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Karstens Ridge. *Photo Rex Gibson*

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MT. MCKINLEY IN WAR TIME

BY REX GIBSON

Little did I think when I said good-bye to Bob Bates in Banff in August, 1940, that next time we would climb together would be on Mt. McKinley and that we would both be in the Army. Thanks to a wise decision of the Quartermaster-General of the U.S. Army, it was decided to give a thorough field test to many items of equipment intended for the use of Mountain and Ski Troops. In order to get cold weather conditions in midsummer it was necessary to go high and no better place could be found for this than Mt. McKinley, the highest peak of North America and the only 20,000-foot summit on this continent. We were looking for cold weather and we got it in the Upper Basin. Ten below zero was the rule every night at 15,000 feet and at 18,000 feet a record low of 23° below zero was registered. This Upper Basin was known to be a chilly spot, for the minimum thermometer left at the Browne Tower by Archdeacon Stuck in 1913 and recovered by Erling Strom's party in 1932 recorded 95° below zero, a mere 127° of frost!

After spending a very pleasant three days with Henry Kingman and his family near Minneapolis, several of the Expedition boarded a transport plane at Minneapolis Airport and set out at 2.00 a.m. on June 11, 1942, for the far North. In 17 hours flying time and a total elapsed time of 26 hours we landed at Ladd Field, Fairbanks, Alaska—rapid transit for a journey of about 2,700 miles. The trip from Edmonton to the northwest was particularly interesting and we had a good view of the outstanding mountain groups to the west of our line of flight, especially prominent being the Mt. Sir Alexander group and the Mt. Logan massif.

Ladd Field was used as the main base for the Expedition and we spent three days there repacking stores into suitable loads for parachute delivery. These loads also had to be arranged for the various camps on the mountain and this involved a lot of preliminary planning. Walter Wood was the air delivery specialist and it was thanks to his expert knowledge and his untiring and unselfish work that we were kept so well supplied while on the mountain.

The personnel of the Expedition was composed partly of military men and partly of civilian experts. Lieut.-Col. Frank Marchman was our genial Officer Commanding; Captain Albert H. Jackman and Swiss mountain guide Sergeant Peter Gabriel had been serving with the 87th Mountain Infantry Regiment; Captain Bob Bates, of K2 fame, represented the Quartermaster Corps. The American Alpine Club supplied civilian climbing experts in the persons of Sterling Hendricks, Terris Moore, Einar Nilsson and Walter Wood, Jr. The American Army Air Forces contributed Bradford Washburn, Captain Harold Lund, Lieut. Paul Hansen, Pte. William Goddard (musher) and Sergeant Wilbur Musser (cook). Our doctor was Captain Jack Bollerud and the important job of communications was in the hands of Lieut. Waldo Elmer. The R.C.A.F. was ably represented by Flight Lieut. Peter Webb, an expert on clothing, and the writer was the Canadian Army observer: a total of seventeen in all. Although we were never all together at any one time we were in fact a

well balanced party with plenty of mountaineering experience and we were ably and efficiently supported by the Air Arm who kept us supplied at every altitude.

The journey in to McKinley Park on Monday, June 15, was one of entrancing interest. A train journey of some 150 miles south on the Alaska Railway brought us to McKinley Park Station at 2.30 p.m. The new \$500,000 Tourist Hotel looked empty and forlorn but it has great days to come. Frank Been, the kindly superintendent of McKinley Park was there to welcome us and at 5.00 p.m. we set out on the 90-mile drive along the only road which took us to within 20 miles of the mountain. On the way we overtook a herd of some six hundred cariboo engaged in one of their periodical migrations, all steadily travelling in a northwesterly direction—a most interesting sight. From the end of the road a 50-minute trek brought us to the banks of the McKinley Forks river where was a comfortable log cabin. Here we turned in for a good night's rest.

Although only at an altitude of a little over 2,000 feet this is the last stand of timber and on the far side of the river, except for a few scattered trees, there is nothing but the bare rolling tundra, covered for the most part with blueberry bushes and dwarf rhododendron or "Labrador Tea." There are a number of small isolated lakes well stocked with Arctic grayling. Peter Webb was an enthusiastic fisherman and brought back a nice addition to the menu one evening at the Intermediate Camp. We got one tremendously impressive sight of the North Peak rising in a single awe-inspiring, dazzling white upward sweep of 17,000 feet above the foothills. This must be one of the greatest single vertical extremes to be found anywhere in the world. This view of the North Peak, so high in the heavens, brought its gigantic dimensions home to me, accustomed as I was to peaks on a Rocky Mountain scale.

Early on June 16, thanks to its being low water, we had no great difficulty in wading the many streams meandering across the gravel flats, but the size of the river bed is indicated by the fact that the crossing took two hours. We met Brad Washburn who had been in with the Advance Party coming back out with the dog team driven by Goddard. It had been intended to use this team to assist in freighting supplies on the Muldrow glacier, but lack of snow on the lower levels made this impossible. June 17 and 18 were spent making trips between Intermediate Camp and Base Camp on the Muldrow glacier and the planes flew over and dropped supplies and messages at both places. On June 19 I went up alone to Base Camp and that evening a B-18 came over and chuted us two loads of food and dropped some tents and other non-breakables. Base Camp was established on the moraine on the true left bank of the Muldrow glacier, just over McGonigall pass (named for one of the "sourdoughs" of the 1910 expedition).

Nearby were relics of former expeditions, including some grim reminders of the tragedy of 1932. The Komatik sleigh on which deKoven's body had been brought down was most useful to us in bringing loads across the almost level ice to Base Camp. On June 20 and 21 Sterling Hendricks, Terry Moore and I made a reconnaissance up a tributary glacier to see if there was an alternative approach to Karstens ridge from the south. This did not prove feasible, but we did find good low-lying snowfields which were used later for testing sledges and ski equipment.

At the head of this unnamed valley was a magnificent 14,000-foot peak also nameless and a splendid cirque of snow peaks with gleaming hanging glaciers on every hand. Just as we went to bed on midsummer's day the sun was rising—it was only 2.30 a.m. We left two tents up this side valley for future use and returned to Base Camp to report. The next day a DC-3 plane came over and dropped loads at the 10,500-foot camp site, at the "corner" at about 7,000 feet and at the Base Camp. Terry and I went up the Muldrow to the "corner" and brought back the sleds. While up there we checked the feasibility of the approach over Peter's pass, but decided against it as there

was a big marginal lake which made access to the Muldrow difficult. Tuesday, June 23, we made preparations to establish the 10,000-foot camp and at 9.30 p.m. Sterling, Terry, Einar Nilsson and I left for the "corner." On all the lower parts of the mountains we found it best to travel by night when the snow had a good firm crust. With bearpaw snowshoes and Barker boots we could usually travel without breaking through. It was, of course, broad daylight throughout the 24 hours but the sun was down and we avoided the intense glare of the daytime. Another great advantage was that the snow bridges were stronger at night and this was an important consideration as the Muldrow is very badly crevassed between the "corner" and Camp II at 10,500 feet. A ten-hour trip brought us to a level stretch of deep snow at the 7,200-foot level, below the second icefall. We had experienced a lot of trouble with poor snow bridges and breakable crust. Sterling disappeared through one bridge which I had successfully crossed and Einar and Terry also fell through. This stretch will always be the most dangerous part of the route but it is unavoidable and calls for careful reconnaissance and good rope technique. The Muldrow glacier forms an imposing avenue of approach and has fine ridges on either hand, those on the south or left hand being somewhat higher than those on the north. It is only when one realizes that this glacier is 35 miles long, that the colossal scale of the whole mountain is appreciated.

Camp I, at 7,600 feet, proved to be in a safe place and we stocked it with supplies backpacked up from the "corner." We had a good sleep there during the day of June 24 and left again at 11.00 p.m. to scout out the route to the Upper Basin of the Muldrow (11,000 feet). This part of the trip involved gaining some 3,000 feet of altitude and considerable care in working out the route due to concealed crevasses. We did not follow the true right side of the glacier which was the route taken by previous expeditions but worked out a route more in the centre and to the true left bank. The whole route was carefully marked with willow wands every 100 feet. These proved invaluable and saved subsequent parties the trouble of working out the route anew. It was somewhere in this area that disaster befell Carpé and deKoven in 1932 and Carpé's body still lies somewhere in the icy depths. Where could one find a grander last resting place?

Quite a task awaited us at the next camp, as we had to find and recover eight loads which had been parachuted down about a week beforehand. We had an aeroplane photo of this upper part of the mountain on which Walter and Brad had marked where the loads had dropped. Maybe "X marked the spot" where they had dropped but they had not all stayed there. As long as the parachute remains attached to the load, the first high wind that blows down the glacier will fill the chute out and the load will be dragged along downhill until some crevasse or other obstacle intervenes. Out of the eight loads, two were teetering on the edges of big crevasses into which the chute had spilled, two were in deep holes (one of which was 70 feet deep and one 40 feet), one was smashed owing to the chute having failed to open, one was up a side valley and the other two were easily located and recovered. Due to bad weather and a variety of other causes it was several days before we recovered all the loads. Some automatic release mechanism is needed to ensure that the chute is detached very soon after landing the load. The orange-colored boxes and chutes were easily visible and many tests have proved conclusively that orange is superior to any other color where ready visibility is needed in high mountain country. We had no sooner got a Logan tent and one other pitched and Camp II established at about the 10,700-foot level than a sudden storm preceding a cold front sprang up and gusts which we estimated at 60 m.p.h. hit us. We had to lower the tent poles and hang on.

This may have been the storm that shifted some of the loads. After several days of bad weather, on Monday, June 29, we went out to prospect the route on to Karstens ridge and climbed

for four hours that afternoon making a small cache at approximately 12,000 feet. We came back down to Camp II in two hours. The minimum temperature that night was only 2 1/2° Fahrenheit. June 30 was a bad day again and we were in the clouds. Snow began to fall heavily at 10.00 a.m.

We had now been up at Camp II for six days and had recovered all the boxes. We were hourly expecting the arrival of Brad Washburn's party but as they were to bring up the radio set we had no means of communication with Base Camp. On July 1, as Karstens ridge was loaded with fresh snow and presented considerable avalanche danger, we decided to go down to Base Camp and find out what was happening. Leaving Camp II at 11.15 a.m., we arrived at Base Camp at 6.30 p.m. that evening and found all well there. After a day's rest at Base Camp, four of us, Peter Gabriel, Peter Webb, Paul Hansen and I, left Base Camp at 9.00 p.m. for what we had come to call "Sledge glacier"—our objective—to make a thorough test of the experimental sledges. Unfortunately when we reached the cache at about 1.00 a.m. we struck a bad storm with gusts of 40 m.p.h. and had quite a struggle getting the tents pitched. It was past 2.00 a.m. before we got settled down to some sleep. July 3 was a day of bad weather and we did not get going over the snowfield until 9.45 p.m. on July 4. There was not much chance of celebrating the Fourth of July up in that desolate spot. It was a fine clear night and we hauled the sledge up to the head of the left hand fork of the valley. Leaving the sledge there we started to climb towards a 10,000-foot pass which seemed the only feasible route out of the valley to the south. The fresh snow resulting in avalanche conditions stopped us at about the 9,000-foot level at 3.10 a.m. Our disappointment was mitigated by wonderful sunrise views, especially fine being the early morning rays gilding the south or main peak of McKinley. We were very reluctant to abandon the climb but it was the only wise course. Climbing down we got to bed at 6.15 a.m. but at 8.30 one of the cold-front windstorms assailed us and we had to get up and make all snug and secure the sledge. Storms such as these were just what we had come so far to seek and we learned valuable lessons about the equipment at times like these. After sleeping until noon, a hot meal was in order and we started back down the valley about 3.00 p.m. Base Camp and all the comforts of home greeted us at 11.00 p.m.

Monday, July 6, was a wet day; we were due for a rest day anyway. To help pass the time the "Ways and Means Society" got busy and made an excellent heater for the big sleeping-tent out of the five-gallon cream can in which we had brought up gasoline from the Tundra Camp. The chimney was made of empty jam cans and the fuel was supplied by surplus tent pegs and broken tent poles. The net result looked as if it had been designed by Heath Robinson in one of his lighter moments! Like most camp stoves it gave out more smoke than heat but it made the tent look warmer anyway. Another home-made pastime was a chess set with hand-carved men. Coloring the one set a dark color presented a problem until we lit on the idea of pickling the men in canned beetroot juice. Jack Bollerud proved to be the star performer and it developed later that he had had lessons in his youth from some famous chess champion.

A message on the portable radio on July 7 told us that a party of four were established at 15,200 feet; they were enjoying good weather, while we were under the cloud ceiling and being rained upon. Another bad day on July 8 held us up and news from the High Party was that the weather was deteriorating up there too. At length, at 1.00 a.m., July 9, four of us, Bob Bates, Peter Webb, Terry Moore and I, got under way from Base Camp, reaching Camp I (7,200 feet) at 7.15 a.m. The going had been bad with a lot of wet snow. It seemed almost a waste of a fine day to sleep from 10.00 a.m. to 6.00 p.m., but we had to have our quota of rest. The trip from Camp I to Camp II was made with about 43-pound packs in 4 3/4 hours which was good time. Of course having the trail well wanded proved a big time saver, also we knew where the bad bridges were and lost no

time reconnoitering. I had brought up the S.P.F. radio set from Camp I so we had communication both ways, both up to Camp IV and down to Base Camp. Although our radio communication with Fairbanks was poor throughout on the big set, the small portable sets were invaluable for intercommunication on the mountain itself and were well worth their 23 pounds weight. Some such small sets should be an essential part of all major mountain expeditions.

