tea we shouldered our packs and returned to the camp at the lake, arriving at four p.m. Another lunch, and then we accompanied the remainder of the party back to the main camp. A soaking rain added pleasure to the latter part of the trip. A good dinner awaited us, and then bed and a good sound sleep.

First Ascent Of Mt. Edith Cavell And Explorations In The Mt. Longstaff Region

By E. W. D. Holway

In the summer of 1915, Dr. A. J. Gilmour and the writer first spent sixteen days at the Mt. Robson camp, going to Moose Pass and returning over the glaciers, climbing Mt. Mumm and other minor peaks and getting into shape for more strenuous work. We then returned to Jasper, hired a man to help us pack and on July 31st started for Mt. Cavell, then known locally as Mt. Geikie. We had a horse take our outfit to the end of the trail above Boulder Creek (Geikie Creek), about half way, and then back-packed. We camped the first night on the creek, directly below the end of the trail, having a great tangle of burnt timber to get through. Early morning found us on our way up the creek, which we followed for some distance, and then took an upward route straight towards the low place visible to the west of our peak. Our packs were heavy and we were ready to camp early in the afternoon, but there was no water on the mountain side, and we were compelled to go on until just dark when we came to a splendid spring at the west end of the beautiful, broad, grassy pass on the south, leading over to the Whirlpool River. In the morning we set out to find a route up our mountain. We climbed the peak joining it on the west and found a narrow ridge connecting, over which we passed. We climbed to within 600 feet of the summit that day but heavy clouds surrounded us and there was a rain approaching, so we descended by the cliffs and scree slopes on the south. On the third we explored the pass, with its streams and pretty little lakes, and on southeast fork and went up a hanging valley at the end of the main valley, on the northeast. This had an easy looking pass so that we left lakes and lovely camping spots, expecting to find a resting place on the other side, but when we arrived at the top we looked down almost perpendicular cliffs and had to return to the lakes. Exploring for a few days we found that the only way out was over a glacier on the east of the valley and down cliffs on the other side. Our man was not used to glaciers nor



The Summit Of Mt. Edith Cavell (Formerly Mt. Fitshugh). Photo, E.W.D. Holway

Mt. Longstaff From The North Arete. Photo, A.J. Gilmour

taking a pack down such places, but he was game, and we let him safely down with our 100-foot alpine rope. The upper ends of all these valleys are very lovely indeed, with fine meadows, timber and lakes—ideal camping places. At the head of Horse Creek is a great glacier with several peaks about 10,500 feet, and between Horse Creek and Small River, on a branch of which we now were, is a very fine glacier-covered mountain around 10,500 feet.

Following down the creek we came to the main valley of Small River and camped under cliffs 3,000 feet high, over which many square miles of ice discharged and down which came many waterfalls. We explored this glacier, made the ascent of the two peaks south of Mt. Longstaff and on September 3rd found a way up the cliffs to the northwest arête of that mountain. We saw that we could descend some distance over the east glacier and reach the face opposite Mt. Whitehorn, from where the ascent could be made. The way was long and we had seen the upper part was all ice. The arête we were on was steep, the rocks were rotten and bad and could not be followed for any distance, but there was a fine, very steep streak of ice leading nearly up. Unfortunately we decided to try it. It was much steeper than we expected and it was all hard, blue ice. It was very difficult to make steps and after working hard for many hours we saw that unless we spent a night on the ice it was necessary to quit. We were, perhaps, within 200 feet of the top.

We arrived at camp at 9.30 p.m., pulled our man out of bed and had a feast. Alas! we nearly finished the grub at that meal. An investigation in the morning showed only enough for breakfast and a slim lunch. There was nothing to do but get out. We followed Small River to a cabin on the Fraser, where we found flour and potatoes, crossed in the morning to an old construction camp, where there were just spikes enough to build a small raft, upon which we piled our things and floated down to Croydon, where we had left our trunks.

There is a wonderful field for exploration, especially in the big bend of the Fraser.

SCIENTIFIC SECTION

The Building Of The Torngats

By A. P. Coleman

Most people think of the mountaineer as simply an adventurer or athlete who enjoys a sport full of hardship and danger in which he matches his physical prowess against the difficulties of scaling cliffs, crossing glaciers and climbing peaks in the mountains. There is no doubt keen joy in the sporting side of mountaineering, in striving and overcoming difficulties, and above all in conquering new peaks; but to many of us the scientific interest of a mountain region presents quite as great an attraction as the manly sport of climbing itself. The two go naturally together. In many parts of the Rockies, for instance, one can hardly miss seeing that vast blocks of an ancient sea bottom have been tilted up with their edges in the sky or, in other places, that five miles thickness of sediments have been crumpled into folds, and that both have been sculptured by forces still at work into their present splendid forms.

In the comparatively youthful and simple Rocky Mountains many chapters of geological history may be read as one climbs or when one halts for a rest; but “in very ancient mountain regions, such as the Laurentides of Eastern Canada or the Torngats of Labrador, the problems are much harder to solve. They may require much patient field work before certainty is reached and many of their features may remain obscure after the most careful study. In the Rockies one often

sees at once how harder structures resist decay and stand up as ridges and peaks. In the Torngats this is generally not the case, and the original strength of the rocks has very little relation to the present mountain forms.

The rocks of Labrador are mainly gneiss and schist, often sharply folded and usually steeply tilted so that one walks across their worn edges. After a time one finds that the gneisses bend round into great oval areas, usually with granite in the middle, and presently one grasps the idea that the present surface represents the ground plan or foundations of great ranges of mountains, once probably higher than the Rockies, afterwards worn down to mere stumps or even smoothed off to a plain not far above sea level. A vast length of time was required for this destruction, but the process was complete before the earliest fossil bearing rocks were formed, for in places we find marine Palaeozoic rocks resting on them.

How long the plain remained near sea level we do not know, but ultimately its margin, along the Gulf of St. Lawrence and the Atlantic Coast, was lifted up thousands of feet above the sea with an inward slope towards Hudson's Bay and Ungava Bay. Apparently as this elevation took place great faults broke across the original Archaean plain and the eastern parts slipped below the sea, leaving the present mountain regions standing up with a bold escarpment facing the north Atlantic.

The Torngat Mountains began then as a tableland with a steep face eastwards and a gentle slope to the west. Where the old surface of the tableland is still preserved it is gently rolling with low rounded hills and shallow depressions between. Before the Ice Age the plateau just mentioned rose directly above the sea to heights of at least from 4,000 to 6,000 feet.

During the Ice Age, unlike all other parts of Canada except the Klondike, it appears never to have been covered with ice, though local glaciers formed in some of the hollows and especially in the river valleys, the drainage taking the solid form instead of the liquid.

The great Labrador ice sheet which overwhelmed Ontario and Quebec and pushed far south into the United States probably reached the western slope of the Torngat plateau but had not depth enough to override so lofty a barrier.

The numerous small glaciers on the seaward side carved down their beds into cirques of various depths and drained into the longer and more efficient glaciers, which sliced their way completely through the tableland in places, forming the deep troughs now occupied by the numerous and splendid fiords so characteristic of the coast. Nakvak fiord, for instance, has been shown by Professor Daly to have a depth of more than 100 fathoms in places and a length of 35 miles.

The small cirque glaciers have left very steep walled basins and short valleys, and at many points they carved their way so far back into the tableland as to come close together, leaving sharp edged ridges like Mt. Razorback, or even advanced until they met, destroying the wall between two valleys and leaving bold peaks and isolated mountains. This is especially true near the sea coast. As one goes toward the interior the carving action is less and less evident and the mountains grow broader and have dome-like surfaces, though they are in places separated by the steep walled and deep valleys cut by the main glaciers. These main lines of ice drainage may have afforded outlets to the sea for the great ice sheet of the interior of Labrador, in the same way as the interior ice of Greenland pours out between the mountains at the coast and discharges icebergs into Davis Strait.

It is evident then that the Torngats are just the remnants of a pre-glacial plateau eaten into by local glaciers in various directions. Their vertical cliffs and ragged edges, their peaks and gendarmes, are not caused by the resistance of harder rocks when weaker beds around were

Looking Seaward From Near Summit Of Mt. Tetragona. Photo, A.P. Coleman

Cirques And U Valleys Near Nakvak. Photo, A.P. Coleman

destroyed by frost and weather, as in the Rockies, but are the almost accidental results of the irregular gnawing of glaciers. They are monuments to the work of ice as an agent of destruction and their peaks and cliffs have no relationship to the ancient mountain structures of the gneisses and schists out of which they have been carved.

The process of carving is not entirely finished, for there are many small glaciers still at work in the higher cirques and valleys. They do not seem to be very active, however, and frost and running water are now more important agencies. In the higher valleys frost is quarrying blocks from the walls and building up a talus, masking the handiwork of the vanished glaciers; and torrents are cutting canyons in the bottoms of the valleys destroying the beautiful U-shape which they had in the beginning. The summits of the higher dome-shaped mountains, which were not ice covered, are perfect seas of blocks of all sizes, loose and more or less weathered but evidently resting on their parent rock, gneiss on gneiss, diabase on the dikes of diabase from which they came. Here and there a small snowfield hides them but it is not in motion and does not disturb the rock fragments beneath. These fields of loose, unshaped blocks above the level of flowering plants and often devoid even of mosses are the image of desolation, and a drearier landscape cannot be imagined.

Some Meteorological Phenomena Of The Canadian Rockies

By A. O. Wheeler

All mountain regions exhibit interesting meteorological phenomena, owing to the fact that they are subject to an abnormal amount of precipitation and are storage reservoirs for it in the form of vast bodies of snow and ice. This is particularly noticeable in regions that lie in the more northerly latitudes, where the precipitation is heavier and the varying change of seasons extends over a longer period. On such account the Canadian Rockies are of special interest.

Many of the features there presented to the observer are, in large measure, due to the warm winds created by the climatic conditions of high altitudes. In the Rockies they are known as “Chinook” winds, in the Alps of Europe as “Fohn” winds. In Canada the origin of the “Chinook” may be briefly described as follows: Winds from the Pacific Ocean travelling eastward across the continent are saturated with moisture. As they ascend the western slopes of British Columbia, the air is cooled and deposits moisture, rain at low levels, snow at higher levels. Sweeping over the high summits of the several ranges and through the passes, the air sinks rapidly and, coming under greater pressure, is heated, producing the warm dry Chinook wind noticeable in all wide valleys between the ranges and, in a much greater degree, on the western prairies of Alberta.

This process accounts for the very heavy snow-fall on the Gold and Selkirk Ranges, the first two high ranges met with in the journey from the Pacific Ocean across the central portion of the continent. It is here that the bulk of the moisture is precipitated, and what is left is deposited on the highest or Main Range, yielding a considerably less precipitation and, consequently, a lighter snow-fall. Further north the Selkirk effects are found on the western slopes of the Main Range, where that range more nearly approaches the Pacific Coast line.

These warm winds produce many and varied changes of temperature, and are responsible for the magnificent cloud effects, seen in the spring and fall, that furnish such a wonderful setting in landscape photography of the region. They are also responsible, to a considerable extent, for the fantastic snow shapes, the result of frequent thaws followed by sharp frosts and high winds sweeping over the summits, that are seen along the mountain crests and ridges and in the valleys

where snow lies well on into the summer months.

High up on the mountain slopes, far above the line of vegetation, the climber cannot but notice the beautiful sprays and branches of ice seen on the rocks, like frost designs on a window pane, and the groups of columnar icicles that hang as pendants from cornices and line cliffs and precipices. Wonderful pendants are also seen, like great ice teeth, along the lips of huge crevasses on the glaciers, extending far into their depths.

In the woods, particularly in the Selkirk Range and in the Main Range north of the Selkirks, the snow creations are of truly magnificent conception. Snow mushrooms shape themselves upon the stumps and enormous snow fungi gather on the tree trunks. The trees, themselves, become so loaded with snow that they look like white columns and give an idea of fairyland that can only be had through Nature's own handiwork. Taking into account the fact that the average annual snowfall at Glacier House on the Canadian Pacific Railway, near the summit of the Selkirk Range, is thirty-five feet and has been known to reach to fifty feet in one winter, the results referred to are not to be wondered at.

Glaciers

The subject of glaciers is one of such importance and has such a direct bearing upon nature, cause and effect in the destruction and construction of terrain that it has been classified as a science of its own, dealing directly with the action of glaciers and icebergs under the name of "glaciology." In the first place, it is dependent upon climatic conditions: temperature, precipitation, freezing and melting, but the subsequent action is so varied and far-reaching that it has been classified as above. Its many phases are too intricate to be dealt with in an article such as this and it is here only necessary to outline the general principle.

The heavy precipitation of mountainous regions falls at high levels in the form of snow, which fills the rock basins between the various summits and crests. The great weight of these enormous masses compacts the under layer into granular ice, covered on the top by the recent winter's snowfall. Thus, the beautiful stretches of pure white, illuminated by sunshine or darkened by passing cloud shadows, which we designate snowfields, are in reality bodies of ice, filling up the hollows, massing on the ledges and clinging in crystal cascades to the mountain sides.

Were the process of filling up to go on indefinitely, we should, in the course of time, find that the highest peaks would vanish under a great cap of ice which would bury them out of sight. Nature, however, in the universal balance of compensation that attends all her actions, has provided for such a contingency and, by applying the law of gravitation, has caused overflows of ice at the lowest parts of the basins. These overflows are practically rivers of ice, covered by snow until at lower levels a warm temperature melts the snow and uncovers the ice beneath. They here come under the term "glacier," or more properly speaking, "dry glacier," although they are far from dry, for the melting ice rushes in streams down the surface and fills the hollows. At night the running water freezes and when again subjected to the warmth of the sun, the ice, through expansion, splits in many directions.

The flow of an ice river down its bed is necessarily very slow—not more than a few inches a day, depending upon the steepness of the grade. Where the bed is uneven and the flow is over ledges or precipices of rock, the ice splits in great transverse cracks called crevasses, presenting a much broken surface, corresponding to rapids in an ordinary river. These are known as icefalls. Sometimes the cracks cross each other in opposite directions and the result is a series of pillars of fantastic shape named "Séracs."

The Canadian Rockies are remarkable for the number and purity of their glaciers. Although there are none of great length, as seen in the Himalaya and other mountain ranges of the world, their wildly broken icefalls and the low altitude at which they are found—frequently below timber line—lend a picturesque charm to the scenery that is one of its most striking features. The great peaks, lined by cliff glaciers, the hanging glaciers that tumble down their sides in broken ice cascades and the far-reaching fields of snow filling the hollows are a joy to the traveller, and delight the eye in contrast with the grey limestone peaks and the hazy blue valleys of primeval forest.

Clouds

In early summer and late fall the cloud effects are magnificent. Great billows of white cumulus cloud hang over the peaks and collect along the crests of the ridges. Seen from the prairies the higher peaks of the eastern escarpment of the range are hidden in a dense bank of these white clouds. It is usually a sign of the Chinook wind and, at the break of winter, is looked for as a harbinger of spring. Prairie dwellers think of fierce winds and snow storms raging beyond this aerial barrier, and bless their stars they are not there. Such, however, is not the case: piercing the barrier, a bright sun is found shining in the valleys, the silver streams are turning brown with rock silt and the pines are showing bright emerald green in their new spring attire, and are aromatic with the throb of life.

The study of clouds is one of deep and varied interest. You will see them suddenly appear along the face of a mountain, forming anywhere, as the warm air crosses a belt of cold shadow, the mouth of a gully or a body of ice, and as suddenly and mysteriously vanishing in the bright sunshine. Streamers of cloud will drape the summit of a high peak all day long, giving it the appearance of an active volcano. This effect is often seen on Mt. Sir Donald near Glacier House, and then the Swiss guides say: “Ha! Ole Sir Donell, he smoke him pipe.”

Although these clouds look so beautiful and so inviting, travelling in them is not a pleasant process, and has the feeling of a wet blanket, sending chills creeping down one’s marrow-bones. It is an eerie sensation and magnifies the close surroundings to altogether undue proportions, so that a pinnacle looks like a peak and a short drop like a bottomless precipice. On wide snow-fields the cloud blanket is very embarrassing for keeping direction and it is often necessary to shout and use the return echo to guess where you are.

Storm clouds on the other hand are very objectionable. Sometimes they are highly charged with electricity. Then the nearby rocks begin to hum, ice-axes to buzz, and, if you remove your hat, your hair will stand straight up on end. When surveying, I have several times received a severe shock through touching the screw of a mountain transit-theodolite while it was buzzing. There is no real danger in this sort of cloud, but thunder clouds highly charged with electricity, which bursts forth in lightning flashes, are very dangerous and have been known to cause a loss of life to mountain climbers. Think of a bad thunderstorm in your home locality, with the crashes directly overhead; now move up to the summit of a high peak, where the clouds that caused the storm are actually at your level. The result is that you are in the middle of it, and you can well imagine how terrific it must be. It is not an unusual occurrence, when at the summit of a peak to see a fierce thunderstorm in full display beneath you, while all around at your elevation the sky is clear and the sun shining brightly.

The writer and his survey party had a very uncomfortable experience of such a thunderstorm during the summer of 1915. We were at the summit of Goulds Dome in the High Rock Range, a

A Snow Mushroom. Photo, A.O. Wheeler

sub-range of the eastern escarpment of the Rockies, south of the Canadian Pacific Railway's main line. Thunder clouds were seen approaching and the ominous crash and flashes of lightning came nearer and nearer. Quickly they were all around and a splitting crash overhead warned us off the crest of the mountain. I called my companions together and we descended about thirty feet. Hardly had we done so when a bolt of lightning struck the rocks within forty feet, sending a puff of rock dust into the air. Another was seen to strike far below, accompanied by a puff of smoke like a bursting shell. A few minutes after, Gordon, who was sitting close to me, leaped up and clapped his hands behind him, exclaiming: "Oh, Lord!" I well knew what had to happened him, for I, too, had felt the shock. A bolt had struck the top of the peak close by and electrified the whole of it. It was instantly followed by an ear-splitting crash, far more awful but less deadly than the lightning. We had scarcely realized that no damage was done, when with a wicked sizzle a flash of lightning appeared to fork completely around us and I felt a severe electric shock all over. The storm seemed to hang around the peak for an infinity of time as we sat with our coats over our heads, for it was pelting hail, and waited for what might happen. Presently it passed and the sun shone clear and bright, but I am free to confess that I momentarily expected that one or all of us would be killed by the lightning. The peak, 10,169 feet in altitude, is the highest of the range and is undoubtedly a storm centre, for day after day, about the same time thunder clouds were seen to gather about its crest and the lightning encircle it.

Only two days before we had made an ascent of the peak from the opposite side. It was a bright sunny morning when we started and we did not take coats. Having reached the required spot (not the summit) and done our work, we started to descend. We noticed that it had become very dark but, busy with the difficulties of the descent, had paid little attention to it. Suddenly a roar, like that of a giant waterfall, far below drew our attention and we saw that the entire lower part of the mountain was hidden by a dense white cloud, from the centre of which the roar emanated. It proved to be a cloud burst and sheets of hail were falling. Gradually it worked upward and we were enveloped in it. We had reached a little depression between a precipitous wall of thirty or forty feet and a long snowslope by which we had ascended. The hailstones were as big as small marbles and struck our almost bare backs with stinging force. Here we crouched at the base of the rock and awaited events. Soon things began to move; single stones came leaping from above and, missing us by inches, shot down the snow-slope at vicious speed. The single stones became fusilades; rock falls crashed all around; what had been trickling streams when we ascended were now roaring torrents and we realized that the mountain had run wild. It was freezing cold and, as our chances were none too good where we were, we decided to take them on the snow-slope and get to a place of safety. So we descended as rapidly as possible and by the time the bottom of the slope was reached the storm was over and the sun shining. But what a sight! The mountain was a great white mass; piles of hailstones lay everywhere; sheets of water were coming down the slopes and pouring over the ledges; torrents were raging down the gullies and loosened masses of rock were still falling. I had never seen a mountain run wild before and the sight was one I shall never forget.

Spectre of the Brocken

This phenomenon is supposed to belong exclusively to the Harz Mountains of Germany. Notwithstanding, I have seen it several times in the Canadian Rockies and have heard of it being seen several times more.

The conditions upon which it is dependent are a nearby bank of cloud and the sun behind

the observer in nearly the same plane. Thus, the shadow of the spectator is thrown on the cloud. If close, it is a small, black, sharp-cut representation; if distant, it is huge and not sharply denned, giving the impression of a mysterious giant form. It is surrounded by a circular disc, composed of the prismatic colours in regular order, vivid if the shadow is close and faintly defined if distant. My first experience was on Sentinel Mt., a peak of the Highwood Range, overlooking the prairies of Alberta. I had been working there with an assistant, an Irishman from Cork. A dense bank of cloud had formed from nowhere in particular and had settled along the edge of a precipice above which we were standing. You could put out your hand and touch it. Suddenly, as the sun in the west dropped to our level, each saw his own shadow, like a sharply defined mannikin, in the middle of a circle of rainbow colours about a yard in diameter. It was very funny, every movement was accurately portrayed by our double on the cloud bank. The Irishman was astounded and proceeded to execute a jig for the pleasure of seeing how his double did it. He took off his hat to the shadow, who returned the compliment, and made a number of contemptuous gestures which were instantly repeated. At last he exclaimed : "Begorra that's foine ! I wonder would it go away if ye threw a sthone at it." The conditions creating this form are probably rare and the more frequent exhibit is in the shape of an immense shadow on a more distant cloud, giving the impression of something weird, mysterious and spectral. Each person can only see his own shadow, so that descriptions of the spectre are liable to vary when seen by more than one person at the same time, thus adding to the mystery. The prismatic circle is called the "Brocken Bow."

Rainbows

By no means least interesting are the rainbows, which are seen in every grade of intensity and in every conceivable position: great coloured arches in the sky, bridging wide valleys, spanning narrow gorges, above, below, almost at hand, where the traditional pot of gold seems within reach.

Again referring to the summer of 1915. While on a peak across the valley of Dome Pass, exactly opposite Goulds Dome, we were favored with the most perfect exhibition I have ever seen. The customary afternoon thunderstorm had centered around the Dome and was passing to the northward, leaving the valley between filled with black gloom. A break in the clouds and the sun shone out, and then, on the opposite side of the valley, appeared a giant double circle of intensely vivid prismatic colours—the rainbow and its reflection, the reflection being very nearly as brilliant as the original bow. In this case it was a complete circle except for a small portion at the bottom of the valley where the crest we were on cut off the sun. Directly in the centre of the double arch, as in a frame of many colours, the black silhouette of Goulds Dome stood alone. It was a wonderful and unique spectacle, weirdly intensified by the black gloom of the passing storm.

In the Gordon Canyon, above Bow Lake, is the very narrow and deep rock canyon. The walls are so close that a single boulder fallen from above has furnished a natural bridge. A glacial torrent flows through this crack in the rock and, at a certain place, there is a perpendicular fall over a ledge. Below the fall is a pothole, formed by the swirl of the water, and the tiny chamber is filled with mist. It is possible here to climb down to a ledge below the fall and when standing on it the walls approach closely and overhang, so as to shut out the daylight except from a single small opening in the rock. I happened to stand on this ledge just as the sun came opposite the opening, and immediately a tiny rainbow formed across the pothole chamber and rested one end of its arch upon my feet. One of my childhood's beliefs had been, that if you could reach the end of a rainbow you would find a pot of gold. It was rudely dispelled. The end of the bow rested on my feet, but

alas! There was no pot of gold.

In the canyon of Moose River, not far from where it opens to the Grand Trunk Pacific continental railway line, a few miles west of Yellowhead Pass, is a place where you are between two falls. The upper one drops fifty feet, the lower twenty feet. Here the awe and grandeur of the canyon culminate, the rock walls descend sheer, mist and spray fill the gorge and eddy between the walls continuously. While I was there, it was a bright sunny day and I counted six baby rainbows playing hide and seek in the swirl of vapour.

Any number of examples might be quoted, but the above will suffice to illustrate a phenomenon that, while seen everywhere, is of special variety and interest in the mountains.

Those of our members who read this will, no doubt, call to mind many other meteorological phenomena that have come to their notice, or other phases of those that have been touched upon, and the photographers among them will have many wonderful examples of cloud forms. In these outlying wilds of Nature only extremes are met with: it is either too hot or too cold, too wet or too dry, the creations are very beautiful or grotesquely ugly. It is probably for such reason that we find them so attractive and turn to them again and again as a relief from the prosaic routine of everyday existence.

MISCELLANEOUS SECTION

Mt. Alexander Mackenzie

By Mary L. Jobe

Mt. Alexander Mackenzie is the name recently given by the Geographic Board of Canada to the magnificent, newly explored peak at the headwaters of the Fraser River in the northernmost Canadian Rockies. It is approximately 120° 10’ W. Longitude and 54° N. Latitude, and has been heretofore variously denominated the “Big Mountain,” “Mt. Kitchi.”

My 1914 expedition, described in the 1914-1915 Canadian Alpine Journal, Vol. VI., pp. 188 to 200, under the title “The Expedition to Mt. Kitchi: A New Peak in the Canadian Rockies,” had created an intense desire to explore this great glaciated peak again. Accordingly, during the late winter and early spring of 1915, I planned my second expedition to this mountain, again arranging for the guidance and outfit of Mr. Donald Phillips, of Jasper, Alberta. My companions were Miss Caroline B. Hinman, of Summit, New Jersey, and Messrs. John, Arnold and David Tyler, of Brooklyn, N.Y., all with considerable mountaineering experience. Frank Doucette, a second guide from Jasper, and a cook, Joe Soper, accompanied the expedition. The 1st of July, the outfit of twenty-three horses met us at Robson Station, and from there we started on our old trail into the North Country.

Our general line of travel may be described as follows: Starting at Robson Pass, the route lay north down the valley of the Big Smoky, beyond the mouth of Wolverine Creek, to the mouth of Glacier Creek (“Bess Creek,” Collie and Mumm); thence up this Creek, across Bess Pass, Bess Shoulder and Jack Pine Pass; from the valley of the main Jack Pine to the Middle Jack Pine, and thence directly to the West Jack Pine. From this river we again travelled to the Fraser Smoky and thence to Crescent Lake Pass, as in 1914. Beyond this point, we changed our course, crossing the head of Forget-me-not Creek, travelling north to the well-known Indian trails on Sheep-Creek Pass and the Porcupine. Skirting the headwaters of Providence Creek, we travelled generally near

the Divide and finally approached the Big Mountain from the northeast, where we camped on the flats below the moraine of one of its big glaciers. From Mt. Alexander Mackenzie, we travelled north to Jarvis Pass, and crossed a pass to the Wapiti. This was our "farthest north." Returning via Jarvis Pass, the Porcupine, Providence Valley and Sheep-Creek, we crossed to the Muddy, which we followed to its mouth, rafted the Big Smoky below the mouth of the Sulphur and followed the old Indian trail to Grand Cache. From this point we travelled up the Sulphur, crossed Hardscrabble Pass to Rockslide Creek, and again struck the Big Smoky near the mouth of Short River ("Glacier Creek," Collie and Mumm), and thence returned to Robson Station the 1st of September.

From the time we left Robson Pass until we crossed the West Jack Pine, we had unsettled weather. Beyond the west branch we made an attempt to skirt the headwaters of the east branch of the Fraser Smoky, and thus avoid the difficult travel through the dense British Columbia forests, which had given us so much difficulty in 1914. To this end we left Avalanche Pass and our 1914 route far to the westward, and crossed a high ridge to the north. Here we saw many kinds of small animal life: blue grouse, in the small balsams at tree line; ptarmigan, in the higher heather slopes; gophers, whistlers and conies among the rocks; from a meadow in the burnt timber a white-crested sparrow sang his plaintive song as he flitted to and fro among erigerons and painted cups; high up on a snowfield juncos flew about excitedly at our approach; while, rarest of all sights in this north country, two robins hopped about on a green grassy slope. One flew to a little scrub balsam and there sang his spring love song as if he were the first robin of spring, poising on the topmost branch of the tall maple in the pasture. These were the only robins we saw on the trip; but at almost every one of our camps the little white-crested sparrow greeted us with his minor strain: "Come see me," he sang invitingly.

Just as we reached the crest of the ridge a storm of rain and hail broke over us, and, as we began our descent on the other side, a dense cloud enveloped us. It was impossible to see more than ten feet ahead as we made our downward progress over 1,000 feet of shale and alpland. After making camp, the rain soon turned to snow. From July 9th until July 14th, we were "snowed-in" in Stormy Valley. As the snow lay three or four feet deep we were unable to move our outfit, or even to travel on foot any distance from camp.