We slept till 3.00 p.m. July 10 but decided to relay a load of food to Camp III at 12,000 feet to support the High Party. Terry, Bob and I took 3 1/2 hours up and 65 minutes to come down. A few minutes after midnight saw us in our sleeping bags and thereafter we reverted to night sleeping and day climbing. The position now was that Brad Washburn, Sterling Hendricks, Jackman and Nilsson were camped at 15,200 feet and our party of four at 10,700 feet, but the main bulk of supplies for the two highest camps had not yet been dropped there by Walter Wood. We could not very well move up into the Upper Basin until these supplies were forthcoming. On July 12 we took 35-pound loads up Karstens ridge, having arranged by radio to meet Brad's party at about 13,000 feet. The weather was bad but we met on schedule and handed over our loads to them. They soon disappeared in the clouds and we were back in Camp II by six o'clock under lowering skies.

During the afternoon of the next day our party of four moved up to Camp III (12,000 feet). This is an ideal spot for an intermediate camp, with striking views of the knife edges of Karstens ridge both above and below. We had the tents well dug in and slept well. One big disappointment to me at least was an entire absence of stars due to the almost continuous daylight. In fact I only remember seeing one first magnitude star during the whole time spent in Alaska. Obviously in northern latitudes in summer one must not rely on stars for one's orientation. Compasses, too, are especially unreliable in these latitudes.

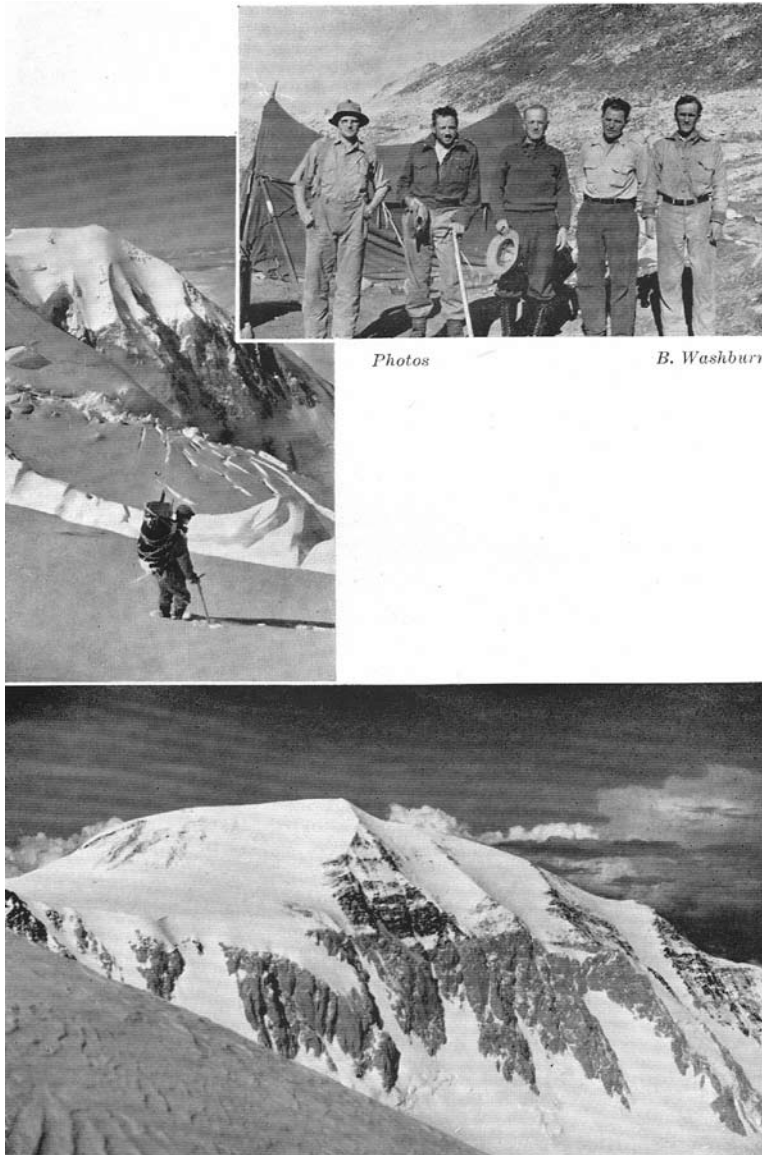
Tuesday, July 14, was to prove the toughest day yet. We got under way at noon, carrying 40-pound packs, which included tents and double sleeping bags. The upper portions of Karstens ridge are most deceptive from below and Browne Tower is very much further away than it looks. We had most impressive views of the great icefall of the Harper glacier, hanging above the Upper Basin of the Muldrow. The way blocks of ice had spread out on the Upper Muldrow for a mile or more showed how important it is to give such places a wide berth, especially in selecting high camp sites. Entering the so-called Parker pass at about 14,500 feet we passed right between two prominent rocks beside which Archdeacon Stuck's party camped in 1913. Here we struck deep powder snow which made trail-breaking very laborious and it was a tired party that reached Camp IV at 7.15 p.m. that evening. Its altitude had been estimated with fair accuracy at 15,200 feet. Brad and Einar were camped there. Jackman and Sterling were in a subsidiary camp at 17,000 feet. We were a bit worried about the non-arrival of any planes, but our minds were set at rest when at about 9.00 p.m. that evening we suddenly heard the roar of four-engined planes flying at about 25,000 feet. Two B-24 Bombers flew around and over us for nearly an hour. Wrapped in sleeping bags—it was about 5° below zero—we watched thirteen chuted and four free loads drop in the highest basin between the north and south peaks at about 18,000 feet. Finally one of the planes flew over us and let go two loads—alas, from too high an altitude. The chutes opened perfectly but they took so long descending that the south wind carried them away over the upper Carpe ridge and we never saw them again. Bob and Peter Webb made an unsuccessful attempt to locate them three days later. We heard later that one was a load of gas and one of food. In spite of this loss our position was assured as we now had ample supplies both higher up and lower down. Watching these great bombing planes flying over us at 250 m.p.h. and dropping everything we needed from the sides brought home vividly to us how easy our task had been compared with the hardships borne by

previous expeditions, four of which had been up there before us. These four were the Sourdoughs in 1910, the Belmore-Browne party in 1912, Archdeacon Stuck and his companions in 1913 and the Lindley-Liek-Strom Expedition in 1932. The latter carried out a real *tour de force* in climbing both south and north peaks. I remember Erling Strom telling the story of this epic climb at the Assiniboine Camp in 1935, and of how Grant Pearson, Park Ranger, the fourth member of the party, when they were discussing whether they should climb the North Peak as well, clinched the argument with the remark, “Hell! What do you suppose we came up here for?” Grant Pearson was back in to visit us at Base Camp this year with Frank Been.

Thursday, July 16, proved to be a bad day for me and caused my companions some anxious moments for during the forenoon I had a series of attacks producing periods of unconsciousness accompanied by violent convulsions during which I injured my back severely. X-rays later revealed that I had four collapsed vertebrae. For four days I was so badly crippled that I could scarcely move and could not even sit up in my sleeping bag without assistance. However on Monday, July 20, I felt well enough to commence the journey down. Bob and Sterling took it in turns to break trail for me and refused to let me carry anything. They had tough sledding as there was a lot of fresh powder snow and they went in over their knees all the way to Parker pass. It was however a fine sunny day and the trip from Camp IV down to Camp III at 12,000 feet took 5 1/2 hours, including an hour's rest at the 13,500-foot bivouac ledge. We met Jack Bollerud and Peter Gabriel at about 13,000 feet on Karstens ridge and Bob and Sterling were able to hand me over to them. They nursed me slowly down by easy stages to Base Camp in four days with nights spent at Camps III, II and I en route. That 10,000-foot descent was indeed a *via dolorosa* and the collection of tents at Base Camp looked mighty good to me as I topped the last rise on the moraine and walked in there at 3.00 p.m. (Thursday, July 23). At 8.00 p.m. that night we had good news by radio from High Camp. Brad, Bob, Terry and Einar had made the summit under good weather conditions. They had taken 5 3/4 hours up from Camp V at 17,800 feet and had come down in 55 minutes! They reported good conditions on the summit which consisted of wind-packed snow. The air was calm up there, enabling them to work without gloves. It was a fitting climax to a well-organized and well-led expedition. Next day the radio brought us further good news that Sterling, Jackman and Peter Webb had also climbed the south peak. Thus all seven members of the High Party were able to test equipment right up to the apex of the continent. A special tribute should be paid to Peter Webb of the R.C.A.F. who on his first mountain climb reached the summit of Mt. McKinley, the only 20,000-foot peak in North America—surely a unique record in the annals of mountaineering. It was a source of special satisfaction to me to know that my own illness had not prevented my companions of the High Party from reaching the goal of their endeavors.

We all had one great regret, namely, that Walter Wood was prevented by force of circumstances from even setting foot on the mountain, for by his unselfish and devoted work in doing so much of the flying over the range he had made the greatest individual contribution to the success of the Expedition. The magnificent views of the whole area, which he had from the planes, were a partial compensation, no doubt, but we missed Walter sadly at the High Camps.

The rest of the story is soon told. Brad and Terry came in from High Camp at 9.00 a.m. on Saturday, July 25, and gave us all the details of the final climbs. Visitors also came in from “the outside” for Frank Been, Park Superintendent, and Grant Pearson appeared over McGonigall pass to spend two or three days with us. Their advent was especially fortunate as they were able to escort me over the rest of the journey back to civilization and this relieved the Expedition members of this task. They had about one week's more work to do in the field and could ill spare anyone.



Photos

B. Washburn

Upper Right

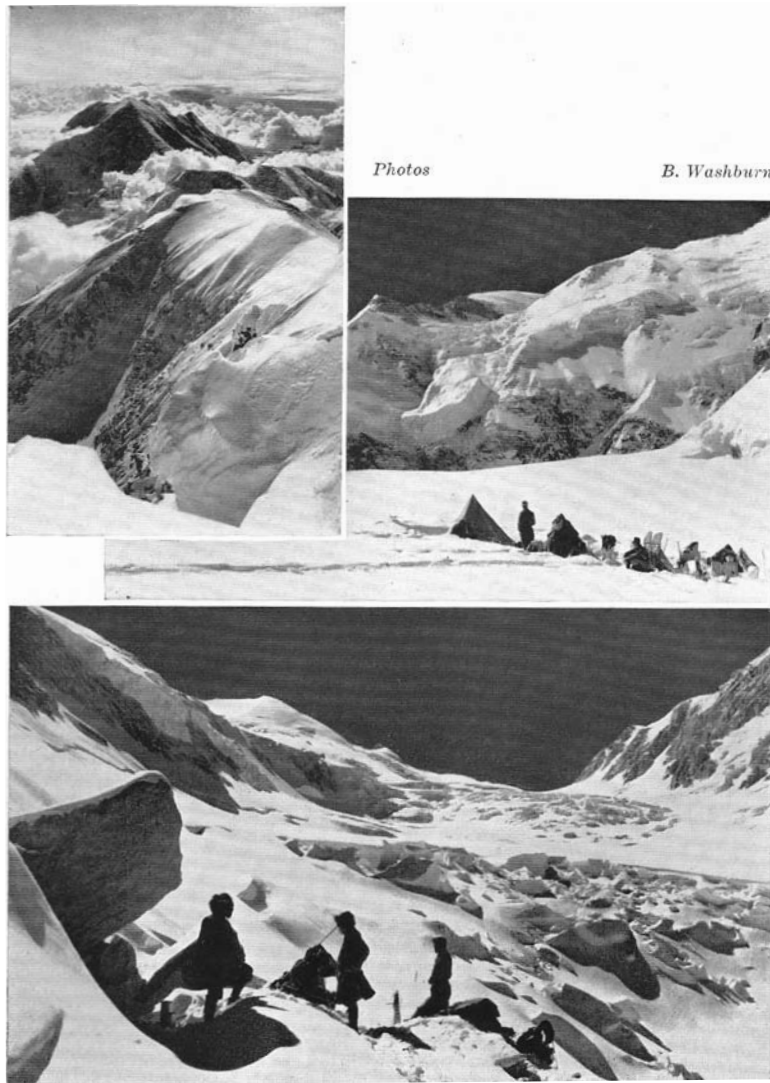
**Frank Been, Rex Gibson, Lt.-Col. G. Marchman, G. Pearson, B. Washburn
At Base Camp On Muldrow Glacier. Photo B. Washburn**

Upper Left

**Upper Icefall Of Harpers Glacier At 17,000 Feet. S. Hendricks In
Foreground. Photo B. Washburn**

Lower

**North Peak (19,800) Feet). Note The Change From Granite To Black Shale At
About 18,000 Level. Photo B. Washburn**



Photos

B. Washburn

Upper Left

View To Northwest From The Summit With Mt. Foraker (17,800 Feet)

Upper Left. Photo B. Washburn

Upper Right

**Camp II (10,400 Feet) On Upper Muldrow Glacier Showing Karsten Ridge
And Browne Tower Leading To Upper Basin Of Harper Glacier On Left.**

Photo B. Washburn

Lower

**Parker Pass, The Site Of The Food Cache Left By The Lindley-Liek
Expedition. The Main Summit (20,300 Feet) In Background Left.**

Photo B. Washburn

Two days, July 28 and 29, saw Frank, Grant and myself across the 20 miles of tundra, now free of the voracious insect pests that had plagued us in June. The second of these days was a tough one for it included the crossing of the McKinley Forks river as well as the smaller Clearwater. We reached the McKinley Forks at a bad time, 5.00 p.m. It took us two hours to cross its numerous streams and in one big channel near the middle we were all three swept off our feet and got a ducking in the swift, silt-laden water. We managed to scramble out some way further down and after that had only minor channels to cross. It was 7.00 p.m. by the time we reached the Bar Cabin and I had been on the go for ten hours and was just about all in. Grant soon had a good fire going and we dried our clothes and got warmed up and rested till 11.30 p.m. As Frank Been was anxious to get back to his Headquarters we decided to keep on going and not spend the night there. Two miles through the bush over a rough trail took us an hour and it was a blessed relief to crawl into Frank's car and relax. My hard work was over for this trip and it was with a thankful heart that "I lifted up mine eyes unto the hills," for there in the midnight twilight was the magnificent North Peak high up in the heavens.