From the little scouting ahead we had been able to do, it was obvious that this new route would not offer any advantage over our 1914 route. Dense woods filled the high valleys ahead of us; travel along tree line was impossible, because it was both circuitous and difficult. On July 13th, Phillips started out alone on a two days' reconnaissance, and on the 14th the remainder of the party made the ascent of Lone Mountain, a high rocky peak we had located in 1914. It is remarkable because it is quite isolated and rises suddenly to an elevation of about 9,000 feet from densely forested low mountains which encircle it. The peak itself is a mass of grayish-greenish-black rocks, all moss-grown and beautiful in color. From the top we could see the Big Mountain quite plainly through the glasses, although it was cloud-hung. Mount Ida, too, was clearly visible, with a great stretch of ice and snow extending between it and its giant neighbor. The same bands of rock strata, alternating with bands of ice, were visible on both peaks even at this great distance. Near at hand the Black Twins and Crescent Lake stood out fine and clear. To the southeast, Jones Peak and Jack Pine Mt. were in plain sight, but there was no trace of Mt. Bess or "Mt. Chown." The view to the northeast was across miles and miles of forest—"a visioned valley, with a green stream streaking through it"—the main east branch of the Fraser Smoky, near its source. In one of the little side valleys, several miles away, a big open meadow appeared, Doucette's keen eye spied moose. "Where?" He told us: "Near a patch of snow." On looking through the glasses, the moose

proved to be horses—seven of them—the patch of snow, a clean white tepee. "Probably Donald McDonald and his wife who are in from the Muddy on one of their hunting trips," said Doucette. Whoever they were, it was our only glimpse of other wayfarers on our entire trip. It seemed too bad to pass by without greeting them!

While still above tree line, on our descent, Doucette sighted caribou—the glasses showed nine—feeding in a brownish-green spot in an open meadow where the winter's snow had only just melted. We approached nearer and nearer to them, fearful each moment lest they get wind of us and run. However, we advanced within twenty-five yards, photographed them, and finally walked into the herd before they chose to move. Two of the men shouted loudly just to see them run. They did—in a moment they had vanished among the trees. On the other side of the meadow we met Phillips returning from his two-day trip to look out a route to Sheep-Creek Pass. He, too, had been watching the caribou for more than an hour, and had been lying on the hill in the sunshine in plain sight of them.

Phillips found there was no better route out of the valley than our old route to Crescent Lake Pass. Accordingly, the next day, the snow having disappeared in one day of brilliant sunshine, we retraced our steps to the crest of the ridge. After travelling several miles to the end of this ridge we picked up our 1914 trail. In company with Miss Hinman, I had gone ahead of the outfit in order to get some compass bearings from a point above Avalanche Pass. To my surprise I found the 1914 hoof-prints of our horses still quite distinct in a clayey side hill, despite the fact that they had probably been under snow for at least nine months. Fifteen hundred feet below we forded the Fraser Smoky and again took our outfit up the twenty-four switch-backs on the opposite side of the valley to Crescent Lake Pass. The previous day Phillips had spent nearly ten hours cutting out these switch-backs. "If each year the trees fall in as great numbers as they have during this past year, soon no forest will be left standing," was his remark.

The descent from Crescent Lake Pass seemed steeper than ever, and our heavily packed horses took it on the run, while our old camp site in the valley below seemed even more beautiful than before. Here is a perfect gem of a mountain stream! Crystal-clear, cold water runs laughing and gurgling over mossy brown-green rocks, and falls into deep, dark pools. Heathery slopes, starred with anemones, lead up into a dim, dark forest. The witches are in this little stream—sprites of gladness and joy! They call to you, and laugh at you, and make you love this spot as you have loved no other. They tug at your heartstrings as you go. You have left a friend behind!

From this point to Alexander Mackenzie, we did not again strike our old trail. We crossed two ridges to the headwaters of Forget-me-not Creek. Beyond the second ridge we came to a chain of lovely clear lakes, far above tree line, and each one fringed with forget-me-nots of a most brilliant hue. From the headwaters of the north fork of Forget-me-not Creek we crossed the Divide to the south fork of Sheep Creek, where we came upon an old Indian camp ground with three large drying racks, indications that a big kill had been made there in the days when the Indians ruthlessly slaughtered and consequently exterminated much of the big game. We picked up their old trail on the Divide and followed it until it became buried under the debris of burnt timber. The Indians had not been in since the forest burned— the fire having been caused, doubtless, by their own carelessness in leaving their camp fires smouldering. How little the Indian knows of conservation! And how little of the fundamentals of self-preservation! To burn out the forest as he does means the extermination of game, and oftentimes the destruction of his own livelihood.

We soon got above the burnt timber. Travelling above tree line is always satisfactory. From our high elevation, we could plainly see the main valley of Sheep Creek, and below us a

well-defined trail. This we picked up and followed down over bench-land and through broad, dry meadows to an old Indian camp ground near Sheep Creek Pass, where the main trail from the east joins the south trail. Doubtless the Indians had camped here for generations; drying racks in various stages of decay were on all sides; any trees had been cut for firewood. It is a beautiful camp site. Miles and miles of broad meadows stretch from east to west, while a camp could be pitched in any one of a dozen different places and each with fine prospect of mountain, stream and valley, and with horsefeed enough to keep horses in condition indefinitely. This same campground had been used by Mr. S. P. Fay in 1912 and by Mr. Fay and Mr. C. R. Cross in 1914 on two expeditions described by Mr. Fay in the 1914-1915 Canadian Alpine Journal.

From this point we found easy going to the Porcupine, past "Surprise Lake" and on to the headwaters of Providence Creek. From the camp we climbed a low peak to the north which gave a fine view of a wide expanse of country. Beautiful lakes were here on all sides, some were large and filled the valleys; others were only tiny tarns in the hollows of the hills—but each mirrored some rocky pinnacle, or glacier-hung peak. The Big Mountain dominated everything, Mt. Ida and the two glacier-clad peaks between looming up high and clear; the whole western landscape afforded a wonderful array of glaciers, snowfields and towering peaks.

After crossing the Divide west of the headwaters of Providence Creek we left the trail followed by Mr. Fay, and travelled almost due west, camping about five or six miles distant on the shores of one of the lovely lakes we had seen from a shoulder of the Big Mountain in 1914. They had been named Margaret and Mariel by Phillips, who, because they seemed such tiny things at that distance, had ventured to suggest personal names. "Mariel," as the northernmost one was designated, is north of the Divide, and drains into the Porcupine. We found it a fine expanse of water. From its western shore, there is a fine vista of mountains, and the reflections in the evening light are not easily forgotten. Extending westerly and southerly from this lake, are broad open meadows, almost as flat as a table and dotted everywhere with balsam trees whose branches grow so close to the ground it is almost impossible to creep under them. All the banks of the lake are gently sloping and there is a clean gravelly bottom. "Lake Margaret" is south and west of the Divide. It has no pronounced southern outlet, but there is a spill-over, which drains into a Big Salmon tributary. It is almost the exact opposite in appearance and character of the other lake. Forests grow on all sides to the water's edge. In fact, it is easy to approach within a few yards of the lake and not be aware of its existence. On one side a high mountain rises abruptly from the water. The shores are filled with huge boulders, and the bottom drops off abruptly in some places to great depth. So completely shut-in is the lake that we found it impossible to get a photograph of the entire sheet of water. From the broad meadows of the northernmost lake, we had a splendid view of the Big Mountain. It seems only a short distance away, but it is easily six or seven miles to its base. The old Indian trail continued from the shores of one lake to the woods skirting the other. Cuttings many years old were visible in many places. Here, too, we found a remnant of an old camp-fire made, perhaps, ten years ago. This valley was obviously the terminus of the old Cree trails, and had been used less frequently than the main thoroughfare from Sheep Creek to Jarvis Pass, due doubtless to the density of the forests on the British Columbia side.

Continuing through the woods, we crossed a very steep side-hill, and came out upon an alpine summit. Here we had a magnificent view of the northeast face of Mt. Alexander Mackenzie. The main peak shot up brilliantly into the sky, while below the great masses of glacier shone resplendently.

Beyond this summit we took our outfit down an abrupt descent of at least 1,000 feet over

wind-falls and through rhododendrons and alders. The wooded hills seemed to come together in a deep gully. From above, it looked as if we would not get our horses down at all, or, once down, that we could not find a camp-site. The first belief proved incorrect, for we did reach the bottom of the valley, with no greater disaster than that of continually plunging knee-deep into mud; but, finding a camp-site was not so easily accomplished. Once out of the timber we came into a broad muskeg-meadow. This we followed for a distance of two miles into a narrow rock-hung defile, at the head of which one of the branches of the Big Salmon is born. Glacier moraine and steep wooded slopes fill the upper valley. The river is of fair size. It branches and flows in various channels across the boulder-strewn willow flats. These boulders are all huge, newly-displaced rocks, swept down by recent, powerful snowslides.

After searching up and down the valley for a good camp-site and not finding one, we finally pitched our camp on the willow flats at the foot of the moraine. Here, on rough, stony ground, we made a permanent-camp. All hands turned out to render comfortable a spot in which we anticipated spending several weeks. A bridge was constructed across the stream to the woods from which came our supply of fuel and a fine table of split logs with log seats was built.

As we had made camp in a violent thunderstorm— sleet and snow had raged about us for an hour—we named this valley "Thunder Valley," and the ridge separating us from the main peak of the Big Mountain, "Thunder Ridge." Our camp was at the northeastern base of the outlying ramparts of Mt. Alexander Mackenzie.

After making several reconnaissance climbs on nearby points, we made our first attempt to climb the Big Mountain on July 25th. The climbing party consisted of Phillips, Miss Hinman, John Tyler, Doucette and myself. We left camp at 4.30 and after travelling half a mile up the valley toward the southwest, climbed 600 feet up a snow couloir, above which we found excellent rock climbing. Leaving the rocks, we came out on a very steep, hard snow slope, in which Phillips had to cut steps. Above this we reached rocks, and then a big snowfield flanking the north side of what we last year called the "Menagerie Glacier." At the top of this first escarpment, we saw the great panorama of cloud-hung peak and intervening icefields stretched out before us. We were viewing it from the northeast.

For about half a mile we travelled westward along a rock ridge to a snow col, separating the Menagerie Glacier from the big glacier which forms the main source of Thunder Creek. This second glacier, which we had barely caught a glimpse of in 1914, we named Castle Glacier, because the ice here assumes a peculiar castellated form, and a big rock mass which rises above the ice, likewise has the appearance of many strong castle towers. At the west end of the col we climbed over the cliffs to the left and came out on the glacier, well above the maze of crevasses we crossed in 1914. On either side it is flanked by hanging glaciers and by ice-falls. It was at this point we were compelled to turn back on our first attempt in 1914, on account of a heavy snowstorm. We next crossed a half mile of level glacier and snowfield and then climbed a steep snow-slope to bare ice, filled with crevasses for a short distance. Here, again, as on our second 1914 climb, we saw many little dead birds, and we also noticed on one of the snowfields tracks of a big grizzly.

Above the crevasses we had good going to the summit of the second escarpment and to the cairn built on our second attempt in 1914. From this point the big main glacier, which I have called Kitchi Glacier, slopes away for miles to the west and southwest. It receives the constantly avalanching snows from the north face of the peak, and from a very long ridge which extends for a considerable distance to the west of the main peak. The Kitchi Glacier forms one of the important sources of the south fork of the Big Salmon.

While eating our second breakfast at 9 o'clock near the cairn, the clouds which had enveloped the peak all morning lifted and revealed a huge ice mass, clear white against a bright blue sky—a great, overhanging, broken cornice which forms the extreme summit of the main peak itself, girded on all sides by sheer ice cliffs, and here and there bands of perpendicular, black rock cliffs protruding from the green-white of the mighty mountain itself. The whole face of the mountain was streaked and torn by avalanches. Phillips, John Tyler and Doucette decided to investigate a route along the northwest arête.

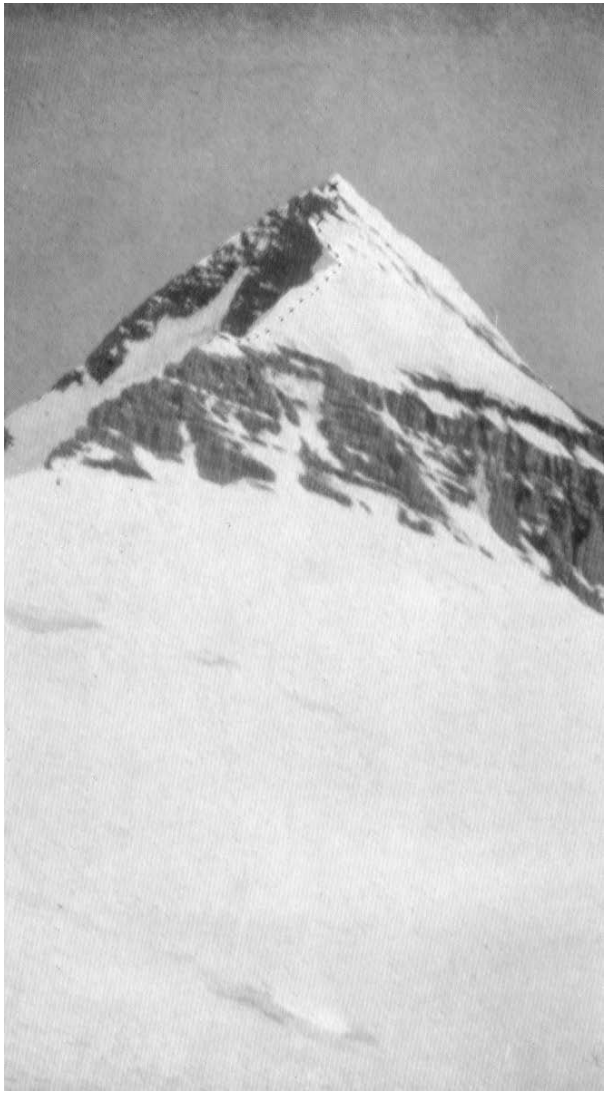
I here quote from Phillips' diary:

"It was 9.45 and we were still nearly two miles from the northwest ridge which we decided to try to climb. The safest route seemed to be by way of the glaciers to the southwest, but as this would mean six or seven miles over snow and ice, we decided to go straight across the glacier and up a very steep snow-covered glacier, between two icefalls. We made good time to this point, but there found terribly steep snow-slopes into which we plunged above our knees. Great crevasses, some a hundred feet deep, and too wide to cross spread out before us. These we had to work around or cross on snow-bridges, walking on hands and feet to distribute our weight evenly. After about two and a half hours we reached the foot of the steep snow-slope below the main ridge. Here we chose for our ascent a space a hundred feet wide, which was safe from slow-slides. Reaching the first rock cliffs, our really dangerous climbing began. The spaces between the cliffs were filled with snow, which at that time of day was wet and ready to slide at a single touch. It had to be scraped away down to the rocks. These, unfortunately, were poor footing as they all sloped the wrong way at an angle of about fifteen degrees. The danger of snow-slides became so great at an altitude of 9,000 feet that I decided to turn back. We still had several hours of climbing to reach the summit and all our steps below I knew would be covered, for we had kept a steady avalanche of snow and rocks going down as we climbed. At 4 p.m. we reached the last cliffs, and knowing it inadvisable to go again between the ice falls, we returned by the glacier and snow-fields, which required about three and one-half hours. We found the remainder of the party anxiously awaiting our arrival, as they had seen us come down from the ridge to the snowfields, turn to the southwest, and there had lost sight of us for three hours."