The rest of the night was spent in driving the ninety miles to Mt. McKinley Park Headquarters where we arrived at 5.00 a.m. on July 30. On the way we had called in to see Waldo Elmer, our radio expert who was established at Mile 63. He had put in much unselfish work, part of the time alone, keeping us in touch with the outside world. The little group of houses at Park Headquarters looked pretty good after six weeks in tents on ice and snow and Frank Been and his charming wife could not have been kinder. Never have I appreciated a hot bath and a real bed more, to say nothing of a well-cooked meal with my knees under a real table.

One more piece of good fortune came my way—the weekly passenger train to the north, which I feared I had missed by a day, was a mere 36 hours late so I was able to make the connection after all. Paul Hansen and I boarded the train at 5.30 p.m. and got safely to Fairbanks a few minutes after midnight in spite of having to change trains and do some rock climbing to get around a burned out tunnel.

After I had spent three or four days in the Military Hospital at Ladd Field, Fairbanks, the rest of the members of the Expedition came in from the mountain and I was able to attend the conferences and take part in the preparation of various reports.

On August 12 I left by transport plane for Edmonton with Peter Gabriel and Waldo Elmer and after spending a night at Watson lake we landed on the Edmonton Airport soon after 2.00 p.m. (August 13).

The 1942 McKinley Expedition was over. It had attained all its objectives with only one casualty and when all is said and done the successful attainment of the objective is the acid test by which any military undertaking is judged.

MT. QUEEN BESS

BY W. A. DON MUNDAY

Perhaps Malcolm Goddard did not realize in 1911 when he climbed around Chilko lake that the heart of the Coast mountains offered firstcomers rewards not less rich than those earned by the men who made the Rockies and the Selkirks known.

Be that as it may, fate dealt unkindly with Goddard to the extent that his discoveries gave no discernible stimulus to climbing and exploration in the range, and hardly rippled the wide sea of disbelief that high peaks existed in the Coast mountains. Beyond anything done in the Mt. Garibaldi area, the next 14 years record singularly little of alpine significance.

Had the Chilko lake mountains been unclouded when we climbed Mt. Grenville in 1941¹ we might have felt more fully that our own travels had at last linked somewhat with those of Goddard 30 years before; the feeling came in 1942 when we met Mrs. Norman Lee, as it was the Lees who outfitted Goddard for his trip.

This season the abiding and abounding interest of Henry S. Hall, Jr., in the Coast mountains resulted in our joining forces to climb Mt. Queen Bess — subject to his possible last-minute withdrawal in connection with the extensive aid given by the American Alpine Club in the training of mountain troops. “Easily the prize peak between the Homathko and Southgate rivers,” Henry had written of Mt. Queen Bess as seen from Mt. Razorback in the *Canadian Alpine Journal*, 1932, page 109.

A day and a half by mail stage from Williams lake landed us, on July 4, at the ranch of Ken Moore, pioneer rancher at the north end of Tatlayoko lake, elevation 2,700 feet.

Above Moore’s ranch Niut (Ni-ute or Nu-it), 8,907 feet, presents the gigantic profile of a legendary Indian turned to stone for his (or her) misdeeds. Below the mountain a misshapen fir is pointed out as scene of execution of an Indian for devouring his infant children during a hard winter.

We found the ranchers still hoping for a direct route to the coast for their cattle, still surmising that known difficulties of the Coast mountains might be avoided by some unexplored pass leading into the Chilcotin district. (Chilcotin is authoritatively rendered as “country of young man’s river,” and may have inspired the name *Songs From a Young Man’s Land*, for a book of poems by Sir Philip Clive-Woolley. “Ko” is said to mean “water,” in such words as Chilcotin, Chilko, Tatlayoko and others in this region.)

Moore took us 15 miles down the lake in a boat with outboard motor on July 6, while the unladen packhorses followed the eastern shore in charge of Moore’s daughter and Harry K. Haynes, a neighboring rancher. Miss Isobel Moore at the age of 16, with the help of a younger brother, had driven a band of horses about 200 miles to the Minto mine, crossing flooding rivers and snowy passes.

The transcendent beauty of Tatlayoko lake would have been widely famous had the Canadian Pacific Railway used Yellowhead and Homathko passes as favored by Sir Sandford Fleming. This grand portal to the range grants views of alpine summits up to 10,000 feet in height, many of them of colorful stratified rocks. From the south end of the lake we saw Mt. Razorback, 10,667 feet, up the valley of Ottarasko (Feeney) river.

1 Beyond Bute Inlet, *C.A.J.*, 1941.

According to the map we might expect to sight Mt. Queen Bess beyond the level shelf of a glacier hanging' across the head of Stonsayako river, a southern branch of Homathko river below the lake.

Later we found my sketch map in the 1941 *Canadian Alpine Journal* at fault here, mainly from trying to make it fit an official map. Nearly as unhelpful is the 1942 Campbell River-Rivers Inlet map (Sheet 92, N.W., National Topographical Series), which is remarkable for non-inclusion of much data certainly on record at Victoria, and some of it at Ottawa. Some areas known to us have been treated in a purely imaginative manner. Worst of these is the suggestion of a lake a mile wide and seven miles long below Klinaklini glacier.

Harry Haynes made no comment on Isobel's spirited account of his bold rescue of one of her horses which through wilfulness was swept down into a log jam in Cheshi creek.

A thunderstorm hurried the party up a disused road in Nostetuko (Mathew) river valley to a well-built camp belonging to an old gold mine. Steep clean-cut rock faces distinguish the rusty-hued peaks flanking this branch of the Homathko. They rise more than 6,000 feet above the valley.²

Through a cleft in the mineral-stained cliffs the tawny Nostetuko leapt sheerly into the horseshoe in which the camp sheltered. A short fence at the entrance kept in the horses. An old cable offered a possible, but not easy, emergency crossing of the river.

A ford was found nearer the river mouth, and by midday on the 7th we were across. The south side of the Homathko was not known to have been travelled by horses. As it had been severely burned, we met much down timber and often the densest second-growth jackpine. We did, however, find one long moraine covered with bunchgrass. This secondary valley led us down into thick woods, then to where the Homathko skirted a rockslide at the foot of high cliffs.³

It was mid-afternoon on the 8th before we got the horses to the top of this rock escarpment; we made no marked advance directly toward Stonsayako river—now in a gorge hundreds of feet below — before being forced to turn back to camp where a scummy pond supplied a bit of pasturage which the horses scorned.

It now seemed evident that the country ahead was mainly heavy jackpine, but an encouraging start on the 9th took us down near Stonsayako without undue chopping. For much of its course the river runs in a V-shaped gorge cut several hundred feet deep in boulder clay. It was no fit place for horse or man. We actually had to chop a space to turn the horses homeward. Ken Moore and Isobel left us about noon. Harry stayed to help us pack supplies up the valley.

Dry belt and rain belt vegetation overlapped here —and both grudged us passage. At least,

2 Some of these mountains show on the map accompanying "Chilko Lake and Vicinity, B.C.," by Dr. V. Dolmage, in *Summary Report, 1924, Part A, Geol. Survey of Canada*. The famous first reference to a peak "probably higher than mount Robson" appears in the text on p. 63 without hint of its location. The inscription "Very rugged peaks up to 13,000 feet with numerous glaciers," doubtless was general rather than specific description of the region to the west.

3 Homathko valley for eight miles or more below the lake has a rugged floor broken by lesser valleys and ridges, both rocky or morainal in nature; lakes and ponds occupy both morainal and rock basins. The last ice in the valley would seem to have been a lobe of the ice sheet probably coming from Chilko lake by the big "through" valley to Tatlayoko lake. Dolmage in his 1924 report describes this system of great glacial troughs (p. 61). "While glaciers were shrinking on one side of the Coast mountains they might be advancing on the other." (Forrest A. Kerr, "Glaciation in Northern British Columbia," *Trans. Roy. Soc. Canada*, 1924, p. 18. In any event this glaciation in Homathko valley was at a time when ice had ceased to emerge from Stonsayako valley. The ice sheet might be expected to drain away slowly in its final stages from the Chilko region owing to absence of low passes towards the sea for a long distance south of Tatlayoko lake.

devil's club was scarce. Harry entered energetically into the spirit of the undertaking.

Following a wearying day moving camp forward, Henry, Phyl and I explored up the valley on July 12. About three-quarters of a mile below the glacier we found remnants of ancient forest in the river bed. The freshly eroded riverbank recorded the history. Water-borne boulders and gravel invaded the forest to a depth of about six feet at least. The glacier advanced and laid down a moraine on top of the gravel. A new forest grew up on the moraine, was burned, and a third is establishing itself. This would seem to give the stumps an age of several centuries.

This upper section of the valley looks quite desolate there being only a fringe of trees along the river, and this soon gave way to bare moraine and talus. The glacier tongue was about 4,500 feet. A nearby mountain to the east was cleanly divided vertically, half red, the other light granitic rock. The latter rock formed a wall 2,000 feet high across the valley. In this lip the glacier had cut a trench more nearly V-shaped than is normal.⁴

Considerable recent retreat had left a high eastern moraine underlain by ice. Melting of this caused frequent rockfalls to sweep the steep ice slope which alone gave access to the glacier. Cutting steps across this became more nightmarish each time.

The glacier made its 2,000-foot descent in two steps. From the brow of the second we looked southward along two arms of a V-shaped névé; each lead to a broad pass just seen below the clouds. Misled by the map, we looked vainly up the west branch for any sign of Mt. Queen Bess on the west side. West of the glacier snout we got partial views of the sharp summit of Homathko peak, about 10,000 feet high, and one of the finest mountains seen from Tatlayoko lake.

We moved on the 13th to a base camp below the red and grey mountain. We soon turned the roughish site into a pleasant camp. I provided a back-saver in the form of a high stone fireplace for cooking; for the other fire Harry, displaying an unsuspected strength, carried in logs. Shelves for food and a small table were improvements added during a succession of showery days — a restraint on the part of the weather not in keeping with our common experience of deluging rain in the Coast range.

Late on the 16th the rain brought down a huge rockfall across the valley. The biggest fragments bounded down almost to river level, leaving plumes of whitish dust each time they struck. Five deer raced for safety from a green slope in the line of fire. The dust cloud took twenty minutes to drift away.

Weather encouraged us about noon on the 17th to go some 1,500 feet or more up the rockslide behind camp to a small but particularly grand cirque occupied by a glacier ending indefinitely under a terminal moraine at the very lip of the cirque. We crossed and went up a spur to the south, quite expecting to see Mt. Queen Bess soaring into the lingering clouds up the west arm of the glacier. But we saw nothing in keeping with a mountain of this importance.

As explained in connection with Mt. Grenville, Captain R. P. Bishop named Mt. Queen Bess as one of the Elizabethan names commemorating Sir Francis Drake's Pacific voyage which

4 Distribution of morainal material in the ice possibly contributed accidentally to this, but rock formation had not favored "plucking" by the glacier. J. Austin Bancroft, dealing with glaciation of the islands and inlets along Georgia strait, (p. 41, *Memoir 23, Can. Geol. Survey*), refers to "plucking, combined with what seems to be, the more important, slow but sure grinding of the ice." Where this grinding has been the main action the results are bold and graphic—as the flanks of Granite mountain at Boyd point, Bute inlet—but the observable fact throughout the whole region examined by Bancroft, and elsewhere, is that grinding action mainly only modifies evidence of plucking. Where grinding predominates, the rock structure is found to be unfavorable for plucking on a large scale. This agrees with surfaces uncovered by existing glaciers, but one understands that Bancroft confined his work to the shoreward slopes.



Mt. Queen Bess. *Courtesy American Alpine Club. Photo Mrs. D. Munday*



Tatlayoko Lake. *Photo Don Munday*

East Homathko river bears left to right (s.w.) In front of the mountains. Homathko Peak to right of centre; left of it the two arms of Mantle glacier dip into Stonsayoko valley.

brought him to the coast of British Columbia according to evidence offered by Captain Bishop.⁵ He has given heights to within the nearest 100 feet. Mt. Queen Bess is understood to be slightly over 10,700.

Henry drove a porcupine away from camp this evening. Harry wished several times on the trail that he had not sent his rifle back with his horse, but each time the movement in the brush turned out to be only a porcupine hurrying to the nearest tree. Harry offered a useful bit of information about pulling out quills. He said that cutting off the end deflates the quill.

We got away next morning at 4.55, bent on locating Queen Bess at least. Weather looked favorable, and peaks enclosing the glacier at last were cloudless. I thought Homathko peak the highest of the lot when we topped the second icefall.

Puzzled, we went on. (Later we called this Mantle glacier, an allusion, of course, to the story of Sir Walter Raleigh having spread his cloak at the feet of Queen Elizabeth.) A splendid snow cornice appeared in the distance on the east side of the east glacier.

“I’ll pick that for Queen Bess,” said Phyl. This was rank heresy against the map, but that snowcap plainly crowned a mountain of no mean order. The stranger soon revealed a regal spire with a vertical eastern precipice and a thin northerly arête sweeping up to the crest.

Mystification gave way to amusement when we admitted we were on the wrong side of our mountain, which really stood on the Nostetuko-Stonsayako divide.

“Every inch a queen!” we agreed as the grand peak disclosed itself. We kept up the west side of this arm of Mantle glacier in order to see the mountain without too much foreshortening. About noon we reached a broad pass where ice from the west slope of Queen Bess divided north and south.

The south profile of the mountain gave no encouragement and would take some time to approach. Half the west face was upright granite slabs. The part under the northerly arête looked too tile-like throughout, and held too much insecure snow. Several steps along the crest of the arête might give trouble. Later we found an avalanche had swept our route, so it may have been wisdom not to try to use the rest of this grand day to attempt the ascent.

Harry and I went up to the glacier snout late on the 19th. While I cut steps across a steeper, but perhaps less dangerous, face, he watched from river level to warn me of falling rocks — not that I could have done much about them. He did some dodging, for much came down besides what I intentionally cleared away when I got up.

Noting how a current of air carried spray inward along the roof of the cave from which the river issued, Harry suggested this explained formation of such caves.

Not all the party held the same view of the advantages, of bivouacking on a green shelf at the level of the first ice-fall—perhaps as a rebuke a freak heat-wave made sleep hard to get this night.

With Harry’s help we got away at 3.00 a.m. for the climb. At the glacier snout I escaped by about 18 inches a ton-weight boulder which scattered splinters and sparks in the dim light. Night had not saved my prepared steps from much damage from thawing.

When we began mounting above the pass at the head of Mantle glacier, the Waddington group showed to the westward, about 30 miles away. This doubtless is the grandest aspect, with the mountain towering 12,000 feet above Homathko river, and nearly that above the snout of Tiedemann glacier, a point we could not quite see.

5 *B.C. Historical Quarterly*, June, 1938.

Crusted snow slowed us and as the slope steepened, ice appeared underneath, with wet, loose snow between — bad alike for cutting steps or trying to use crampons. We passed the toes of two rock ribs, both typical of the whole-face. Though really much shattered, the overlapping structure forbade even starting up them. We dismissed the shallow gullies between them.

We continued our steep diagonal till the ice forced us into the longest gully, the one which had avalanched since first seen. Its unpleasantly smooth and wet bed had been swept clean. The upper part was hidden.

Henry had performed the exacting step-making almost to this point. I found the mountain allowed us no choice beyond this. The one well-defined wall of the gully tended to overhang, but the base supplied a reasonable assortment of holds. Large, loose rocks forced us to advance with much care. Just at the last the gully led readily to the ridge, here a thin snow crest, elevation probably about 10,400 feet.

I peered over eastward in time to glimpse an avalanche smoking down to what Henry dubbed “Leapfrog glacier.” A branch of this glacier appeared to flow more than half way across the surface of the main glacier.

A brief appraisal of the arête made me think it would have been practicable throughout its length.

The thick but not extensive snowcap may have been crevassed, but we wallowed into none in the loose snow which is usual at higher elevations in the range.

The summit was a small snow ridge right above the brink of the east wall, little of which could be glimpsed from above. The southeast ridge, with an unsuspected break in it, looked both steep and uninviting.

Smoke and the shadows of a long line of cloud marred the western view in the distance, but only the Waddington group reached into the clouds. Elsewhere visibility was good. Location of Mt. Queen Bess permits views of many of the major peaks of the Coast mountains, and also filled in gaps in our knowledge of a wide area.

Tatlayoko lake seemed just hidden by the row of mountains north of Queen Bess. We suggested “Essex” as the name of the highest and nearest one. A somewhat pyramidal mountain surrounded by glaciers south of Queen Bess maintained the bold outlines characterizing this range between Nostetuko and Stonsayako rivers.

Through ill-fortune we were without binoculars to tell if two patches of green water to the northeast were parts of Chilko lake. We doubted it.

So far as concerned a useful pass for Chilcotin cattle, the scene merely confirmed our previous assurance that all passes in the region between Southgate and Homathko rivers were glacial and led in no useful direction.

Indeed, all were part of the Homathko snowfield. The greater part of it consists of broad, shallow, more or less parallel troughs sloping gently towards the main Homathko river until taking form as big ice streams dipping steeply into valley depths. However, the most northerly of these, “Queen Bess glacier,” descends more steadily, and where it passes south of the mountain the trench is already too deep for the glacier to be seen. The 1929 Powell lake sheet marks a glacier tongue about five miles from Homathko river as source of Doran creek (unnamed on the map.) This would give the glacier a length of about 14 miles. Sheet 92 N.W., 1942, omits this glacier. It is straighter, and derives its tributaries farther east than shown on my 1941 sketch map.

The array of lesser peaks jutting out irregularly to no great height above the Homathko snowfield generally are somewhat sharp although they must have been over-ridden by the ice

sheet.⁶ Our estimate of 300 square miles for this area of ice seemed to need no reduction.

Mt. Reliance as pictured on Alfred Waddington's map (doubtless the work of his engineer, H. O. Tiedemann) was long ago identified by us as being a relatively low westerly spur of a massive mountain about 10,000 feet high between Doran creek and East Homathko river. His "Mt. Success" seems to be a great snowy mass on the other side of the river. Probably the names when given had much meaning for Waddington. When we first saw Mt. Reliance from the south, its outline suggested the name of "Marquee."

I think we were all prepared to have to wait on the lowest rocks on Queen Bess till frost checked avalanche danger, but snow somehow held on the ice. We went carefully, now and then cutting steps.

Sunset matched our great occasion, flaming in wide crimson and lingering amazingly. Countless ice-worms wriggled on the snow. A weird red glow persisted long on the domes of a distant thundercloud piled to immense heights and belching flame.

The moon and friendly twilight alike failed us as we started down the first icefall. Far-off lightning slashed silently the heavy gloom of the valley. My wife and I bring to this kind of night travel a glad confidence in each other that one not knowing us well might brand foolhardiness.

But getting off the glacier did seem a bit grim. The river bellowing from the ice cave almost directly below nearly drowned sounds of rocks crashing by a few yards ahead. Steps must be renewed, axe in one hand, our single carbide lamp in the other.

6 F. A. Kerr in his comprehensive study of the northern Coast mountains suggests that summits 10,000 feet high were submerged by the ice sheet. (Glaciation in Northern British Columbia, *Trans. Roy. Soc. Can.*, 1934.) He also points out that rocks recently uncovered by glaciers are sometimes pinnacled, not domed.

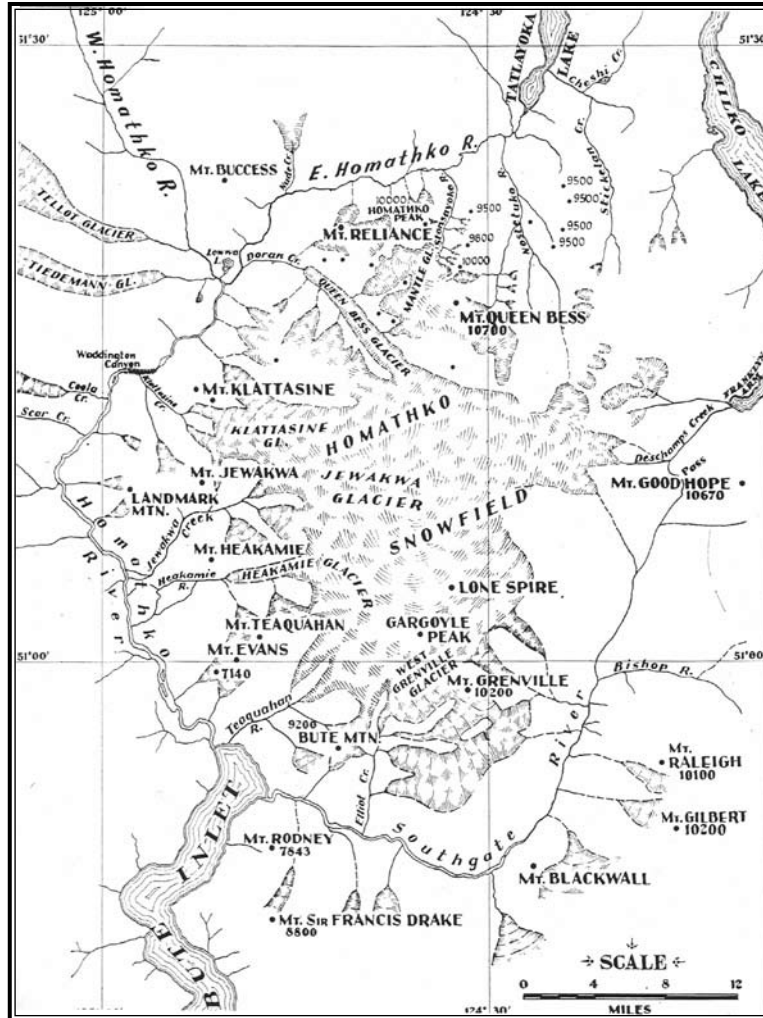
May it not be that the rounded outlines, which are conventionally thought the inevitable result of prolonged glaciation, require combined action of plucking and sustained grinding? Both work most vigorously where the eroding ice is debris-laden; as the ice flood mounts it will be evident that its sources of supply of rock diminish rapidly in the upper layers; the ice is less confined in its flow, resulting in lessened likelihood of rocks from one mountain being used to grind away another.

Plainly the Homathko snowfield was one of the centres from which what Kerr terms "mountain ice sheets" developed to spread in both directions across the range until merged with the continental ice sheet. Similar centres would be between the head of Lillooet and Toba rivers, around Mt. Waddington, Mt. Silverthorne and west of Monarch mountain. Throughout much of this area the inland border of the zone of heavy glaciation is rather sharply defined and closely corresponds to the contact of the granite batholith and the older rocks. It may be coincidental, or may have some geological significance.

Existence in huge trans-range valleys of such constrictions as Klinaklini canyon and Waddington canyon (in Homathko) presents a problem. Both have been glaciated close to, or to, river level. Particularly at Waddington canyon the massive rock formation was well suited to resist plucking.

Some weight ought to be given to the probability that about here .during the mountain ice sheet stage the ice flow divided north and south, forcing ice inland opposite to the present water drainage (as described by Kerr along Stikine river), and carrying rocks from the Coast mountains far out on the Chilcotin plateau. Development of the great ice sheet on the Interior plateau would, of course, reverse this flow in the valleys. It is no new thought that as the Ice Age waned these trans-range valleys freed themselves of ice originating in the range while lobes of the lingering Ice Sheet still occupied their heads.

At the close of the Ice Age in the Coast mountains—accepted as about 9,000 -10,000 years ago—heads of most of the big inlets were much farther within the mountains. The Homathko delta has probably .advanced about 18 miles. Recent advance of the Bear river delta at Portland canal in recent years has been measured, and Dr. George Hanson ("Pleistocene and Recent Glaciation," pp. 179-185, *Trans. Roy. Soc. Can.*, 1934,) calculates the age of the delta as 3,600 years, but one infers he felt this figure called for some modification. No allowance seems to have been made for such a likely thing as the head of the fiord being over-deepened and so needing much more sediment to fill it. Over-deepening is a common feature of coast inlets.



Sketch Map Of Homathko Snowfield

“I didn’t try to warn you of falling rocks because there seemed nothing you could do about them,” my wife explained as we unroped in the lee of a big rock fallen to the river brink. This was 2.00 a.m.

Perhaps our feet lagged when we got clear of the bombarded area. A thin rim of gold in the northeast marked our entry into camp at 3.00 a.m.

Some writer with an unconvincing air of hardihood scorns mention of flies and mosquitoes in the mountains, but we enjoyed such a lack of these pests at the base camp that fly nets in our tents were needless.

Growing danger at the glacier snout made us unwilling to go up it again, so on July 23 we went down to the cache where the horses had left us. Next day we back-tracked the horses with varying difficulty and success to the appointed pond among the Homathko moraines.

“That’s Gerry Lovelle yodelling,” Harry assured us about 10.00 p.m. as an elfin call came from far along the “big moraine.” Miss Lovelle was Isobel’s devoted “partner.” They had nearly lost Isobel’s colt four times in Cheshi creek, and had lunched only on wild raspberries in 14 hours from the ranch. The girls brought us welcome mail but not much war news.

We found Nostetuko river not unduly high next morning. Magnificent views favored our return along Tatlayoko lake. The Williams lake newspaper in telling of an unusual incident of our trip back to that town on the mail stage did not spoil a good story by revealing the true size of a cougar cub that Tommy Hodgson, the driver, killed with a stone before I could photograph it from a distance of about four feet.