For Miss Hinman and myself, who had decided not to attempt the final climb—so long and dangerous had the ascent seemed—the day passed as if we were watching a drama on a vast stage, with actors in as thrilling a part as was ever played. So intense was our interest, that the time for us passed quickly. Just nine hours after they left us, they appeared on the glacier within call. It was sunset. Great black clouds rolled up in the northeast. It suddenly grew black and overcast, a biting sleet fell and a high wind screamed about us. "We must hurry down over the glacier before the storm reaches us," Phillips had said. As we travelled quickly down over Menagerie Glacier, a wonderful rainbow showed against the purple-black clouds ahead of us. The smouldering fire of the dying sun flamed up for a moment and gilded and reddened the peaks off to the northeast. The glaciers and snow-fields caught and for an instant reflected the afterglow.

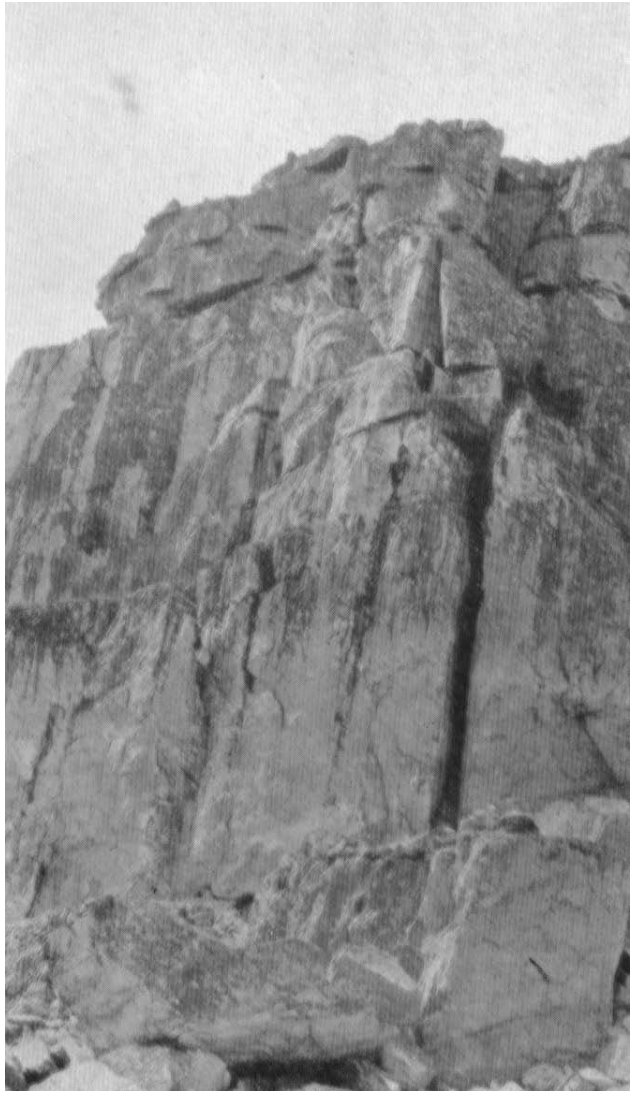
We descended to the snow col, skirted Castle Glacier and traversed the big rock-fall beyond, and shortly after dark again reached our camp in Thunder Valley. It was July 25th, just eleven months to the day since Phillips and I had tried the mountain alone.

The next few days we spent in an exploration of the lower valley and in determining the course of three branches of the south fork of the Big Salmon. A second attempt on the Big Mountain



The Main Peak Line Of Ascent By Northeast Arete. Photo, Donald Philips

X, Highest Point Reached, Aug. 1st.



The Chimney. Photo, Donald Philips

was now being eagerly discussed. As it had required eighteen hours of exhausting effort to make the partial ascent of July 25th, Miss Hinman and I decided not to attempt the ascent a second time. Obviously greater endurance and strength than we possessed were requisites for such a climb. "It's a man's size mountain," Phillips had declared, and we were not disposed to contradict him.

Accordingly, on August 1st, Phillips, J. Tyler and Doucette again started for the peak, this time choosing as a route the only part of the mountain not swept by avalanches, the northeast, "knife-edge" arête, which had appeared so forbidding to us last year. The climbers were off at 4 a.m. following our route of July 25th to the head of Menagerie Glacier. Miss Hinman, Arnold and David Tyler and I climbed Thunder Ridge — the ridge directly opposite camp—from which we commanded a fine view of the peak. As we were gazing at the mountain in the hope of catching a glimpse of the climbers, I remarked that there was one place on the northeast arête which looked like a great rope stretched across a snow-couloir, while a big black rock at one side looked like a black giant holding the rope. David Tyler who then had the glasses spied the climbers going up a steep snow-cornice to the main arête. On closer examination we could trace their route, back to the "giant's rope," which proved to be steps—forty of them, we learned later—cut in an almost perpendicular icewall. For three hours we watched them, fighting for every step up that terrific slope. In the middle of the afternoon big thunder clouds rolled up from Providence Pass. They soon enveloped the Two Towers, and although the worst of the storm was spent the clouds eventually drifted across the mountain top.

For the real story of the climb I again quote Phillips' diary:

"This time, we decided to try the northeast arête as it seemed less difficult and the highest part of the ridge of the peak is at that end. There was at least a possibility that we might be able to get over the three cornices to the highest point. At 8 a.m. we reached the foot of the arête and started up the bare rocks. At a distance these rocks looked solid but they are really very much broken and need only a touch to topple them over, and send them crashing to the glacier below. Our progress was necessarily very slow, as we had to keep close together to avoid falling rocks. Much of the broken rock had to be removed from the ledges. One chimney in particular all of us had to go up close together and get our heads above the top, before any one could get out, because the edge was covered with loose rock ready to slide down in an avalanche. After climbing up seven or eight hundred feet of this rock we reached the first snow and ice.

''We had expected to go to the right over a very steep snow and ice ridge where cutting several hundred steps would have been necessary, but we soon found that we could keep to the left on the rocks at the edge of the cornice, and would have fewer steps to cut. Forty steps we cut across a very steep ice-couloir, and then climbed up a steep snow-ridge to the top of the cornice coming out above the steepest part of the main snow-ridge. Even here the slope was appalling in its steepness, going out of sight a few feet below our line of travel. The snow was deep enough for good footing and we soon got up to where it was not so steep. Here, however, the snow was shallow on the ice. A thunderstorm was raging in the valley to the southeast, and we expected every moment to be shut in by the clouds. The storm gradually drew away to the eastward and the sun came out again.

"At the upper part of the snow, we struck some bad snow and ice between small, outcropping cliffs, but finally got out on the rocks of the ridge once more. Here the rocks were much better climbing and of a different formation, not being so broken as they were below. We now made good time, striking only small patches of snow and ice until we came in sight of the peak—a great

SPECIAL NOTE FOR THE CAJ DIGITAL EDITION

An oversized fold-out panoramic photograph of Mt. Alexander Mackenzie's northeast face was included in the hardcopy version of the 1916 Canadian Alpine Journal.

It is not included in this digital version due to size restrictions.

ice-cornice hanging over the north side of it and the upper part curving in a great hook over to the southeast. Apparently there was no way of getting to the top without great risk but we determined to get as close as possible at any rate. We kept on going until only two cornices separated us from the highest point—a distance of about 100 feet above us. At this moment the clouds shut down, and a gale of wind struck us. We had to take shelter behind a snow-cornice where we crouched for half an hour hoping for a break in the clouds, so that I could at least take a photograph of that terrible, hooked cornice which formed the main peak such a short distance above us. The clouds did not lift and, half frozen, we started back down the mountain.

"Whether we could have gone any further—if the weather had been fair — or whether we could have climbed the last few feet of the hooked cornice is problematical. Almost straight walls of ice covered with rotten snow and ice form these cornices." (These are the big ice caves with depending icicles which I have described in previous articles.) "The snow on the peak is not hard enough to kick steps in. It has to be scraped away and steps cut in the ice.

"The mountain is not as high as many have estimated it to be. Some have even estimated it at 12,000 to 12,500 feet. In 1914 we estimated it at not over 11,000 feet. In our 1915 climb our aneroid read a little under 11,000 feet.

"Mt. Robson is higher and more spectacular, but I found nothing on it to equal the danger of the treacherous snows and rotten cornices of Mt. Alexander Mackenzie.'

We were glad indeed to have a reunited party at our camp that night and to hear the story of their climb—a much more dramatic and humorous narrative than is recounted here, for such a story can be told only once, and that immediately after its enactment and by the participants themselves.

In summary: Mt. Alexander Mackenzie is undoubtedly the culminating northernmost peak of the Canadian Rockies. Its snowline is very low. Its glaciers extend far below tree-line. The average elevation of the terminal glacial moraines is approximately 4,000 feet. The area of ice surrounding this peak is enormous. It is easily thirty-five square miles and contains the main sources of three large branches of the south fork of the Big Salmon. The lower towers and ridges of the mountain are all acutely pointed and consequently retain little snow. The snow on the mountain is in constant state of avalanche. I counted five big avalanches at one time, all in plain sight on the north face of the peak. At close range, these avalanches sound like heavy thunder; at long range like the roar of distant artillery.

Mt. Alexander Mackenzie is a magnificent peak. It gives the impression of a singular grandeur, largely because its formation is so diversified. The south face, the east face and the north face are all distinctive. Its numerous glaciers are varied in color, shape, character and extent. The rock strata of its outlying ramparts are beautifully colored. Its debouching rivers are mighty and numerous. It is a complex thing and might well be called the Mountain of a Thousand Wonders.

From our base in Thunder Valley we took the trail north to Jarvis Pass, where as early as 1875 E. W. Jarvis, in a long surveying expedition, in which he travelled from Ft. George to Lake St. Anne, found this pass between the Fraser and the Porcupine. He came up the Fraser in the dead of winter bringing with him eight men and six dog trains with provisions for two months. He had to send part of his men and dogs back to St. George. In the late winter many of his dogs died. He travelled over 900 miles on snow shoes. The last 300 miles he carried a pack, making never more than ten miles a day. His locating this pass was a splendid achievement.

Our well-conditioned cayuses, now well fed and well rested after their long stay in Thunder

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An oversized fold-out sketch map showing Mt. Alexander Mackenzie and vicinity was included in the hardcopy version of the 1916 Canadian Alpine Journal.

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Valley, afforded us a speed of travel which practically doubled that attained by Jarvis and his dog-teams. From Jarvis Pass, we continued to Mt. Ida and the head of the Wapiti, climbing several minor peaks, one a most interesting peak which we named "The Chimney." In its lower abutments eight fine rock chimneys occur. It gave us a fine view into the Big Salmon Valley and into the Wapiti. The latter survey gave us the conviction that we did not want to go further. Across the watershed the mountains grow perceptibly lower and the country has a desolate appearance.

Retracing our steps to Jarvis Pass and the Porcupine, we dropped down into Providence Valley, where we camped for several days and explored the valley rather thoroughly, locating many fine waterfalls, lakes and an impressive canyon. Returning to Sheep Creek, we travelled eastward to the Muddy which we followed to its junction with the Big Smoky. A day's travel below the confluence of these rivers, we swam our horses and rafted our entire outfit across the Big Smoky, making the ferry of one-half mile in three and one-quarter minutes. From this point we followed the Indian, Evan Moberly's trail to Grand Cache, then travelled up the Sulphur across Hardscrabble Pass, beyond which we again reached the Big Smoky.

On our way out to Mt. Robson we climbed Mt. Bess, the first ascent of which had been made by Collie and Mumm in 1912, which, I have been informed, was along the western arête. Our ascent, the second, was up the south face, and therefore probably the first ascent by that route.

Collie and Mumm estimated the elevation at 11,300 feet, but our aneroid registered only 10,500 feet a little above their cairn. Mr. A. O. Wheeler computed the altitude of this mountain from trigonometric levels based on the levels of the Grand Trunk Pacific Railway. His results gave 10,468 feet. The ascent of the peak proved interesting and in only one place difficult—a fifty-foot cliff, not far from the summit, which extended for a considerable distance around the mountain.

On the 1st of September we again reached Robson Station. It was with much regret on the part of each member of our party that our two months' trip came to a close.

In conclusion: I wish to express a deep sense of personal gratitude to Miss Caroline Hinman, who proved a splendid companion and contributed constantly to the success and enjoyment of the expedition; to John, Arnold and David Tyler, keen for every new experience and resolute in their desire to make the best of every hard circumstance; to our cook, for the best trail food I have ever eaten; to Frank Doucette, our "whirlwind of a packer," a strong and careful climber, and a most genial spirit on the trail; last and by no means least to Donald Phillips, whose unerring judgment and fine mountaineering and trail ability led us to our goal, brought us out of all difficulties without mishap and, in fact, made possible our 1914 and 1915 expeditions to Mt. Alexander Mackenzie.

Memoir Of The Late Harold W. Topham

By H. E. Forster

Mr. H. W. Topham, of the English Alpine Club, who died last year, may be considered the earliest mountaineering pioneer of the Selkirks. In March, 1888, he visited that district with his brother—Caleb and Joshua, spying out the promised land. It was in the summer of that year that our honorary member, Mr. W. S. Green, made his historic explorations recorded in his classic book, "Among the Selkirk Glaciers."

Mr. Topham received his mountain training in Switzerland under some of the best guides of his day. His climbs were numerous and many of them of the first rank. He was a good comrade and a good mountaineer.

I was exceedingly sorry to hear of his death as I had the pleasure of making my first visit to British Columbia in 1890 with him and spending many happy and strenuous days in his company exploring the Selkirk Mountains. As Mr. Wheeler has asked me to write a few lines in memory of my friend and companion of this interesting summer I will endeavor to give a brief outline of our expeditions together that year.