All travellers down the East Homathko river of whom we were able to learn anything have used the true right side of the river.⁷ This trail is exceptionally difficult in part even for foot travellers. It is not shown on the 1929 Powell lake sheet, but an indefinite trail is marked on the southerly side.

⁷ This trail is described in “New Ways to Waddington,” *C.A.J.*, 1933. It was the course of Marcus Smith in 1876 on Canadian Pacific Railway surveys.

EASTERN CLIMBS

BY J. F. BRETT

Contrary to the opinion held by many, the mountainous districts in the eastern half of this continent offer considerable scope for mountaineering.

Since the altitude of these eastern ranges is moderate, the summit of Mt. Washington, 6,288 feet, in the White Mountains being usually considered the highest known point (although it is quite possible that some of the unknown and uncharted Laurentians in northern Quebec may be found higher yet), rock climbing, of a character somewhat similar to that found in Great Britain, is the principal attraction for the faithful.

The slabs and finger cracks of Chapel Pond and Indian Head in the Adirondacks, the ridges and buttresses of Washington in the White Mountains, the magnificent gullies and arêtes of Katahdin, can test our mettle and afford enjoyment to us all. Further, those who look long and carefully, have noticed that the Huntington Ravine running above Pinkham's Notch to the Alpine Garden, just under Mt. Washington's bald head, is, during the month of May, plastered with a shimmering ribbon of ice over 500 feet high, from which emerge here and there steep bits of jagged cliffs in the best alpine tradition. An ideal spot to set your trusty ice-axe to work.

The war has, for the present, put an end to our excursions in that part of the enchanting land of mountains. It remained to look nearer home, to study anew and more closely, the many cliffs dotting the vast domain of the Laurentian country.

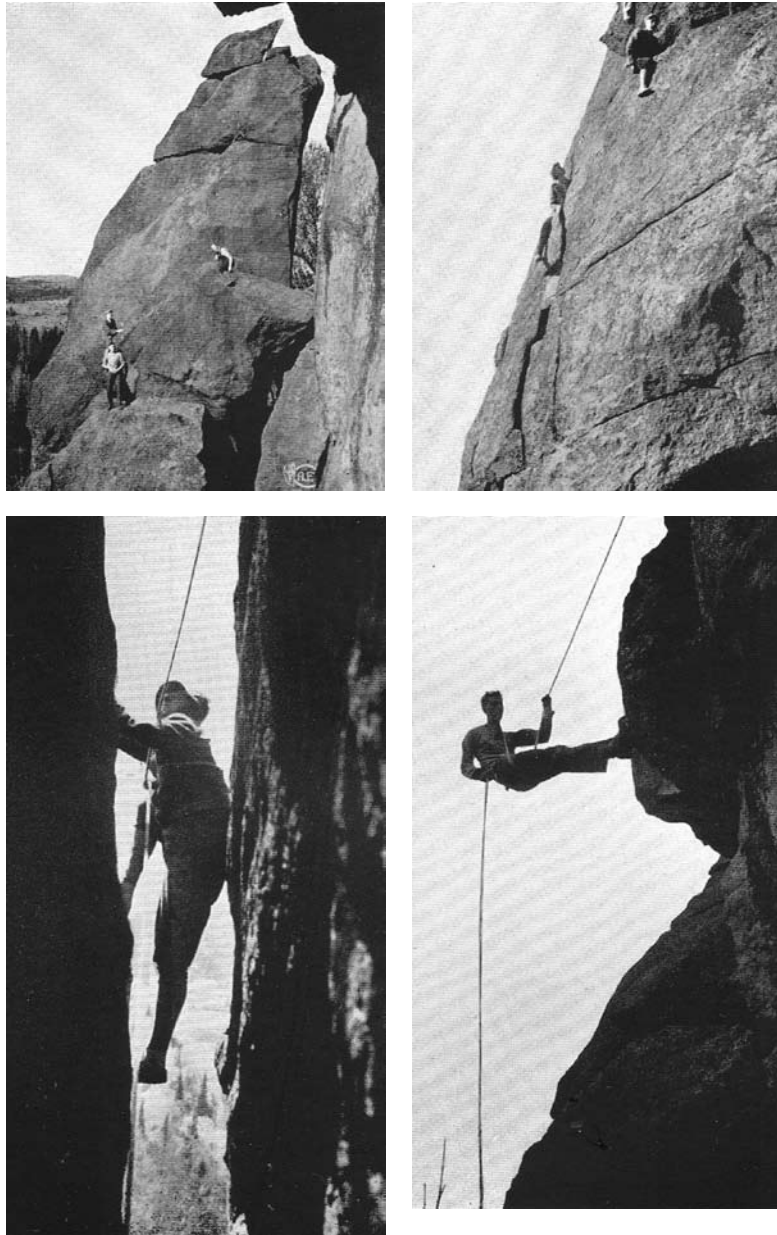
A great many of these granite cliffs have been smoothed over by the ancient ice sheets and are either too easy or impossible for climbing. Yet diligence and persistence will disclose from time to time choice bits of climbable rocks, in every way comparable, in interest, to the Aiguille de l'M or the Petits Charmoz.

One of the best bits yet found is the Condor's Cliffs, near Val David, in the Laurentian district, near Montreal. Above the wooded slopes rising from the Riviere du Nord, a half-moon of cliffs emerges high above the trees. In front of the cliffs an isolated pinnacle crowned by a characteristic bloc recalling the silhouette of a condor's head, rises some 130 feet above its base.

Good climbing can be had both on the half-moon and on the monolith. The latter is fractured vertically at several places, one of the fine chimneys (see illustration) having received the appropriate name of "Fat man's misery." An-other nearby crack, much narrower still, is known as the Gopher's Hole. This however is only for very thin people before lunch. By means of the chimneys the steep edge of the Flake can be attained and by the latter a point some 30 feet below the Condor's bold head can be reached. The steep and smooth slab above seems to call for a spot of engineering, or possibly rope throwing. Many pitches of various difficulties as well as numerous interesting rappels have been developed in the flanks of the half-moon, other possibilities remain to be explored.

During the Thanksgiving week-end, an effort was made to gather all Montreal members and future members together at La Sapiniere Hotel at Val David, our climbing rendezvous. Fifteen alpinists responded nobly and a very good time was had by all. Later, members of the McGill University Outing Club have been our climbing companions and it was a delight indeed to watch the tremendous enthusiasm for climbing rocks, displayed by the collegians.

Just before the arrival of the snow this fall a new series of cliffs northeast of the Condor was investigated. These cliffs are higher than the Condor's and present several zones where the rocks are fractured horizontally and vertically in the most intriguing fashion. Some splendid finger cracks are assured. However, the climbing there will be part of next year's program.



Upper Left

The Condor Cliffs. *E. Sherrard*

Lower Left

A Chimney On The Condor. *Elisabeth Brett*

Upper Right

The Flake. *Elisabeth Brett*

Lower Right

Rappel On Condor Cliffs. *Elisabeth Brett*

MT. WADDINGTON CLIMBED AGAIN

BY HELMY BECKEY

The highest peak in Canada outside of the Yukon, Mt. Waddington or Mystery mountain, elevation 13,260 feet, was long considered a classical example of an unclimbable peak. It was, and still is, rated by some climbers as North America's foremost mountaineering problem. After rebuking sixteen attempts, Mt. Waddington was finally climbed by Fritz H. Wiessner and William P. House of the American Alpine Club in 1936. Waddington had a great appeal for my brother Fred, and myself, both of the Seattle Mountaineers, because of its height, reputation, and spectacular glacial setting. The long anticipated opportunity to answer its defiant challenge came to us during a carefully planned expedition into the Coast range this summer.

Our adventure began with a moonlight cruise up scenic Knight inlet. J. R. Stanton, local hunting guide, trapper, and fisherman, transported us from Glendale cove to the silt delta at the mouth of the Franklin river on July 1. While being tormented by bull-dog flies, mosquitoes, and no-see-ums, we hung a cache of food in the trees near the river mouth. Carefully packed for convenience, our food supply was made up in paraffined man-day bags, two and a half pounds each being our "scientific" rations. Equipped with primus stove, skis, air pillows, cache bags, blizzard tent, first aid and repair kits, we had with us all the essentials of a self-sufficient glacier expedition.

It was with high hopes but heavy loads that we plunged into the jungle of the Franklin river valley, brushing out what was left of Don Munday's small blazed trail, for ahead was an area acclaimed as one of the grandest scenic wonderlands in the world. Although we swung the machete occasionally, we did not clear out the way thoroughly; each trip up that 7 or 8 miles to Last Valley Camp was about as difficult as the first one. A thunderstorm caught us one day as we were in the thickets about 2 miles up from tidewater. The remainder of the way to Last valley was most miserable going in the downpour as we were slowed by heavy loads and brush. We spent most of the first week, often when the underbrush was wet, packing up to Last Valley Camp with loads rarely under seventy pounds. It rained almost every day of the first two weeks. The weather cleared on July 17 and remained generally beautiful for the remainder of the trip—a real compensation for our initial discomforts.

The passage of the glacier snout required considerable route finding and was slightly exposed to rockslides from the lateral moraine. With the exception of the snout and the badly crevassed area at the junction of the Confederation glacier, the Franklin glacier afforded excellent travelling. Immediately after we passed the turmoil at the snout, we got our first view of mighty Waddington. Using Last valley as a base, we carried loads up the Franklin glacier approximately 6 and 9 miles on July 7 and 8 respectively, making the return trips the same days. On July 9, heavy rainfall kept us in our tent all day.

The cabin built by Munday at Saffron creek served as our next base camp for relaying supplies until the foul weather ended. We broke camp at Last valley on July 10 and hiked about 15 miles to Icefall Point, where we cached the bulk of our supplies, and then retreated to seek shelter at Saffron creek. The small shanty in this remote spot was welcome for, despite its leaky roof, it served as a fair shelter during foul weather relaying. Backpacking on the windy glacier in driving sleet was certainly no pleasure. At the first opportunity we moved on to the lovely heather slopes of Icefall Point, elevation 5,500 feet, and stayed at the lower camp site near a small lake.

As Mt. Waddington was covered with newly fallen snow after this stormy weather, we postponed our attempt in favor of trying to reach a high ridge of peaks to the north of Tiedemann glacier. In this we succeeded and, after considerable effort, forced a route through the Corridor, Waddington, and Splendor glaciers. We donned five-foot summer skis above Icefall Point on July 13, and spent an arduous day carrying heavy loads across the badly suncupped upper Franklin glacier, up the Corridor glacier, and then to the 9,500-foot pass between Mt. Munday and Mt. Agur at the head of Ice valley. The latter is most impressively situated beneath mighty Waddington itself, Spearman Peaks, Mt. Munday, and spurs of Mt. Agur, with spectacular icefalls aligning its head. Heavy nimbo-cumulus clouds formed as we traveled beneath this awe-inspiring cirque on that sultry day. The electrical storm which they bred caught us below our destination. Nevertheless, we chose to push on to the pass, though this meant making camp in driving sleet and snow. Tired and thoroughly drenched, our feet slightly frostbitten, we were indeed fortunate in finding a partially wind-sheltered spot inside a huge filled-in crevasse. It continued to blow and snow as we huddled in our tiny shelter the next day; during our short stay there it snowed over two feet, eighteen inches of snow falling on the second night. The un-waterproof nature of our tent caused us to suffer needlessly from the discomforts of cold and wet during this storm. The following day, July 15, we skied down to Icefall Point on fast, new snow through a thick fog, leaving behind our food and equipment. The continued bad weather drove us to Knight inlet, a distance of about 21 miles, on July 16, to pick up our fourth and final relay to bring to Icefall Point.

In three days from the beach, we were again established at our camp in the crevasse at the pass, and this time we brought with us good weather. Everywhere beyond Icefall Point we had to melt snow and cook over our primus stove. We made a long traverse on the Waddington glacier where we set up camp that night on a snow shelf. We spent the entire next day scouting for a route down the icefall which dropped directly to Tiedemann glacier. The 3,500-foot descent necessitated roped skiing through a maze of crevasses and huge seracs, and later a steep descent afoot on the lower ice cliffs, all with heavy packs. We camped on the level slopes at the junction of the Splendor and Tiedemann glaciers, beneath a very spectacular range of peaks. Unfortunately we were unable to climb for three days because I suffered from a strained back caused by a slip on the descent and Fred suddenly discovered that his knee was infected from a neglected devil's club thorn. By the time we recovered, our food supply had run low and we had to retreat back up the Splendor glacier. Indeed, we made the second crossing of the Coast range by the Waddington "massif," but our route was impractical due to the dangers and difficulties of the Splendor glacier. Some of the snow bridges which we had readily crossed on the descent had thawed so much in four days that we had to straddle them in order to make recrossings on the ascent. However, the beauty and scenic grandeur we enjoyed in our short stay on the Tiedemann was almost sufficient compensation for our misfortune. Never before have I seen such an awe-inspiring valley as the Tiedemann with Mt. Waddington rising about 7,000 feet above its head, and peaks, ranging from 10,000 to over 12,000 feet, rising abruptly on both sides of the valley.

Again using as a camp the filled-in crevasse at Waddington pass, we spent several days ski-touring among the peaks and passes on friendlier slopes at the head of Waddington glacier. On July 30, we ascended Mt. Munday on ski, enjoying from its crest a most impressive view of the Coast range and particularly of majestic Mt. Waddington to the north. As viewed from here, our Splendor glacier route looked hopeless. The descent to camp was a thrilling one as the upper slopes of the peak were composed of fast film crust. We had an interesting tennis-shoe climb up a thumb-shaped gendarme on the southeastern spur of Mt. Munday before returning to camp. Although it

was only 150 feet in height, it afforded some difficult rock work, and two pitons were used for protection. In this land of eternal snow, we used skis to great advantage since daytime travel on foot above 8,000 feet would be exhausting on account of the exceedingly soft snow everywhere. Besides, extra rewards were gained from the exhilaration of speedy descents on slopes up which we had tediously climbed.

Our arduous backpacking efforts and our disappointment on the Tiedemann glacier venture, made us especially anxious to make the assault on the peak we had come so far to climb. The rock on Waddington appeared to be in much better condition as we moved in for the summit attempt. From Ice valley we transported our equipment on skis to the lower Dais glacier via a shortcut over an 8,000-foot pass to the east of Mt. Jester. On the same day, August 2, we returned to Icefall Point to collect eight day's food. From Icefall Point we crossed the upper Franklin glacier to its junction with the Dais glacier. Most of the snow coating on the upper Franklin had then thawed away, revealing a vast number of crevasses. Cris-cross crevasses trapped us several times. Shortly before the junction, we found still worse conditions. Here the névé was only partially gone, leaving areas too icy for skiing as well as snow spots concealing hidden crevasses. Leaving our camp on the lower Dais glacier with packs at about 7.00 p.m. on August 4, we climbed on firm snow up about 2,000 feet of the Dais icefall when darkness made further travel unsafe. Here we quickly built a platform for the tent on a 15° slope.

Breaking camp very early the next morning, we wound our way through a maze of prominent crevasses, soon reaching a shelf 200 feet beneath the 2,400-foot face. In so doing we avoided the mushy midday snow and found time that day to scout the route across Waddington's bergschrund. At 10,600 feet we set up our high camp. Its situation was most spectacular in that we could look over the icy summits in the foreground into the vast Klinaklini glacier system beyond. After studying the face, we decided to attempt the same route as Wiessner and House used in 1936. The first part of the route lies up the lower part of the deeply set and partially hidden couloir dropping from the prominent notch separating the summit of Mt. Waddington and the jagged tooth-shaped tower to the southeast. The bergschrund which blocked the approach to the couloir was in very bad condition and needed scouting that day. It could be crossed only far to the right of the snow and ice couloir up which the first part of the route lay. This meant that we had to make a long traverse of about 600 feet on 50° ice and névé directly over the wide, gaping bergschrund to reach the base of the couloir.

We roped down across the bergschrund at this point from a rock outcropping, leaving a fixed rope behind so that on the morning of the climb we might save time by using a direct approach. Now at last we were coming to grips with the great mountain which had been climbed only once before, and which had thwarted so many summit attempts. The night was a restless one for me, perhaps because of the continual flapping of the tent walls in the wind, but probably due chiefly to the anticipation of tomorrow's climb.

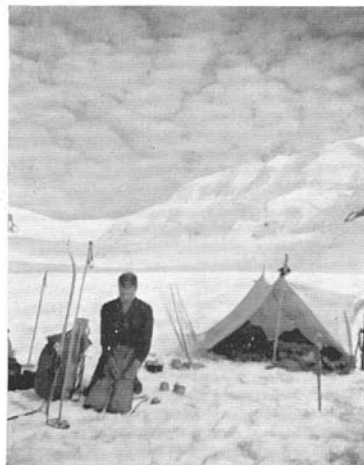
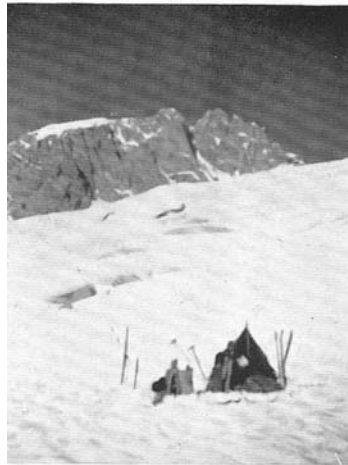
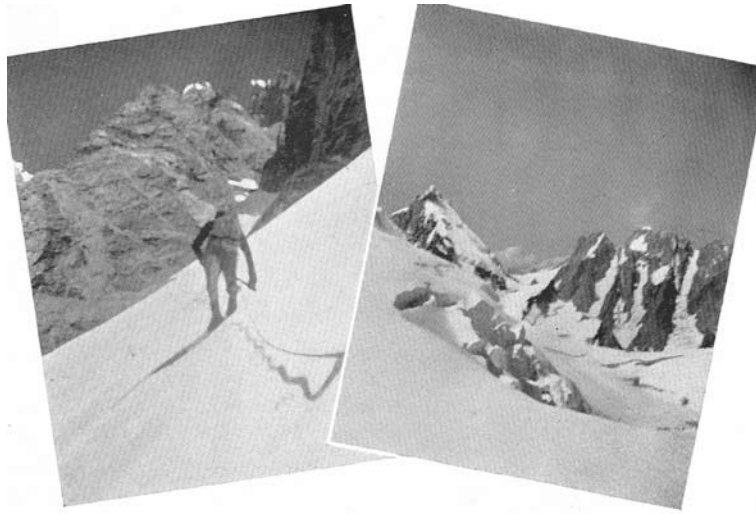
At 4.00 a.m. on August 6, we left for the summit, carrying heavy rucksacks containing a tent sack and extra clothing for a bivouac, besides the usual mountaineering attire. The hand-over-hand climb up 80 feet of vertical ice on the fixed line was rather exhausting. We could move together rapidly with crampons for the first 300 feet of the couloir because this was firm névé. Shortly, however, we ran into trouble. A coating of only several inches of snow on top of glare ice made the 50° to 60° couloir most treacherous. We encountered a good deal of hard ice where the snow had avalanched away. Steps and belay stances had to be chopped out in many places. We had to climb a 100-foot section of verglassed rock where the couloir was broken. As long as the

south face of the peak was in the sun, this pitch was a waterfall. Deep, avalanche-formed troughs ran down the couloir and each of its branches, providing courses for speeding streams of water and for rockfall in the later hours of the morning and in the afternoon. The extremely icy nature of the couloir forced us onto the verglassed rocks on its sides, where we climbed wherever possible. Rock climbing with crampons where the belay stances were scanty and not always “bomb-proof” was none too well enjoyed.

All this naturally consumed a great deal of time and put us far behind schedule. We reached a band, covered with glare ice and rotten rock, via the left branch of the couloir, after having climbed over 1,000 feet. The band of verglassed rocks crossed steeply to the left and disappeared around a buttress. After crossing two rock ridges following this band, we obtained, about noon, our first view of the upper face and the triangular-shaped snowfield (part of which is visible from high camp). The view was most forbidding, and might have made us consider retreat then and there had we not known that this face had been climbed before. It was also from this vantage point that we truly realized the great length of the climb. Removing our crampons, we made an exposed traverse on extremely rotten rock interspersed with ice patches. Here we used the utmost care because of the poor belay stances afforded. Again putting on our crampons, we cut steps across another glare ice spot which led to the large, steep snowfield that lies on the south face. We did more ice-axe work on the first 100 feet of this field where the snow had avalanched away, leaving hard ice. The next 50 feet was of that treacherous type— ice covered with loose snow. As the traverse over this snow-field to its upper extremity was exposed to hurtling, singing ice-fragments and rockfall it was necessary that we keep constant watch above. Hurrying across the remainder of the 150-yard snowfield, and crossing another avalanche-formed trough, we sank up to our thighs and hips in wet, avalanchny snow.

In order to move as rapidly as possible to conserve mental and physical strength, we led alternately on all pitches except those of the very severest nature where my brother assumed the exposure. In spite of all efforts to save time, the poor going had slowed us down to such an extent that it was not until 4.00 p.m. that Fred changed to tennis shoes with felt pullovers, on the rocks at the upper left-hand extremity of the snowfield. Before starting out on this upper 1,000 feet of rock work, we left behind one pair of nailed boots, one ice-axe, and both pairs of crampons. The first pitches were steep, polished slabs at the base of several ridge towers. Soft soles were essential for securing the necessary friction in order to cross them. I kicked steps across a small snow gully and wedged myself in between the rock wall on the far side and the snow to belay my brother across. From here he led up a short, shallow rock chimney and, at his first opportunity, traversed to the more broken rocks on its left. Utilizing tiny finger-tip holds, we crossed a slabby face to the right again for a rope’s length and proceeded upward, reaching another snow spot. Diagonally crossing the snow spot, I virtually made a trough in the loose, soft snow in reaching the rock at its extremity.

Here I donned soft soles also for the next pitch and the remainder of the route demanded that both of us wear them. Anchoring myself to the rock with pitons, I belayed Fred across and he immediately went on, working to the right to reach a small rock arête directly beneath the vertical, upper rock wall. I believe that it was at this point that our route left Wiessner’s. Whereas he climbed straight up from here, we made a descending traverse on the rock rib to the right for 50 feet, crossing another snow-filled gully to reach the base of the actual 500-foot final tower at 6.00 p.m. Here we climbed to the right of the chimney-like depression used by the House-Wiessner team because ice fragment fall was seen to be rather constant there. From the base of the final



Upper Left

Ice Slope Above Bergschrund. *Fred Beckey*

Upper Right

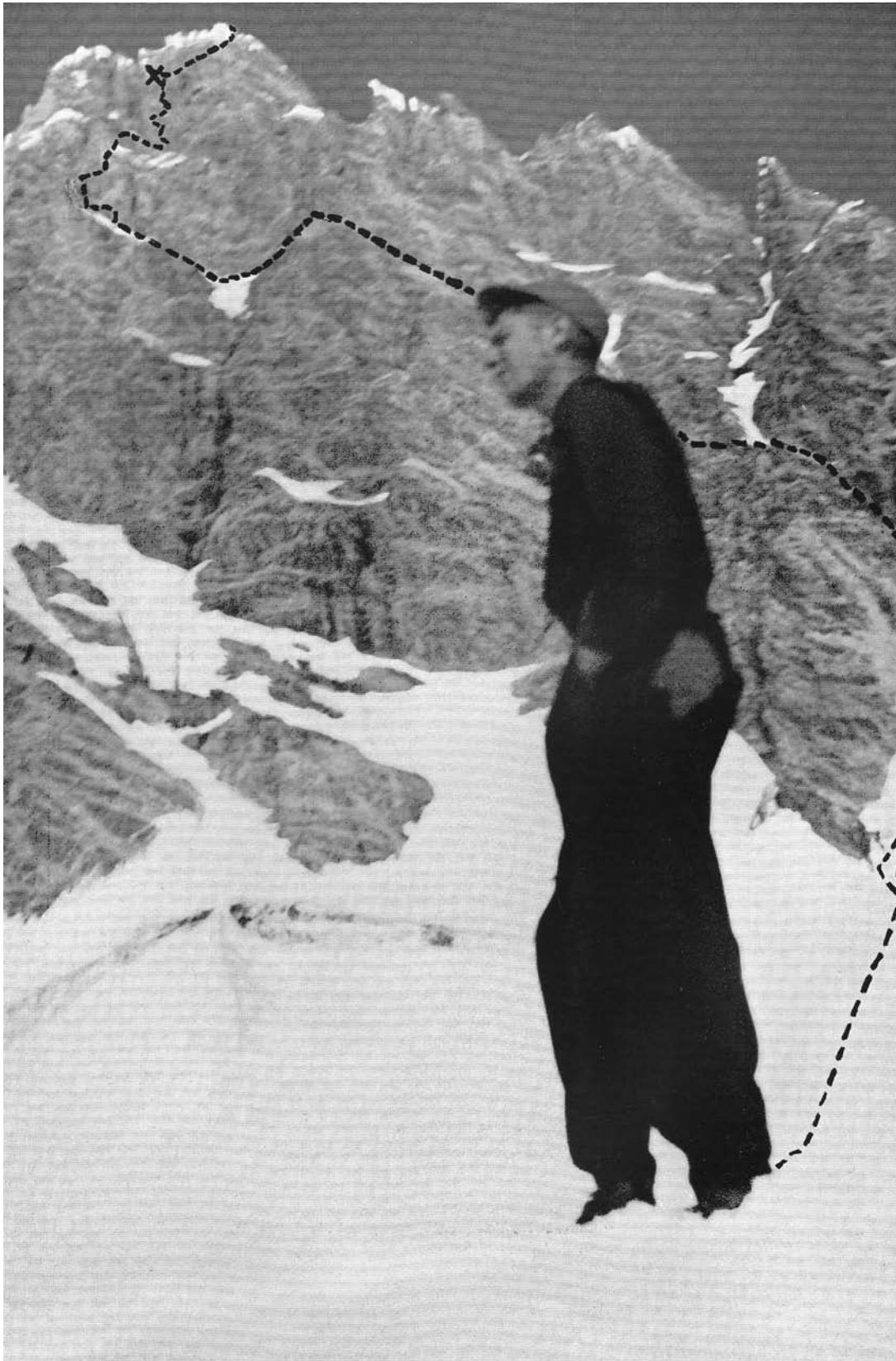
Mt. Waddington, Mt. Combatant, Mt. Tiedemann. *Fred Beckey*

Lower Left

Mt. Waddington And Dais Glacier. *Fred Beckey*

Lower Right

Camp In Ice Valley (9,500-Foot Pass In Background). *Fred Beckey*



Mt. Waddington From High Camp. *Photo H. Beckey*

Showing South Face (2,400 Feet High) And Bivouac Spot (X).

tower we climbed to the right again, nearly reaching the bottom of a steep, icy chimney. We then went diagonally to the left for two rope lengths on high-angled, slightly rotten rock, reaching a very formidable 50-foot vertical pitch. The high pitched ring of the pitons used here told us that these were more than just “moral support.”