It is so long ago, however, that it is difficult to remember details and even the proper sequence of some of our explorations. We were both staying at St. Moritz in Switzerland the previous winter for the winter sports, and it was there that Mr. Topham proposed that I accompany him on a trip he was contemplating in the summer of 1890 to the Selkirk Range of British Columbia.

He had a year or two before been in this province and had made a short expedition to the mountains in the interior of Vancouver Island, and I well remember his description of the difficulties of travelling through the thick underbrush and heavy timber of the Island.

His main expedition that year, however, had been to Mt. St. Elias in Alaska in company with two or three friends, where they succeeded in reaching an altitude of nearly 12,000 feet on this mountain. Unfortunately they had to turn back at this point, so he told me, owing to the fact that from where they were to the summit was a steep ice slope, to overcome which would have necessitated several days' step cutting and camping at night on the steep mountain side, which was more than they were prepared for. Since Topham's attempt I understand an easy route has been discovered to the top of Mt. St. Elias from the other side.

After making some preparations in London we crossed the Atlantic together in May to New York, where we separated, to meet again in June at the Glacier House.

Topham had arrived a few days earlier than I and had employed the time crossing the Asulkan Pass in company with two so-called guides, but who made no pretence of being mountaineers, and making first ascents of Mts. Donkin and Fox of the Dawson Range. It was from the latter mountain that he had looked down into a beautiful mountain valley surrounded except for one narrow outlet by glaciers and precipitous rock walls, which he called Glacier Circle. He decided this would be an excellent camping ground from which to explore the surrounding mountains. Accordingly, a few days later, with the two guides Sinclair and Eves, we crossed the Illecillewaet névé and descended into Glacier Circle.

From this camp we climbed Mt. Deville as it was then called, but which has been since renamed Mt. Selwyn, owing to a peak in the Main Range having already been named Deville. This I remember was a long climb, as we had to first find our way up the steep rock wall on the west side of the Deville icefall and then ascend the mountain by the arête leading up from Deville névé and although we started at 5 a.m. it was 3 p.m. before we reached the summit. If it had not been so late in the afternoon we would have gone on to the summit of Mt. Dawson, apparently an easy walk over snow, but we remembered the rock wall we had to negotiate again on our way down and which we wished to be off before dark and this, coupled with the fact that a thunderstorm was coming up at the time, decided us to leave Mt. Dawson for another day if the opportunity arrived. We thereby narrowly missed making the first ascent of the highest mountain in this section of the Selkirks, as we never had another good chance of ascending Mt. Dawson. Possibly Topham's barometer had something to do with it as it registered about 1,000 feet too low and made the mountain we were on appear much lower than Mt. Sir Donald, whereas we were several hundred feet higher than it.

From our camp in Glacier Circle we made several other expeditions, including one across the Deville névé as far as Grand Glacier, and then retraced our steps across the Illecillewaet névé

The Deville Icefall And Neve. Photo, A.O. Wheeler

Mt. Purity. Photo, A.O. Wheeler

to Glacier House. Topham had planned an attempt to ascend Mt. Sir Donald, but from the summit of Mt. Deville (Mt. Selwyn) we saw what looked suspiciously like a cairn on the top of Sir Donald and, sure enough, on our return to Glacier House, we found that Messrs. Huber and Sulzer, two Swiss gentlemen who had arrived during our absence, had succeeded in making the first ascent.

They had been so much impressed on their climb with the beauties of the Selkirk Range and the opportunities for mountain climbing that they were anxious to do some further exploration and finally we all agreed to join forces and make an expedition to the mountains beyond the Deville neve. Therefore, as soon as we could make the necessary preparations, we started from Bear Creek station with our two guides and a pack horse, and reached a point on Prairie Mountain opposite Glacier Circle with the horse. From this point it was necessary to pack on our backs as it was impossible to take the horse down into the valley of Beaver Creek, through the thick brush and timber. We carried part of our outfit down to a camp on the banks of this creek and sent the guides back for the balance and while they were engaged in doing so Topham and Fluber made a trip over the intervening rock ridge to Glacier House, returning a few days later via Glacier Circle to our camp. Sulzer unfortunately had been taken ill and had to return to Glacier House from this camp with the horse and one of our guides. The rest of us went on up the valley of Beaver Creek and made camp at the foot of Grand Glacier. From here we explored and mapped the mountains at the head of Beaver Creek and Duncan River and ascended Mt. Sugar Loaf. We then climbed up to the Deville neve, which we crossed and followed to its foot a branch glacier leading past Mt. Dawson to a point opposite the Donkin Pass. After some minor explorations from this camp we crossed the Donkin and Asulkan Passes to Glacier House again.

We found that Sulzer in the meantime was climbing the mountains above Rogers Pass, so Topham, Huber and myself made another trip over the Asulkan and Donkin Passes and proceeded to a beautiful snow-white peak which had attracted our attention on many occasions and which we had christened Mt. Purity. We climbed this peak without difficulty except for some tedious step cutting up a steep ice slope for the last 500 feet and which we found on our descent could have been avoided, and then retraced our steps to Glacier House for the last time.

It was now getting too late in the season and the weather uncertain and we reluctantly had to' abandon any further expeditions.

I have often looked back to this pleasant summer spent in the wilds of the Selkirk Mountains with Mr. Topham, later with Mr. Huber as well. We had some hardships but none of them serious and Topham was an ideal companion to be with in such times, always ready to do his share and more than his share of any work, and overlook the shortcomings of a novice in the art of mountaineering like myself, and to give assistance over any serious obstacles that were beyond the ability of anyone less skillful than himself and he was besides always cheerful and good natured whatever happened.

As a mountaineer his record in the English Alpine Club will vouch for his skill and endurance. In fact if it had not been for his skill and perseverance, coupled with that of Mr. Huber, who was also a most energetic and skillful mountaineer and a good mate for Topham in every way, it would have been impossible to penetrate as far back into the Selkirk Mountains as we did at that time, when there were no trails to make the going easy and beyond a mile or two from the line of the Canadian Pacific Railway the mountains were unexplored.

IN MEMORIAM

Sir Sandford Fleming

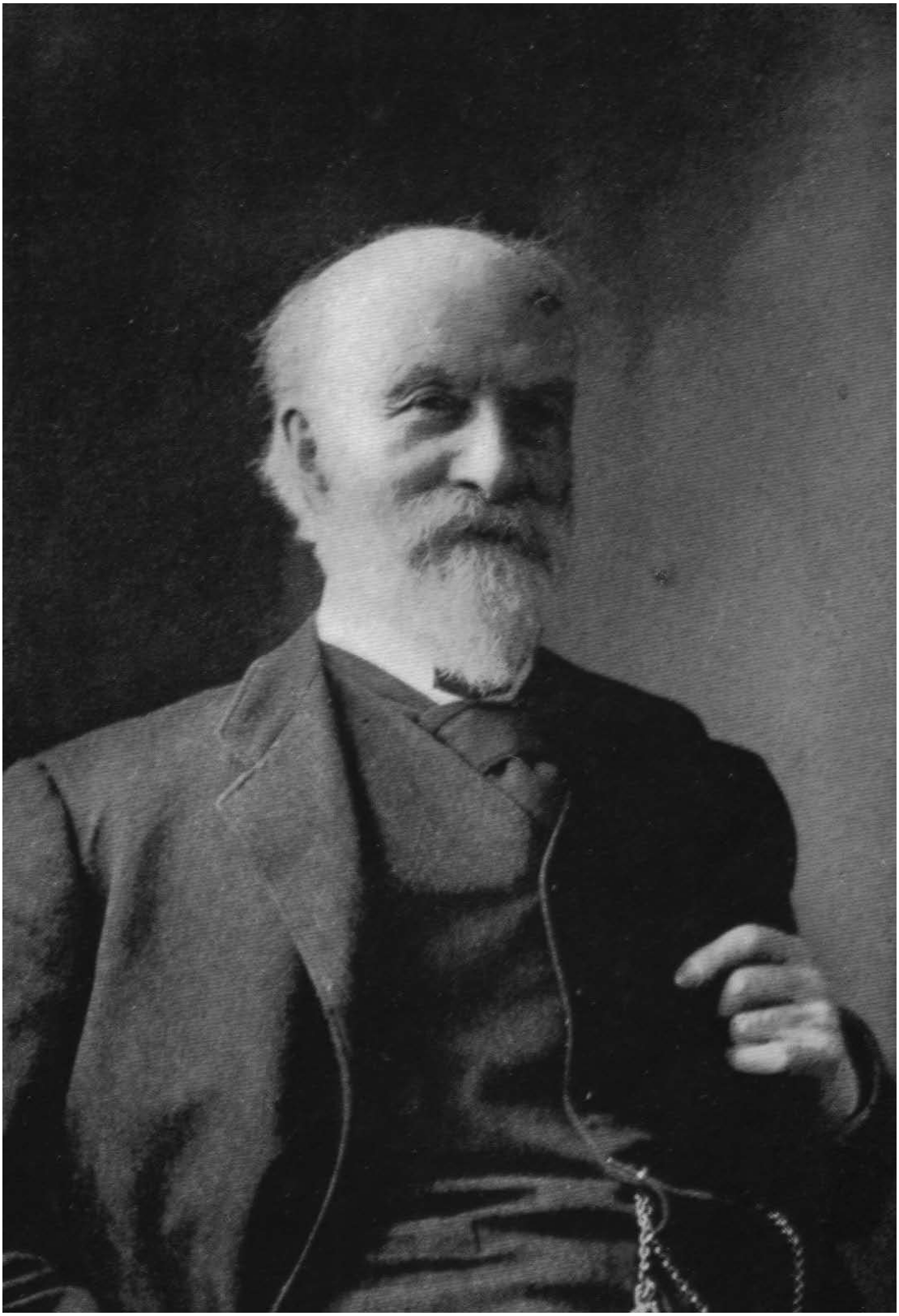
Sir Sandford Fleming, Honorary President of the Alpine Club of Canada since its inception in 1906, died in Halifax on July 22nd, 1915, at the great age of eighty-eight. He had accomplished many great and important tasks in his long and honorable life and he was, as he once said, "grateful for his birth into this marvellous world and always anxious to justify it." He was born in Kirkcaldy, the "lang toon" in the Kingdom of Fife, descending from an old and worthy family of that ancient kingdom whose citizens "always hold their heads high." His maternal great-grandfather—a Cameron— fought at Culloden and was one of the loyal Highlanders who rowed Prince Charlie over to France; another of his forebears fought under Wolfe at Quebec, and a maternal uncle, his namesake, was a noted Sanskrit scholar in India.

Kirkcaldy is known to fame as the "lang toon" since "Rob Roy" when Andrew Fairservice declared "the sell o't is langer than ony toon in England." It was the birthplace of Adam Smith, the great political economist, and in its schools Carlyle and Edward Irving taught and cemented a noble friendship. It was there that young Fleming laid the foundation of his professional education, and there he received an excellent grounding in the humanities. For, it goes without saying that Kirkcaldy schools were of the best. Has it not been so throughout Scotland since John Knox? On his first visit to the land of his birth, Fleming went to see the aged Carlyle in London and was warmly received, the "weary Titan" recalling Kirkcaldy days and Irving "the finest man he ever knew."

Fleming came to Canada in 1845 when he was eighteen years old, sailing with his elder brother David in one of the early Cunard steamers. The brothers stopped at Quebec, Montreal, Bytown (the site of Ottawa), Kingston (Queen's University then a "large, plain college"), and went on to Peterborough where they remained two months with an uncle, Dr. Hutcheson, who practised medicine there. David found employment in Toronto; Sandford began as a draughtsman in Peterborough, and in a year was surveying, making, lithographing and publishing a map of the town. Thenceforth his footing was sure. He made and published other surveys, obtained a commission as provincial land surveyor, also the Civil Engineer's certificate, and settled down to practise in Toronto.

It was now 1849 and he was twenty-two years old. In this year there began the long series of public services which ultimately made his career of such value to Canada and the Empire. On his eightieth birthday, Sir Sandford's grandchildren presented him with an illuminated address (reprinted in the first issue of this Journal), whose margin consisted of fifty-four dates or periods in his life, many of them marks of such service. Perhaps I cannot do better than take some of these outstanding dates.

In 1849 then, Sandford Fleming began to be a public man when he instigated and succeeded in getting founded the Canadian Institute which, ere he died, was authorized by King George to use the prefix Royal. In 1851 his plan of Toronto was published; in 1855 he was Chief Engineer of the Northern Railway, which eventually was absorbed by the Grand Trunk Company; in 1863, he was appointed by the Red River Settlers a commissioner to present their transportation needs to both the Canadian and Imperial Governments; the same year he received from the Canadas, the Maritime Provinces, and the Imperial Government, a triple commission to make surveys for the Intercolonial Railway and later, was appointed its Engineer-in-Chief; from 1871 to 1880 he was Engineer-in-chief of the Canadian Pacific Railway, during the last five years of that period being



Sir Sandford Fleming K.C.M.G.

chief engineer also of the Newfoundland Railway; in 1872 he conducted an expedition across the Canadian Mountains north via the Yellowhead Pass and the Thompson River; in 1883 he made an expedition across the Rockies south to explore the proposed railway route through the Selkirks; from 1876 to 1888 he wrought with pen and tongue for Standard Time-Reckoning, which was adopted in America in 1883; from 1878 until it was laid, he was active in the promotion of the Pacific cable, making at his own expense a journey to Australia in its interests; from 1880 until the end he was Chancellor of Queen's University; in 1881 he was a delegate to the International Congress at Venice. Then, there was the "All Red Line" and "The Imperial Intelligence Service." There were other services also, but those mentioned show how close and steady a toiler was this man. In such enterprises as that of the Standard Time movement and the Pacific Cable, much opposition had to be overcome, whether of apathy or of open and secret activities; indeed, this great engineer knew well, none better, that a man wins out in great endeavours, through many obstacles. In the biography by Mr. Laurence Burpee, we get an insight into the processes by which so much was achieved in his life.

Honours came to him as the years went by, among them the LL.D. St. Andrew's University, the freedom of his native town, the C.M.G. and the K.C.M.G., the Honorary Presidency of the Alpine Club of Canada. Probably no man in Canada would have suited this honorary office of the Alpine Club so well; certainly none would have been better pleased to hold it. Sir Sandford loved the mountains and knew the real value of mountaineering as a sport. He only regretted, as he once wrote me, that he was too old to climb them. The two expeditions mentioned are recorded in two books which members of the Alpine Club might count themselves happy to own: the journey across the Rockies north in "From Ocean to Ocean" by the late Principal Grant, and that across the Rockies and Selkirks south in "From Old to New Westminster" by Sir Sandford himself. Both are fascinating narratives of mountain adventure and will never lose their interest and historic value.