Soon we encountered a still more difficult pitch. It was composed of a traverse on vertical rock, followed by a lay-back in an icy crack with a wet slab for the feet to work on. The climbing on the wall was most severe, for we had to surmount several small overhangs, and tricky wet slabs as well. The rock here was often wet or verglassed besides being generally vertical. Pitons were necessary for protection of the leader because of the lack of adequate natural belays and the steepness of the climbing. Occasionally fragments broke off the ice feathers on the summit ridge, causing us to duck, to hold ourselves tightly against the rock, and last but not least, to hope. Our home-made felt-soled pullovers were very effective, enabling us to get the greatest possible friction on the rock. When the rock was wet or icy we wore both, but when it was dry we slipped off the felt soles and used the rubber ones. We made a short traverse to the right about 150 feet below the summit, our route again connecting with Wiessner's. A steep chimney with a short overhang was the last obstacle below the summit ridge. I changed to nailed boots here in order to reach the snow-covered crest.

At 8.30 we had completed the second ascent of Mt. Waddington. I found the waterproof, match-can register intact in a small cairn about 10 feet below the extremely narrow, unstable, snowy summit. We enjoyed the beautiful sunset over Mt. Bell as well as the wonderful view of the vast snow and ice panoramas for but a short time since darkness was setting in. Roping off in the final chimney, we found a small ledge about 150 feet beneath the top which afforded a bivouac spot. Here we anchored ourselves in with several pitons. We scraped off the snow on the ledge and attempted to smooth out the tiny shelf. Only our reliable tentsack, extra wool garments, and a can of sterno kept out the cold, as we sat catnapping through the mystic night with our feet actually dangling over the edge of the precipice. The steep outline of the dark cliffs, the jagged snow and ice feathers of the fantastic summit ridge towers—which clung even to overhangs—and the dismal contours of the abyss below, formed a stunning and frightening sight as I once looked out into the starry night

At 7.00 in the morning we began roping off. The descent required extra time on account of the rottenness of the rock, the lack of natural belay spots, and the scarcity of piton cracks. The retrieving of the rope was a delicate operation in many places lest it dislodge loose material, or snag on some protruding rock. We reached the top of the couloir early in the afternoon with plenty of time to spare. The rockfall was seen to be so relentless here that we waited until after 6.00 p.m. before descending, when the couloir was in the shade and the loose rocks freezing in. We had to climb down several disagreeable pitches where no satisfactory place to rope off could be found. Many of the fifteen pitons that we lost on the climb were left in the walls of the couloir where they were used for rappelling.

While about 400 feet above the bergschrund, disaster befell us. While I was retrieving our rappel line, a speeding rock hit me just above the knee, despite the fact that I was partially screened by an overhang. Besides receiving a nasty muscle bruise, a vein was severed. This was Mt. Waddington's most generous gift to me on my seventeenth birthday. As the heavy bleeding had to be checked, we were forced to spend another night out—one not anticipated—on an uncomfortable slope of wet scree on the side of the couloir. All night we were sliding down and climbing up this slope of unsound material when we should have been enjoying the comforts of air pillows, warm,

down sleeping-bags, and more edible food at high camp. With both of us huddling inside the small tentsack, we passed another cold, sleepless night. A slow, painful descent was made to camp the next morning.

Several days of rest put my knee in better condition but the 28-mile trek to Knight inlet was quite an ordeal. We took our time retreating to tidewater, spending two days at lovely Icefall point, partly to consume some of the extra food supplies which we had so laboriously carried there.

At the end of each day's hike, I now had two sore limbs, the good leg being weak from doing nearly all the work. In the course of our stay, the snout of the Franklin glacier had changed considerably and to negotiate it was quite a problem. On August 17, we again reached Knight inlet. So ended a wonderful summer's adventure and a great chapter in our lives.

The ascent of Mt. Waddington took us 16 ½ hours, of which only 4½ hours were spent on the upper 1,000 feet above the snowfield. A comparison of our times and those of the former party leads me to believe that on the lower section of the face, namely in the couloir, it had much better conditions. If we had made the ascent several weeks earlier, the couloir would have been in better shape and we could have made good time there. The ice and rockfall danger is so great on the south face that I believe it is hardly a justifiable climb. Future parties might possibly find both shorter and safer climbing on the north or east faces.

My brother and I wish to express our gratitude to the Don Mondays of Vancouver for their kindness in leaving at our disposal their vast knowledge of this area. We also greatly appreciated the fine hospitality given us by the Stantons.

UNCLIMBED PEAKS IN THE INTERIOR RANGES OF BRITISH COLUMBIA

J. MONROE THORINGTON

In a time when one hears much of post-war planning, it is worth while to take stock of certain problems remaining for mountaineers in the future. In the days of victory, those who return to climbing will look for fields worthy of their efforts.

This paper is written as a companion piece to a similar one dealing with the Rockies (*C.A.J.*, xxviii, 54), although in the case of the Interior Ranges, the present writer disclaims all responsibility for difficulties of bushwhacking and other hazards into which he may be luring the unsuspecting reader. One who is not prepared for a struggle should stay far away from the rough country of this region. This is the British Columbia wilderness, and no one going there to climb should do so without the intention of bringing back topographical information as well as the story of new summits. This cannot be done by guesswork; topographical truths are revealed by accurate surveys and photographs, not by innuendo or surmise.

Let us, then, consider the four Interior Ranges — Selkirk, Purcell, Cariboo, Monashee—to see what remains.

The Selkirk Range requires further exploratory work in its northern and southern areas. Far to the south is the Battle Group, as enticing as its approaches are difficult. The Topographical Survey, in 1892, reached a peak at its western end by crossing Flat Creek pass and going up Battle creek. Butters, Gilmour and Holway, in 1914, ascended the northeast peak (10,400 feet), approaching by way of the Beaver-Duncan trail which by now must be entirely overgrown. No one has visited the group since that time, although there are at least three unclimbed summits (10,100, 10,500, 10,750 feet), the latter the highest of the region. A route might be worked out from the Glacier Circle Hut, by way of Deville glacier. The pass route (Asulkan, Don-kin, Purity) from Glacier is still open to strong packers. As there are settlements at Arrow lake and a road part way up Incomappleux valley, this is another approach worth investigating.

The little-known territory north of the railroad begins at Mountain creek, where one can start from the railroad (Six Mile), and extends into the Big Bend. On account of unfavorable weather, or because geography was not enticing, the 1924 party to Mt. Iconoclast and the 1937 party to Trident Peak returned with little save the conquests of their objective peaks. The Sir Sandford Group has not been examined since 1912, although its highest summit is visible from the Bush river bridge on the highway.

There are splendid untouched summits in the Adamant Group, such as Blackfriar Peaks (E. 10,580 feet; W. 10,490 feet) and the east peak of The Gothics (10,610 feet). In the Windy Group one or more peaks exceed Trident Peak (10,141 feet) in elevation. Mt. Chapman (10,150 feet) is the most northerly peak of this elevation in the Big Bend, and a photographic panorama from its summit should be revealing.

There is a permanent camp on Kinbasket lake, at Middle river, with boats available for crossing; while, at the apex of the Big Bend, the steel bridge on the highway, brings one over the Columbia in close proximity to mining trails rising high on the Selkirk slopes.

Even more can be done in the Purcell Range, where the precise location of the east-west Kootenay watershed (between the north-flowing Columbia and the south-flowing Duncan) requires accurate mapping. Parts of the range, after four seasons of observation, are still highly mysterious to this reporter.

The Spillimacheen Group, with its little glaciers, is worth looking into, although no peak seems to reach 10,000 feet. The Bobbie Burns Group, on Warren creek, should be more thoroughly mapped and climbed. What does the western side of the group look like and where do its radiating glaciers drain? The topographical puzzles also apply to the Bugaboo and Ethelbert Groups. There is no precise knowledge as to whether streams on the west side of Howser Spire run to the Columbia or to the Duncan basin. The peaks on the arc of the Howser river watershed await the climber, several, such as Mt. Taurus and Mt. Aurora, exceeding 10,000 feet. Recent climbing makes the writer's sketch map of 1933 quite obsolete, but as yet there is none better.

For the Bugaboo peaks, the road from Spillimacheen is open to cars and trucks, although it is far from being a smooth boulevard. Mr. McLoughlin, who runs the store at Spillimacheen, will take out parties. Isidor Kain, Conrad's nephew, can be reached at Wilmer, B.C., and has horses which he will take into almost any of the eastern valleys of the range.

Despite the climbing done in the Horsethief area, where the Lake of the Hanging Glaciers and Starbird glacier have altered in recent years, no one has told us much about the icefields of the west slope, and what, if any summits emerge therefrom. Eyebrow Peak appears to be east of the main water-parting, but this is still a matter of opinion.

Mt. Pambrun (10,400 feet), in the Trikootenay Group, is a fine snow mountain, lying on the West Kootenay side and accessible through the watershed pass at the head of Dutch creek. The finest cluster of untouched summits, however, occurs in the Findlay group just west of the right-angled bend in the upper course of Findlay creek. It can be reached by fair trail in two days from Findlay bridge, to which cars can go in less than two hours from Invermere. There are several good peaks, of which Mt. Morigeau (10,300 feet) is the highest, and a good deal of useful mapping could be done here amidst superb scenery. The writer's sketch maps of the area south of Earl Grey pass (G.J., Ixxvii, 455; Ixxix, 32), made in 1930 and 1931, while still the best, are only a beginning of what should be done.

In the Cariboo Range, Mt. Hostility (10,950 feet) is the most noteworthy objective, while Forks Peak (10,300 feet) rises in the terminal forks of Tête creek. At the head of McLennan river, southeast of Mt. Stanley Baldwin, there are four unnamed and unclimbed peaks (10,750, 10,700, 10,500, 10,400 feet) which might prove attractive. There is still a good deal of complex topography on the south side of the range to be clarified. It involves icefields and river sources and first-hand knowledge.

The Half Diamond M ranch (2,400 feet) is located four miles from the station of Tête Jaune, and horses are available for trips to the mountains, distant some twenty miles. Frank Gladish, one of Curly Phillips' very good cooks, is still nearer, having a homestead on Tete (Sand) creek, from which he outfits. He wrote that the Climber's Guide to the Interior Ranges, which we had sent him, was the only book they had to tell them about their part of the country, and that they were using it in the local school.

Of the Monashee Range, the arrangement of its higher northern peaks is but slowly emerging. The arduous work of Zillmer and Tiefenthaler in 1941 has told us much, and it is evident that the highest point (10,600 feet) at the head of Dominion creek has not been reached. The Geodetic Survey visited the area in 1939, camping on the summit of Mt. Lempriere (10,525 feet), and a map may be expected at some future date.

This is the merest outline of what is available when the mountain troops come home. They will not be disappointed in this pageant of beauty and adventurous possibility.

THE 1943 SKI CAMP

BY NORMAN BREWSTER

Weather is such an important factor in skiing as well as in mountaineering that I am tempted to give you a blow by blow account of Little Yoho weather from April 17 to 25 inclusive, which dates, by some mischance, coincided with the holding of the annual ski camp at the Stanley Mitchell Hut. Fortunately I am unable to discover adjectives which are sufficiently vehement and at the same time printable. But if you have read Cherry-Gerrard's *The Worst Journey in the World*, you will have a vague idea of what I should like to describe.

On the basis of weather it would be an understatement to say that the camp was a failure, but in some contradictory way it was also one of the most enjoyable camps I have ever attended. There was an atmosphere of serenity, an air of happy nonchalance, and whether it blew hot or blew cold, no one was greatly perturbed. Fortified each morning by Ken Jones' incomparable hotcakes and soothed periodically throughout the day by further culinary masterpieces, this band of philosophical mountaineers contrived to baffle the elements entirely.

It would be a mistake to suppose that the entire week was spent in fatalistic gourmandizing. One did have to ski in, and ski out. This was accomplished with remarkable ease. Reaping the benefit of a late camp, the party was driven a record five miles from Field before reaching snow. Two hours brought the last straggler (myself) to Takkakaw. Luncheon here was a leisurely ceremony, but snow conditions continuing good, the very same last straggler tottered in to the Stanley Mitchell cabin at a most respectable hour. The actual skiing time was about six hours. The outward journey was a breeze to us veterans who had spent a week battling through four-course breakfasts, and Field was reached with ample time to catch the 1.00 p.m. train.

Would that I could list an imposing number of peaks we conquered. We did not conquer one! And this was very strange because I believe that our camp was the best-balanced group of competent skiers and experienced mountaineers that we have yet had.

One morning the entire camp stormed the sides of Isolated Peak. After a delightful mixture of skiing through the woods, climbing icy gullies with crampons and skiing over a huge, undulating glacier, we reached a point (marked by sardine cans) about 300 feet below the summit. Here we received the full benefit of an extremely violent wind, and so decided to return. The run downhill would have pleased Mr. Arnold Lunn, but was perhaps too varied for many of us. Starting on the glacier, in good powder snow slightly spiced with areas of incipient wind crust, we shortly ran on to slopes ferociously glazed with blue ice. A few patches of powder snow clung forlornly to the ice and we darted from patch to patch, losing altitude slowly.