Dr. Grant accompanied Mr. Fleming on both expeditions though the second one was much less imposing. In "From Old to New Westminster" there is a description of a charming episode on Rogers Pass, an episode recalled in the article, "Memoirs of the Mountains" which Sir Sandford contributed to the first issue of this Journal. Waiting on the summit of the pass while the weary, hungry horses fed on its rich pastures, every man of his company felt the impression of the place. Many members of the Alpine Club know how impressive are the views you get from that lovely meadow, lift your eyes in what direction you may. The mountains round about inspired and challenged them, and it was proposed to organize a Canadian Alpine Club on the spot, so to preserve a memorial of their visit. Says Sir Sandford: "The writer as a grandfather is appointed interim president, Dr. Grant, secretary, and my son, S. Hall Fleming, treasurer. A meeting was held and we turn to one of the springs rippling down to the Illecillewaet and drink success to the organization. Unanimously we carry resolutions of acknowledgment to Major Rogers, discoverer of the pass and to his nephew for assisting him." And the happy party proposed as the Club's first mountaineering venture, the conquest of Mt. Sir Donald, then named Syndicate Peak. Major Rogers, who met them on the pass, declared it as the height of his ambition to erect the Union Jack on its summit, the day when the first train passed through the Selkirk Range. Two years later, Sir Sandford was on that first transcontinental train and the American major, so keen about the Union Jack, was waiting at Craigellachie, seventy-five miles west, where he was to hold the ends of the ties linking the railway east and west while Lord Strathcona (then Sir Donald Smith) drove the last spike in the Canadian Pacific Railway. Standing next to Sir Donald while he performed the ceremony were Sir Sandford and Sir William Van Home. The spike driven home, for a few

moments the spell of silence was upon the throng gathered there in the mountains, and then "the pent up feelings found vent in a spontaneous cheer the echoes of which will long be remembered in association with Craigellachie." So wrote Sir Sandford, and I am very sure that the two eminent Scotsmen recalled the war cry of the Clan Grant to which the older man belonged—"Stand fast, Craigellachie!"

Sir Sandford's last public work was in connection with the Memorial Tower in Halifax, erected to commemorate the 150th anniversary of Colonial self-government. He gave to the City the beautiful site at the Northwest Arm on which the tower was built and a large tract of land adjoining for a park. Here had been for many years his beautiful country place named "the Dingle." For the most part his closing years were quietly spent at Winterholme, his Ottawa residence. Never idle, he retained to the last all his keen interest in the larger movements of life, and to the end he remained a forward-looking man. The very clasp of his hand did one good. His life is an example and an inspiration to our Canadian youth. I cannot help quoting his own words, which are taken from his biography:

"I have always felt that the humblest among us has it in his power to do something for his country by doing his duty, and that there is no better inheritance to leave his children than the knowledge that he has done so to the utmost of his ability. It has been my good fortune to have had my lot cast in this goodly land, and to have been associated with its educational and material prosperity. . . . . I am profoundly thankful for length of days, for active, happy years, for friendships formed and especially for the memory of those dear souls who have enriched my own life while they remained on this side." And this good man, being dead, yet speaketh.

Elizabeth Parker.

Major Stanley L. Jones, P.P.C.L.I.

War takes its toll of the bravest and best. Among our members few were so well known as Major Stanley L. Jones. We had elected him President of the Club for the ensuing term, the highest honour we could bestow; and now he has gone from us, gone from us giving in generous fashion as was his wont, the best he had to give— his life—for freedom and for the Empire of which he was such a devoted son.

He was born at Wolfville, N.S., in 1878 and was educated at Acadia University. He taught school for a time in Manitoba, but was always a soldier at heart, and at the outbreak of the Boer war went to South Africa with the Nova Scotia company in the first contingent. He fought at Paardeburg and was in the squad to which Cronje surrendered. When peace reigned again he returned to Calgary where he studied law and later formed a partnership with W. F. W. Lent, the firm soon becoming well known in the legal world of the West. Some years ago he was made K.C. His investments were successful, his home happy and all seemed of fair promise. He was a keen traveller, he had seen much of Europe, as well as of the North American continent, and wandered widely through the Balkan states during the former war. His love of mountaineering was deep. As soon as the Alpine Club of Canada was formed he joined, becoming an active member at its first camp at Summit Lake in 1906, and ever preserved his enthusiasm for the work it was doing for Canada. He was never too busy to give his advice when needed. To his generous gift the Club is indebted for the fine dining room at the Banff Club House which he admired so much.

Immediately the great war was declared, he telegraphed to Ottawa offering his services and was given a commission in the famous Princess Patricia regiment. He was soon promoted Captain and died a Major. Shortly after arriving at the front he was wounded in the hand. Recovering, he

Late Major Stanley L. Jones, P.P.C.L.I.

returned and was after some time wounded by shrapnel in the foot. Again he returned to the front and was wounded on June 2nd by an aerial torpedo and taken prisoner. The Germans gave him every possible attention, but he died in hospital and was buried in the convent garden at Moorslede, near Ghent, with military honours. The Belgian soil should rest lightly on him.

He was much interested in politics, and while at the front was asked to permit his name to be submitted as a candidate for parliamentary honours. He absolutely refused, realising as all the first contingent have done, and as those at home are at last beginning to realise, that the war, the fight for the right, is the only thing that matters. All else is triviality.

A gallant soldier, he died as he lived, a gentleman. There is no higher praise.

His wife, herself a soldier's daughter, has been serving through the war with the French Red Cross, and for her valued services has been granted the rank of Lieutenant. To her the Club extends its sympathy in fullest measure.

S. H. MITCHELL.

J. J. Robinson, D.D.

Every member of the Alpine Club of Canada who knew him or knew about him will realize how great a loss has befallen us in the death of the Very Rev. Dean Robinson, Warden of St. John's College, who passed away on the morning of June 14th, at St. John's, Winnipeg. Though not holding the office of Dean since he left Belfast for Canada in 1911, he was called "the Dean" both in the Club and throughout the Western country. Therefore in this little memorial sketch I shall use the more familiar title.

Last November, Dean Robinson had a severe attack of angina pectoris and, though he continued to perform his manifold duties in and out of the College throughout the long and extremely severe winter, his strength steadily failed until he was stricken with the last sudden illness.

John Joseph Robinson was born in Dublin on January 16th, 1852, and was, therefore, only sixty-four years old. He was the son of John Robinson, proprietor of the Daily Express newspaper, and was educated at Blackheath School and at Trinity College, Dublin, where he won the gold medal for Literature and History. His first curacy was in the East End of London, and there he labored until his health broke down and the doctor ordered a long holiday, which was spent in Egypt and Palestine. Returning to England, he accepted a curacy with an uncle at St. Leonard's, Sussex, from thence going to St. John's, Holborn, London. Here he married Hariet, daughter of Sir John Lubbock, third baronet, and sister of the first Lord Avebury, whose name is familiar among reading families everywhere. The wedding took place on June 18th, 1878, and six months later, owing to a desire to be near his mother during his father's illness, Mr. Robinson accepted a curacy in St. Matthias, Dublin. Henceforth until coming to Canada his work lay in Ireland.

It was his last curacy. In 1884, he was appointed rector of Killiskey, a beautiful little parish in County Wicklow, and from there he was transferred to more important parishes, going in 1900 to the Cathedral parish of Waterford, where he performed the duties of both dean and rector, his predecessor, who was in ill health, still holding the title of Dean. Three years later he became rector of St. Anne's, Belfast, and Dean of the Cathedral; and in Belfast he spent eight strenuous and fruitful years. The cathedral was in course of building and when the nave was opened for service, which is all that has been built to this day, there was a congregation of some thirty souls only. But the Dean soon changed all that. In a short time the morning and afternoon choral services were attended regularly by five and six hundred, and the evening mission service by a thousand and more. The Dean nearly always preached at this evening service, which was attended chiefly by the

poorer classes; and his custom was to wait at the door until time for service to begin that he might shake hands and say a kind work to the people as they came. Besides this service, he held a special mission every Thursday evening for the very poor of the slums, to which came men and women with babies in their arms and shawls on their heads. During the eight years of his incumbency at Belfast, Dean Robinson baptised about fifty babies every week. He never missed the eight o'clock Celebration, though it involved walking a mile. No man had a greater capacity for duty nor a greater love for the ministry of the Gospel. He was essentially a dispenser of spiritual things. The task of collecting money he disliked extremely, but this also was duty and he faced it with courage and with success. When he came to Belfast he found large debts; when he left, every indebtedness was paid, and the building as it stood was free of that burden. Also, for his sake, legacies have been left to the cathedral.

Responding to the call from the far Northwest, Dean Robinson came out to Edmonton five years ago and threw his abundant energies into mission work; and speedily it was known that a fresh spiritual and intellectual force had come to the new country. And so it has been at St. John's College, Winnipeg, where he taught in both the Arts and Theological departments and where he preached in the College chapel and fulfilled various labours of love. Beyond the College and Cathedral of St. John's he was greatly in demand for other pulpits and platforms. There is no doubt that he wore himself out too early. In all his heavy labours in the Old World, and in the New, he had an ardent and wise and noble helpmeet in his wife, to whom our sympathy goes out in her great loneliness. After such long and faithful and loving service together, how good it would have been to grow old sharing in the rich quiet of its afterglow. The Dean knew his Browning thoroughly and Rabbi Ben Ezra's incomparable picture, of old age and its contemplations must sometimes have been in his thoughts; also, that prospective retrospect, "By the Fireside," and its searchingly beautiful Alpine pictures with which his many holidays in the Swiss Alps made him familiar.

Although the years of active service in the Church had worn him down, when the war broke out the Dean offered himself as a chaplain for the front. He was disappointed in that, but he had satisfaction in his four sons who are serving the King, two in Flanders, one in England being incapacitated for foreign service, and the eldest, a clergyman, in a volunteer corps in Dublin. One son has received the Military Cross. He leaves two daughters; one is the wife of a naval commander, and the other is the wife of an officer in France.

Dean Robinson was an ardent and enthusiastic mountaineer of long experience, and he was a capital sailor. The great mountains and the lifting sea were both dear to him, but I think that he must have loved the mountains more. In youth, he and his brother owned a little yacht in which they used to sail about in Dublin Bay and on the coast of Scotland. Always, he had been a keen sportsman—at Trinity College, captain of the football team. He joined the Alpine Club of Canada in 1912, and attended the Camp at Vermillion Pass, where he won all hearts. The camp was some distance from the "graduating" mountains and there was much bad weather. One very dismal day when the mental barometer of the camp fell low, the Dean improvised jolly entertainments and told amusing tales until the members were in happy mood. At campfire he had many interesting climbing experiences to relate, those experiences in other mountain systems which our members are always so ready to hear. With Mrs. Robinson and their son, the Dean was at the Camp of 1914 in the Little Yoho Valley. Mrs. Robinson was the chaperon of the camp and was as popular as he, taking charge of the choruses and other performances at campfire. They went on many expeditions and took great pleasure in the life of the camp. At both the Vermillion and Little Yoho Camps the Dean conducted the Sunday services, and no one who heard his mountain sermons will forget

them. And so it was when he spoke at the annual dinners of the Winnipeg section, of which he was honorary chairman. He spoke with such charm and he had such humour; and always the climax of his speech touched the finer things of the spirit. I remember how he quoted, and praised Mr. Lloyd George for it in quoting, that now familiar passage about the great peaks of honour and duty and patriotism, and the white pinnacle of sacrifice pointing to heaven. He seemed to put fresh vitality into the passage. But his own expression was always literary and spontaneous. It had the real touch of poetry. For, was he not a well-learned Irish gentleman and therefore a poet, receptive if not creative? As a mountaineer, he carried deep in his heart the lessons of beauty and truth which the mountains teach and he taught less responsive climbers how to learn these lessons. He understood the far-reaching and many sided influence of a national alpine club to Canada. Though he knew that he would never again hear "the music of whistling stones and cracking ice" on a high mountain side, he had expected to "take the road" to the Rockies this summer, where in lovely valleys between snowy ranges, both soul and body would find refreshment . . . And now his body rests under the oaks in the old cemetery by St. John's Cathedral. His rare and gallant spirit has climbed the last white pinnacle and "aspired the clouds." In an aesthetic and spiritual sense, he was the finest influence that ever came to the Alpine Club of Canada.

Elizabeth Parker.

J. B. McLaren

We regret to have to record the death of Mr. J. B. McLaren, of Winnipeg, which occurred in Victoria this spring whither he had come to seek a milder climate.

He was born in 1855 at Carleton Place, Ontario, and graduated at Queen's University in 1878. He practised law in Ontario and in Manitoba, and in 1908 became manager of the Canada Landed and National Investment Co., in the latter province.

In 1908 he joined the Alpine Club of Canada, and in 1909 attended the Annual Camp at Lake O'Hara. There he, with Mrs. McLaren, graduated to Active Membership on Mt. Huber. He paid several other visits to the Club House at Banff, of whose beauties he had a keen appreciation.

He had an intense love for the mountains, the woods and the waters, and spent many summers camping and canoeing, welcoming many guests but always insisting that he should monopolise the work and they should rest and enjoy.

We extend our sympathy to Mrs. McLaren, who shared her husband's love of Nature and whom we hope to see among the mountains for many years.

ALPINE CLUB NOTES

The Scouts

Every member who has been at the annual camps will remember the boys who have acted as scouts and helped the newcomers in many ways. They also are doing their share at the front. Many will recall John Bone who was at the Paradise Valley Camp and many succeeding ones. After a distinguished career at McGill University he went to the front as a member of the Flying Corps. One night volunteers were called for to undertake some especially dangerous duty. Among those who answered the call was John Bone. He never returned. Something happened to his machine; he was drowned and his body washed ashore. He sleeps in Belgian earth, for which he fought so well.

W. Jewitt is in the trenches with the Princess Patricias; Linton is in England, training; John Colville is with the University Battalion; and Gordon Cameron has recently enlisted with the Artillery. Dalton McWilliams enlisted in the University Battalion, but death took him ere his day; before he had a chance to fight for his country or develop the gifts which he so markedly possessed.

Crowsnest Mountain and Mt. Windsor

Mr. Godsal sends an interesting account of his ascent of Crowsnest mountain last summer by a "back stairway" in distinction to the ordinary route or "grand staircase." His exploratory trip to the north side of the mountain was hard, as all necessaries had to be carried through miles of forest. The next day, August 7th, after following the base of the precipices which encircle the upper part of the mountain, he found a narrow "shute" on the north side near where a rocky ridge runs out, by which he got above the precipices, the rest of the way to the summit being fairly easy. The climb was rather spoiled by the quantity of loose stones on the steep slopes. He found an easy way home by a trapper's trail. The start for the mountain can be made from Coleman or from Sentinel siding, C.P.R. About 4 1/2 miles from the latter and 7 miles from Coleman is a lumber camp. Here a careful search must be made for the trapper's trail, leading through the forest to the north side of the mountain. It is fit for a horse and a grassy spot can be found near where the ascent begins. Crowsnest Mountain is 9.138 feet, and the lumber camp 4,700 feet. The records on the summit show the names of Edward Whymper, Tom Wilson and two Swiss guides, on June 28th, 1904; P. D. McTavish, Alex Gordon, Laura Marshall, Helen Hatch, P. O. Hyde, Gilbert Marshall, on August 20th, 1907; Robertson, Phillips, Norris, August 21st. 1908. P. D. McTavish left no record of the climb described in the Journal for 1907.

On August 31st, Mr. Godsal again ascended Windsor Mt. (formerly Castle or Turret) by a new route from the west from the valley of Castle River, and visited both the southeast and northwest peaks. The turret on the latter is a remarkable rock formation perched on the edge of great precipices on its three sides. The ascent was not difficult and horses can be taken up the valley to where the ascent begins. The highest peak is 8,360 feet. The river swarms with fish and game of all kinds, including elk, which are abundant.

REVIEWS

Travels in Alaska—By John Muir[4]
Alaska Days with John Muir—By S. H. Young[5]

In these volumes of Alaskan travel and biography we are brought into close acquaintance with that great lover and interpreter of nature and of the mountains, John Muir. After a decade of flower, tree and glacier study among the Sierra Nevada mountains of California, Muir visited the glacier-hung Cascades, and then sailed northward to explore the vast ice-fields of Alaska.

Muir's first trip, in 1879, was in company with the religious advisers of Mr. Young who had recently entered the field as missionary to the Indians of southeastern Alaska. The party established headquarters at Fort Wrangel, from which they made frequent trips to the Indian villages of the

4 Boston: Houghton Mifflin, 1915, $2.50 net.

5 New York: Revell, 1915, $1.00 net.

surrounding region. They chartered a little steamer and explored the canyons of the Stickeen, finding very wild and beautiful scenery with which Muir and Young determined to become more closely acquainted. Leaving the steamer of an afternoon, Muir set a rapid pace through ten miles of Alaskan jungle until they came to the slopes of an 8,000-ft. mountain, from whose summit they intended to view the sunset. Here they revelled in the Alpine flower gardens, gathering specimens, while Muir talked to the flowers as personally as if he belonged to their own family.

They crossed a small glacier and climbed a rather difficult cliff where they paused for a glorious view of the valley of the Stickeen. Realizing that they must hurry to reach the summit, Muir fairly slid up the mountain, while Young did his best to keep up. Trusting his foot to an uncertain rock, Young suddenly found himself with both shoulders dislocated, sliding rapidly down a gully that ended in a thousand-foot precipice. He was unable to stop until he actually overhung the edge. Muir could not reach his friend at first, but, whistling to impart courage, he ascended to a point where he crossed the gully and then descended to a tiny ledge from which he grasped Young's collar. Holding to the cliff with one hand, with the other Muir swung this helpless man out over its face, and, pulling him in, grasped his collar with his teeth. Then, bidding him work his feet, this man of iron climbed the dozen feet of cliff to safety. Few would have attempted to return that night, but Muir did not hesitate. Down, over the glacier and through miles of unknown canyon, Muir carried his friend, reaching the steamer in the morning. After spending several hours in helping to get Young's shoulders in place, Muir led the others of the party on a glacier exploring expedition, returning in the evening as "fresh and enthusiastic as ever."

With this introduction a life-long friendship was insured. Muir explored the country and traversed the glaciers alone, returning with glowing accounts for his friend. Together they sailed northward in a canoe, guided only by Vancouver's early chart, mapping the coast as they went, and exploring its many fiords. They took the first census of the Indian villages, and had many interesting experiences among the natives. "Muir was a devout theist. . . . He saw design in many things which the ordinary naturalist overlooks, such as the symmetry of an island, the balancing branches of a tree, the harmony of colors in a group of flowers, the completion of a fully rounded landscape." Muir saw God working in the heart of Nature, while Young found Him in the heart of his friend.

Glacier Bay was visited and the great glacier that was later to bear Muir's name was explored by him. On the return voyage the Davidson and Taku glaciers were seen. To one who is familiar only with inland glaciers, the great rivers of ice which tumble into the sea along the Alaskan coast are a revelation. Who can paint the opalescent hues of their sea-washed cliffs, or the intense coloring of their floating castles of ice?

The following year Muir returned to Alaska and with Young set sail in an Indian canoe in search of the unknown. They entered Sum Dum Bay finding wonderful scenery, and followed up a narrow fiord that led them past precipitous walls rising for thousands of feet, whose tiny ledges are hung with ferns and flowers, and whose summits are glacier-crowned. Finally a glorious sea-filled valley opened before them which they appropriately named Yosemite Bay. Down its mighty cliffs tumble snowy waterfalls, while at its upper end a deep-toned glacier hurls its bergs into the peaceful waters of the bay. We believe that eventually this fiord will be sought and recognized as one of unique grandeur.

The climax of the trip was reached at the Taylor Bay Glacier, which Muir started out to explore alone on a wild, stormy morning. He was joined by his inseparable companion, Mr. Young's little dog, Stickeen. Together they ate a crust of bread that was to be their only food for

seventeen hours of unremitting toil, and then climbed upward upon the deeply crevassed surface of the glacier. Here they worked their way for seven miles amid the fog and rain until they reached the far side of the glacier. It was five o'clock when they started back across the glacier, and a driving snowstorm hid all from view. Losing their way among the crevasses they often had to work up and down for miles in order to find a bridge over which they might advance a few feet. Difficulties seemed only to increase Muir's power to overcome them, and he pushed on at top speed. Finally they reached a chasm eight feet in width which had to be crossed in order to advance. Its farther side was the lower one, thus preventing return; but, taking the risk, they leaped and found themselves upon an island of ice two miles in length. Their only hope of escape was along a knife-edge sliver of ice that stretched like a cable for seventy-five feet across the bottomless crevasse. To reach it Muir had to cut his way down the vertical ice for eight or ten feet, then astride he worked his way by inches, fighting the furious gale in the darkness as he leveled a narrow pathway along the arête for Stickeen to follow. He finally arrived at a wall of ice up which he cut hand and foot holds to safety. Reaching camp at ten o'clock he recounted his adventures for a couple of hours, and, the next morning, got up at daylight and was off with Stickeen on an all-day climb of a high mountain!

In 1890 Muir undertook a serious exploration of the glacier bearing his name. Alone he dragged a hundred-pound sled far up its rough and dangerous surface. With no complaint of hardship he rejoiced in the radiance of the snow crystals melting in the sun, but, gazing too continuously without protection, he nearly became snow-blind. Returning to the bay, he left in his canoe in search of other glaciers. Attempting to pass an icy barrier, he entered a passageway four feet wide and two hundred feet long. When well within their grasp, he discovered the ice walls were closing upon him, and he had barely time to retreat before they came together with a growling crunch.

Muir's descriptions of the unsullied whiteness of the great Fairweather Range, of the alpenglow that flames on virgin peaks and of the fountains of radiant spray that shoot upward at the birth of ice bergs, are of supreme beauty. He pictures a phosphorescent sea that on darkest nights sends "luminous wave foam dashing against every bluff and drifting berg"; and he tells us of the unpaintable arctic aurora beneath whose wonder and mystery he passed long, worshipful nights.

In beauty of style John Muir is unsurpassed among the interpreters of nature, while his intimate acquaintance and sympathy with flower, tree and mountain enable him to reveal their messages to us in a language which all may understand. We listen as it were to their own voices, and with Muir give thanks to God. Many who have known Muir in person or through his writings, can say with Dr. Young: "The world has produced but one John Muir, and to no other man do I feel that I owe so much; for I was blind and he made me see!"

Leroy Jeffers.

The Mountain—By John C. Van Dyke[6]

The title of this book may convey a wrong impression to any one who takes it up by chance—the most delightful way of discovering a book. "The Mountain" is not any definite peak; it refers to the whole mountain entity. The book is composed of a series of essays or reflections upon the mountain world from the aesthetic point of view, which perceives beauty everywhere. In this it somewhat resembles "The Alps" by Sir Martin Conway, though, being written for the American public, it contains more direct instruction.

6 Charles Scribner & Sons, 1916, $1.25 net.

Professor Van Dyke impresses the important fact upon his readers that it is impossible to compare with advantage one mountain range with another; each has its own particular glory. It is unfortunate that his first view of the Rockies should have been apparently from too far south to appreciate that wonderful effect with which all who have approached them from the Canadian plains are so familiar—the appearance of a huge rocky wall, tipped with snow, a barrier beyond which man should not pass—the end of the world.

He notes the desolation of the western mountains. The Indians always feared them, believing, with a more ancient people, that the Great Spirit is a God of the Hills. They do not hunt, they do not name the peaks. The Indian names have been mostly given by the white man.

Professor Van Dyke contends that the drawing of the hills is their most commanding feature. This is true—at first. But, apart from the glory of the heather-clad hills, that blaze of purple, and the velvety greens of forest and of alpine meadow, the mountain tops have also, more especially perhaps in European countries, their kingly state, whether they be pyramids of rock or reveal the secrets of the snow. Any one who has been able to watch a mountain chain day in and day out under the lights and shadows of the passing clouds, realizes their abiding charm is that of light and shade, a blaze of rose, or the soft harmonies of grey and purple which linger in the memory.

It is interesting to note the author's explanation of the blazing whiteness of the upper snows, "brighter than the sky at noon day." "It is the sun face that we are seeing in the snow, the shadowed back that we are seeing in the sky." At such heights the shadows are but another form of light, the blue shadows of the glaciers have a vivid intensity of their own.

The high mountains wear Gargantua's colours. "White doth signify gladness, pleasure, delight and rejoicing; and the blue, celestial things."

The book is light to hold, well printed, and a charming companion for the fireside when one's holiday is past and one dwells with happy recollections.

S. H. Mitchell.

On Alpine Heights and British Crags—By George D. Abraham[7]

In old fashioned cookery books, such as "Meg Dods" which amused Sir Walter Scott, a recipe for a dish is often followed by "Another Way." To those many readers who are familiar with Mr. Abraham's books his new work may be thus described. The plan is familiar. There are the stories of climbs in continental Europe as it was before the war, the chapters of sound advice to beginners and the accounts of climbs in his heart's home, the rocks of the British Isles.

The present writer is, unfortunately for himself, unable to follow any of the author's climbs in detail. He never was in the Dolomites nor has climbed (really climbed) in the English hills. In the gallery of his life one of the most beautiful pictures is a view from Friar's Crag across Derwentwater up Borrowdale to "far Glaramara," when all was steeped in moonlight and faint mists were rising from the lake.

The book, naturally is written from the inside, for people who know and for the ordinary reader the accounts of the climbs are somewhat monotonous, suggestive of a constant diet on pemmican. It is not given to many to write with the inspiration of Leslie Stephen or Guido Key, to whose books one returns with ever fresh interest.

Mr. Abraham's new book suggests that he is growing out of the heresy that climbing is the whole art of mountaineering. We wish he could have some experience in the Rockies or—at a

7 Houghton Mifflin Co., 1916, $2.50.

more suitable season—in the Caucasus. He would find, as the trained guides find, the charms and real difficulties of pathfinding in an untravelled country and on an unknown peak. There is always a right way, not necessarily the easiest, up a mountain. It takes a real mountaineer to find it.

Ice and snow have their charms and their especial difficulties not obvious to the tyro which take much experience and—though this is heresy to the rock climber—brain power to master.

As usual Mr. Abraham's advice to less experienced climbers is invaluable. He insists on the golden rule that the only good climbing is safe climbing, the rule which has made the British climber, whose record for skilled and difficult mountaineering is second to none, while not of course immune to accident, the most fortunate of the people who climb. In roping on rocks he advises the most skilful man should lead, the strongest and steadiest should be second on the rope, that he may be able to belay and hold either of the others. He continues: "Those who have learnt all about rock-climbing at home in summer and winter should manage safe guide-less climbing in the High Alps after two seasons with first class (The italics are ours.)

There are, he states rightly, two unavoidable risks: sudden weather changes for the worse and falling stones. There is one risk which he sternly and justly forbids any man to take, that of climbing alone. It has undoubted attractions, but if it is wrong on the much frequented European mountains, it is doubly criminal in the lonely mountain regions of the west.

The book is illustrated with many of the characteristic Abraham photographs which are always a joy. Perhaps the most original illustrates the ascent of the Mönch in a storm. The print is large and clear and the book is eminently readable.

S. H. Mitchell.

OFFICIAL SECTION

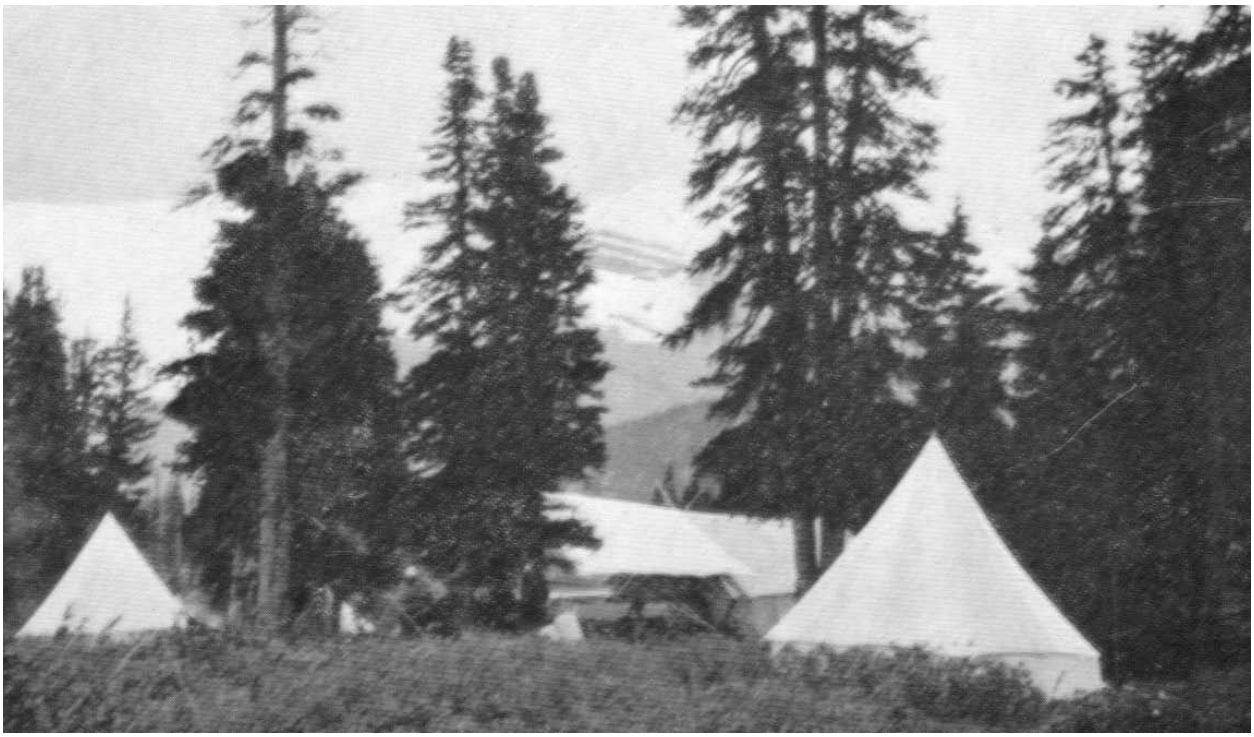
Report Of Ptarmigan Lake Camp

The tenth annual camp of the Club was held in Ptarmigan Lake Valley, about half a mile below the pass, from July 13th to 26th, 1915. It was pitched in the little valley of Phacelia Lake, below Mt. Richardson, running into that of Corral Creek, and was not visible until it was almost reached. The first sail in sight was the lofty canvas of the dining tent. Owing to the conditions of the site, it was pitched narrower and much higher than usual. The effect was not ornamental, but, as after events showed, the lofty ceiling was inspired by a wise if unconscious foresight. When the winds blew and the snow came members were able to build a large fire with safety inside the pavilion and enjoy all the comforts of a home.

The site of the camp was a beautiful one, affording magnificent views of the mountains of the Bow Valley. On the first evening the camp fire was lit on a projecting point backed by tall trees commanding this view in full splendour. Only those who know the mountains well can appreciate the glory of form and coloring. In the words of a master of English, written of a widely different scene: "After you have once seen it the remembrance remains with you like a tune from Mozart, which he seems to have caught out of heaven and which rings sweet harmony in your ears for ever after! It's a benefit for all after life! You have but to shut your eyes and think and the delightful vision comes smiling back."

It was never to be quite the same again. The next day the weather changed, and the Club "enjoyed" the worst experience of the kind it ever suffered in camp. Heavy falls of wet snow rendered climbing too dangerous to be attempted and camp conditions by no means of the

Ptarmigan Valley Camp. Photo, A.B. Dawson



Camp At Hatchet Lake Red Deer Valley. Photo, A.B. Dawson

Ptarmigan Lake And Mt. Redoubt. Photo, F.W. Freeborn

Valley Of Baker Lake Black Douglas And White Douglas On Left. Photo, F.W. Freeborn

pleasantest. However, every one present made the best of things and, when the fine weather came later, appreciated it all the more.

A subsidiary camp was placed at Hatchet Lake near the divide, between the headwaters of the Red Deer River and Little Pipestone Creek, a delightful neighborhood, quite unknown, and very convenient for the ascent of either the White or Black Douglas.

A distinguishing feature of the Camp was the Patriotic night held around the Camp Fire on the evening of July 17th. Some eighty members of the Club are under arms for their country; their names were recalled and an enthusiastic standing vote of appreciation of their patriotism was passed. Account also was given of the motor ambulance which the generosity of the Club has provided for wounded soldiers.

W. N. Rowell, leader of the opposition in the Ontario legislature, made a stirring address dealing at first with the work on the Gallipoli peninsula and ending with an impassioned appeal to all to help the cause of right by every means in their power. American members expressed their keen sympathy with the Allies, and a number of other most interesting and instructive addresses, dealing with war matters, were given. The meeting closed with an impressive singing of the National Anthem, to which the mountains around joined their echoes.

During the camp word was received of the death of Sir Sandford Fleming who had been its Honorary President from the first organization in 1906, and the flags were lowered to half-mast.

Owing to war conditions the attendance was much smaller than usual, 103 being placed under canvas. They were drawn from the following places:

Canada
British Columbia: Invermere, Revelstoke, Vancouver, Vernon, Wilmer.
Alberta: Banff, Calgary, Cowley, Edmonton, Green Court, Iron Springs, Lethbridge, Macleod, Sarcee Camp, Tomahawk, Westlock.
Manitoba: Virden, Winnipeg.
Ontario: Ottawa, Toronto.

United States
Indiana: Lafayette.
Maryland: Baltimore.
Massachusetts: Boston.
Minnesota: Minneapolis.
New Jersey: Summit.
New York: Brooklyn, New York
Virginia: Pittsburg, Alexandria.

Overseas
England
Darwen.

Switzerland
Interlaken.

There were present members of the English, Swiss, American and New Zealand Alpine

Clubs, of the Appalachian Mountain Club, of the Mazamas and of the Royal Geographical Society.

The Annual Meeting

In accordance with the Constitution, the Annual Meeting was held at the camp fire circle on July 22nd, 1915. In the absence of the President and the Vice-Presidents the Director took the chair.

An address of greeting from the President was read, regretting his unavoidable absence, and calling attention to the good work the Club was doing not only among its own large membership, but among people at large in spreading the knowledge of the Canadian mountain region.

Communications were then read from Hon. Mr. Justice Galt, Lieut. Norris Irven (who was wounded at the front), Mr. Hayter Reed and Miss M. L. Jobe.

The Director submitted his report, giving the history of the Club for the last year and awakening new enthusiasm among the members for the serious work of the Club.

A letter from the Hon. Treasurer was read, stating the financial condition of the Club and impressing the necessity of prompt payment of fees that the Club in its turn might carry out its obligations. The Secretary-Treasurer's report was read giving details of the Club's membership and urging the younger members to take up their share of the burden of the work.

Mr. N. W. Rowell then moved, in an eloquent speech, that a resolution be sent to the members gone or going on active service, conveying the Club's appreciation of the splendid way they had responded to the call of the Empire, at the same time bringing honour to the Club. The motion was seconded by Mr. Voss and carried.

The resolution was later sent and many acknowledgments received expressing great gratification and enthusiasm for the Club. Votes of thanks were passed to the Governments of the Dominion and of Alberta for their steady financial support of the Club and appreciation of the work it was doing for the country at large.

Votes of thanks were also passed to the different authorities of the C.P.R., whose aid contributed largely to the success of the Camp. A vote of thanks was passed to Mr. W. J. S. Walker for his continued kindness in supplying the medicine chest which he had so

generously given.

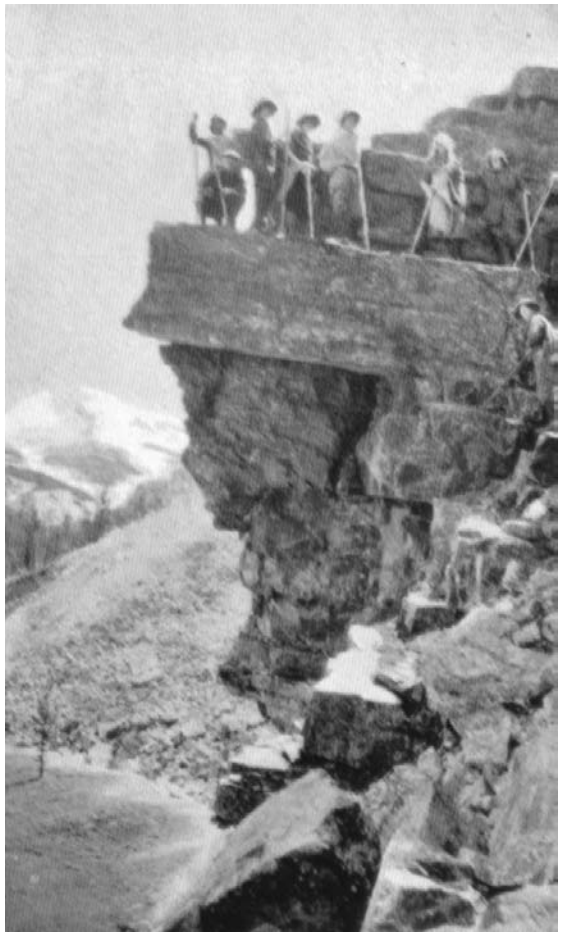
A vote of thanks was passed to the Director, the Secretary-Treasurer and those under them in appreciation of their untiring work in making the camps a success and a delight. The name of Mr. C. H. Richardson was specially mentioned. The meeting then adjourned.

Report On Mountaineering And Expeditions

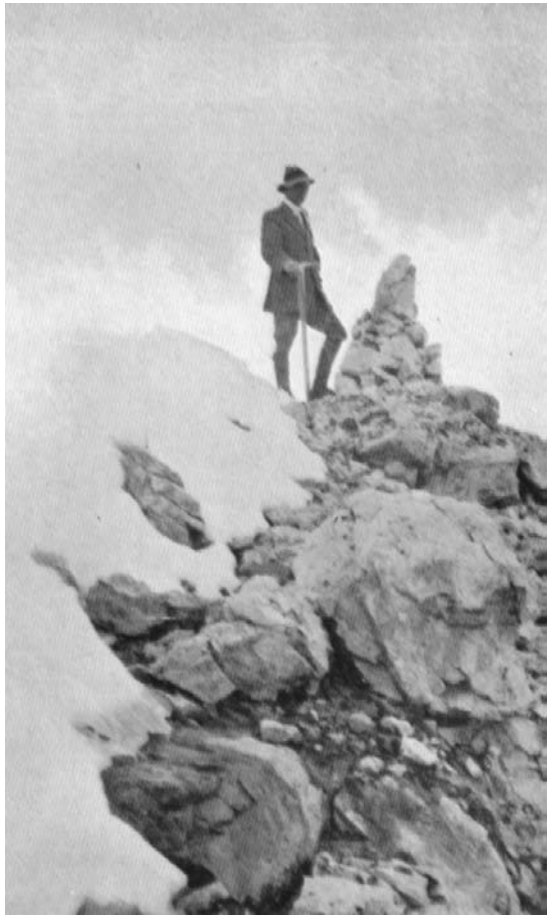
Among the principal ascents made were: Black Douglas (11,015 feet), Mt. Richardson (10,115 feet), Ptarmigan Peak (10,060 feet), Pika Peak (10,015 feet), and Mt. Redoubt (9,510 feet). Two ascents of the Black Douglas were made; the climb of the White Douglas was rendered impossible by the dangerous condition of the snow. Pika Peak afforded a really fine rock climb.

There were very many attractive expeditions threading the various valleys. One of the charms of the region is the number of lakes it contains. From the summit of Ptarmigan Peak sixteen were counted of varying size.

The professional guides were Ernest Feuz and Christian Jorimann, lent by the C.P.R., and Conrad Kain whom Mr. Frind kindly spared on several occasions.



Wall At End Of Lake Mysotis. Photo, A.B. Dawson



Summit Of Pika Peak. Photo, L.C. Wilson

A Jolly Glissade. Photo, A.B. Dawson

Camp During The Snow Storm. Photo, G.W. Patterson

Baggage Arriving At Hatchet Lake Camp. Photo, F.O' N. Fisher

Hatchet Lake And The Black Douglas. Photo, G.W. Patterson

Twenty-three graduated to active membership. Their names are given below:

Mt. Richardson, July 18
A. L. Harkness
G. D. Whitaker
A. W. MacMichael
C. E. W. Stringer

Mt. Ptarmigan, July 19
Mrs. G. E. Vincent
J. H. Vincent
H. S. Hall

Mt. Richardson, July 19
Miss H. D. Banks
Miss M. C. Jamieson
Miss H. Moyle
Miss M. Macoun
Miss M. L. Maclean
Miss B. McKinley
Miss P. I. Rupp
W. E. Broad
J. L. Fawcett
C. W. Noble
P. Van Eyk

Mt. Ptarmigan, July 20
Miss C. R. Filer

Mt. Richardson, July 20
G. H. Theiss

Mt. Richardson, July 22
Miss M. C. Rowell

Mt. Richardson, July 23
Miss C. Christie

Mt. Ptarmigan, July 25
Dr. D. A. Taylor

The Club Library

There have been several additions to the Club Library during the past year. Noticeable is Miss Finlayson's gift of two of the parts, beautifully bound together, of Captain Palliser's Reports of his explorations between the Red River and the Pacific. It is very seldom any parts of this

exceedingly rare book are to be found. The Minister of the Interior has presented the Atlas of Canada, containing statistics of the utmost value. The Government of New Zealand has most generously given us "The Conquest of Mt. Cook," by Miss Du Faur, and Mr. Gooding's popularly written "Picturesque New Zealand."

We have received the usual exchanges with the exception of "La Montagne," the journal of the French Alpine Club, and the Journal of the Tourist Society of Dauphiny. Life is too strenuous in France now. Naturally also we have not received the Journal of the German-Austrian Club.

Among books we should like to possess are:

Index and Maps to Capt. Palliser's Reports, pub. 1865.
Journals of Capt. Palliser (including Sir James Hector's diary), pub. 1863.
Twenty Years in the Himalaya. C. G. Bruce.
Explorations of the Caucasus. D. W. Freshfield.
Building of the Alps. T. G. Bonney.
Mountains: Their Origin, Growth and Decay. Jas. Geikie.
The Alps. Sir M. Conway.
Complete Mountaineer. G. D. Abraham.

The list of additions follows:	Donor
Atlas of Canada	Minister of the Interior
Conquest of Mt. Cook. F. Du Faur	New Zealand Government
Forty Years in Canada. S. B. Steele	A. O. Brigden
Karakoram and Western Himalaya. F. de Filippi	LeRoy Jeffers
The Mountain. J. C. Van Dyke	Chas. Scribner & Sons
On Alpine Heights and British Crags. G. D. Abraham	A. O. Wheeler
Our American Wonderland. G. W. James	LeRoy Jeffers
Alaskan Glacier Studies. Tarr and Martin	National Geographic Society
Reports on Explorations between Red River and Pacific. John Palliser, 1859 and 1860	Miss A. Finlayson
Peaks and Precipices. Guido Rey	Miss J. L. McCulloch
Picturesque New Zealand. P. Gooding	New Zealand Government
A Search for the Apex of America. Annie S. Peck	W. E. Stone