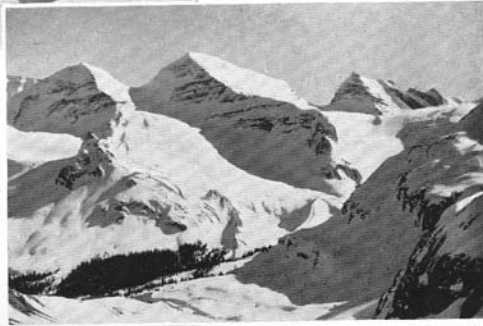
Just above tree line we entered a perfect stretch of light powder snow, and most of us ran it several times over for the sheer enjoyment of being on honest snow again. Thence into an accursed wood, and after adventures too numerous to relate we arrived at the cabin. Miss Edith Munday had the bad luck to sprain her ankle during the descent, but courageously proceeded without assistance to the cabin where Dr. K. Jones (the well-known authority on soup-bones) rendered first aid.

The same night several inches of powder snow fell and skiing conditions improved, however, the weather remained cloudy, windy and uncertain, and our trips were confined mainly to Emerald and Kiwetinok passes. Fortunately there are good practice slopes and some interesting gully runs near the cabin which were utilized by diligent skiers in all kinds of weather.

A democratic slalom course was laid out. It was felt that the ordinary course, which



N. Brewster



J. Addie



N. Brewster



Upper Left
The Highline Trail. *N. Brewster*

Upper Left
The President Range *J. Addie*

Lower Left
Isolated Peak *N. Brewster*

Lower Right
President Peak *J. Addie*

demands that every runner pass between the same pairs of flags, tends to develop inhibitions and encourages totalitarian thinking. In our slalom the flags were short enough to pass between the legs in case one felt an irresistible impulse to take them that way, and this proved a very popular method. This novel slalom was set by a modest member of the Little Yoho aristocracy, Baron von und zu Kiwetinok.

The Little Yoho has its charms, and though we did not see it at its best, I for one felt reluctant to leave. The week seemed a very short time. Perversely, as we started the outward trip the clouds lifted and the sun shone on high ridges gleaming with new snow and fluted by hundreds of small avalanches. It seemed an invitation to return and a promise of better weather next time.

This was the sixth annual ski camp, four having been held in the Little Yoho valley, one in the Tonquin valley, and one at Lake O'Hara. The idea of a Club ski camp originated with the late A. A. McCoubrey, and the success of the first camps was due to his own hard work. Mr. McCoubrey was one of the pioneers who realized, many years ago, that skiing was not only a sport in itself but an interesting supplement to mountaineering. He foresaw the tremendous interest in skiing which has grown up in the last few years and held the theory that it was a logical step from skiing to the nobler sport of mountaineering.

I cannot close without a tribute to the mainstay of our last few camps, Ken Jones, who conducts simultaneously the offices of guide, ski-instructor, cook, and backpacker. The "dollar-a-year" man of the ski camp, Ken performs a prodigious amount of work for a very small compensation. He does it for the love of the thing and has earned the respect and gratitude of all who have been with him at our camps.

THE STORY OF THE SWISS GUIDES IN CANADA

BY MAJOR F. V. LONGSTAFF

The story of the Swiss Guides in the Selkirks and the Rockies can be thus summed up. Two came out to Glacier for the climbing season 1899 and returned to Interlaken for the winter. They returned to Canada each summer for several seasons, but eventually were moved to Field. More guides came out, one or two new men at a time, and one year they all came out with their families and the intention of remaining for the winter, making their home in British Columbia, at Golden. Eventually Lake Louise succeeded both Glacier House and Field as the climbing centre.

To make even a fair picture or pictures of the doings of the Swiss Guides much more should be written on the above subject. The writer has known Glacier House and Mount Stephen House at Field since 1903, as well as the junior generation of Guides. He knows their homes at Interlaken (Gsteigwiler and Matten) and has stayed with the late Christian Haesler at Golden, where he also saw the other Guides in their homes with their families.

The hotels at Field and Glacier owe their inception to the necessity for providing two station restaurants where trains had to stop for passengers to have meals. This is shown by early photographs in the possession of the writer, one of Field, showing only one track in front of the restaurant. The first Swiss guides were brought out in 1899 by the Canadian Pacific Railway, in the persons of Christian Haesler, senior, and Edward Feuz, senior. Charles Clark came from Interlaken for the season in 1899, returning home in the autumn. In the first season they made stops at Banff and Field, but headquarters was at Glacier House.

Let the late Professor C. E. Fay describe his first meeting with Haesler and Feuz, as given in *Appalachia* (vol. IX, 1899-01, p. 259): "I reached Glacier on the 3rd of August (1899). I believe I may assert with no immodesty that my advent was a source of unmixed pleasure to at least two of the varied company gathered on the platform to witness the event of the evening, the arrival of 'No. 1'—as the westbound overland train is commonly designated. I refer to the two unique-looking, bronze-faced men who, religious in the performance of their duty, paced the platform during these important half hours in hob-nailed shoes, pipe in mouth, and otherwise attired as the regulation Swiss Guides. No pair of twin brothers were more nearly duplicates in raiment; no two guides ever more effectively supplemented one the other in excellencies than did Christian Haesler and Edward Feuz of Interlaken. Glad they were, for they were longing for more enterprising labours than these promenades, and the hardly bolder ones that constituted the chief of their functions—the guiding of tourists to the foot of the Illecillewaet glacier, with the possible roping-up for short trips on the ice-foot itself."

Let me give another snap shot of one of these early guides—on the first ascent of Mount Dawson. Professor Fay left Glacier House on August 12, 1899: "At five o'clock (afternoon) we reached the (Asulkan) pass, having found the névé not so much softened by the heat of the day as to prevent quite a rapid progress over the easy gradients by which on this side the col is reached. The wonderful view that suddenly opened before us—and in particular the striking profundity of the Fish Creek valley—drew expressions of admiration from the guides. 'Ein schones Thai!' broke from Haesler's sphinx-like lips as we came to where its wild beauty could be seen more completely."

For the seasons of 1900 to 1905 Christian, senior, was stationed at Field, together with Fritz Michel, Christian and Hans Kaufmann. Edward Feuz, junior, first came for the season 1903, while

Rudolph Aemmer and Ernest Feuz first came out in 1909, and they all returned to Interlaken for the winters until 1912. In this year all the guides brought their families out with them and made their new homes at Edelweiss, located about 1 1/2 miles west of Golden.

In 1933 when the writer spent several days under Christian's roof, of the six houses on the steep hillside only four were occupied. The top left-hand house was occupied by Rudolph while the top right-hand one was occupied by Walter Feuz (this had been Edward's up till 1915). The lower left-hand house was Ernest's, the centre one was Christian's, and the two on the right were empty. The inscription on the doors was *Lebe Wohl*, meaning "farewell," which should have been *Willkommen*, meaning "welcome." From about 1909 Christian, junior, was serving as a gunner in the Swiss Mountain Artillery, where he did so well that he was asked to continue service so as to work up to sergeant and thus to commissioned rank. However as this would have interfered with his guiding profession he refused the promotion. He took his official guide's examination near Interlaken, and in 1912 came out to Golden, where on arrival he was married to Miss Rosa Feuz, the daughter of Mr. Rudolph Feuz, who was brother to Susan Feuz, the wife of Edward Feuz, senior.

During a visit to Interlaken in 1931 the writer was shown round by Edward, senior, who enjoyed yarning of the old days in the Selkirks and at Glacier House. The writer was introduced to Mrs. Edward and was taken over the fine house built by Edward, at Rugen. He then met Alfred, the younger brother of Rudolph Aemmer, a prosperous bootmaker at Matten, who has sent countless pairs of mountaineering boots to Canada. During this visit to Interlaken a visit was made to the hamlet of Gsteigwiler and the writer was shown the chalet where Christian Haesler was born, also nearby the large house where Mr. Rudolph Feuz brought up his family. Mr. Haesler, senior, had three children: eldest, Lena, who married a Mr. Johnson and lived in the United States; the second, Emma Haesler, still living; and the youngest, Christian, who died at Golden in 1940.

The Mount Stephen House at Field was closed as a station for the Guides in 1917 or 1918, and Christian Jorimann left the Canadian Pacific Railway and took up a homestead at Moberly, where he is still living. Walter Feuz came out from Interlaken in 1912, and worked at Glacier House for the Canadian Pacific Railway and began guiding about 1921. Glacier House was the station, of Christian and Ernest for most of their service with the Hotel Department, and they grew very fond of the Selkirks. For many years the Guides and their families have reaped a harvest of fine large blueberries on the slope under Avalanche Crest, just above the old snow shed of the railway. This fruit was put up in jars for family use.

About 1912 Lake Louise was the headquarters of the Guides and at one time there were eight of them at Field and Glacier, namely: Christian Haesler, senior, Fritz Michel, Christian and Hans Kaufmann, Christian Bohren, Christian Jorimann, Gottfried Feuz and Christian Haesler, junior. All the above Guides are dead with three exceptions, Edward Feuz, senior, and Gottfried Feuz at Interlaken, while Christian Jorimann is living at Moberly. Though some of the guides began to work from Louise in 1900, yet the special Guides' House there only dates from 1920. Christian and Ernest were transferred from Glacier to Louise for the season of 1926, which was two years after the comfortable old wooden portion of the Louise Chateau was much injured by fire in July, 1924.

In 1924 Edward Feuz planned to build a Swiss log chalet (like those found in use high up in Alpine valleys) on the Plain of the Six Glaciers, above the Lower Victoria glacier. However, the Canadian Pacific Railway Hotel Department took over the concession from the Parks Department and put up a stone building in 1926. Eventually a few tents were put up for guests and the

writer spent a fortnight there in 1927. Ultimately three frame cabins were built for sleeping. Mrs. Edward Feuz managed this tea house for many years, attending to the wants of many climbers and doing her best to make them comfortable. One year there was a long Swiss Alpine horn made of wood, meant to be used in Switzerland to call the cows in from the pastures, and not for the Guide to collect his patrons before a climb, as some tourists have supposed. One day the writer took off his coat and in his shirt sleeves sounded the horn as some tourists walked up the trail, and what is more, received twenty-five cents for his entertainment!

During the years which Christian and Ernest worked from Glacier House they spent the winters there as caretakers, working to keep the roofs clear of the heavy snowfall. For the first few winters of her management the late Mrs. J. M. Young, beloved of all guests in the old days, stayed on at the House during the winter. The season of 1916 was the last in which trains passed by the hotel doors, as the trains were then routed through the newly-completed Connaught tunnel, starting on December 6, 1916. The rails over Rogers pass were all taken up, thus removing at last the continual dread of avalanches, which in the past had taken such a large toll of the lives of the railway workers. The first store-keeper at Rogers pass station was Mr. Joseph Carlin, who was followed by Mr. C. D. Morris, who moved to the present site in 1916, and about 1934 Mr. C. E. Hopkins took over the store and post office. At Glacier House the early volumes of the Visitors' Book were most interesting, as was also the Remarks Book of Climbers. Many years ago the writer made copies of entries from the first volume and still has his notebook containing the same. The first entry is: "18th January, 1887, John Bright, Grantham, England, Room 46."

The last season that Glacier House was open for guests was 1925, when Mr. Oscar Dahl was the manager, and it closed its doors finally on September 15, after making mountain lovers comfortable and refreshing them during thirty-eight seasons. The caretakers for the summer of 1926 were Hans Pieren of Adelboden and Mr. Downie. It was a remarkable coincidence that the Banff Springs Hotel was accidentally burned during its reconstruction in the spring of 1926. Though the writer photographed the wrecking of Glacier House by a Calgary contractor in 1929, there are still some people who declare that it was burned during a forest fire. This closing of hotel accommodation to climbers did not stop keen mountaineers from visiting the valley, for Christian and Ernest continued to conduct small parties up the mountains and to stay in the rooms of the old Canadian Pacific Railway Section House near the Cascade, which house still belongs to Mr. George Harrison of Banff.

The Rogers log cabin, built by the Canadian Pacific Railway about 1905, on the edge of timberline below the Rogers glacier, was for many years kept in repair by Christian and Ernest, who packed up on their backs the lumber for this work. But much damage was done each year by the many kinds of rats. There are many other mountaineering cabins, but with the exception of the Abbot and O'Hara cabins the writer is not familiar with these, or the work done by the guides to keep them in order for the comfort of climbers. The Abbot hut, 9,598 feet, has a special association with this story, for it was during a visit there by the writer with Christian on the evening of July 24, 1926, that many of these notes were obtained from him and put in an old notebook which is still in the possession of the writer. On the south side of the hut can still be seen, on the shoulder of the pass, the stone platform for the tents which were used by the hardy construction gang which built the hut for the Hotel Department in the fall of 1922 under the direction of Mr. Basil Gardom. The work was begun in August of that year and finished in October. In the early summer of 1923 all the blankets, furniture and kitchen gear were backpacked by the Guides themselves from the end of the trail by the side of the Lower Victoria glacier, and the hut was ready for use by climbers in June, 1923.

The history of the first O'Hara hut goes back to the early days of the Club, namely 1913. The writer made a stay of a week at the second O'Hara meadow hut in July, 1925, when it was new (built in 1924) and under the Hotel Department. At that time the small original hut was used by the manager and was surrounded with bridles and saddles. In 1930 after the present lake-side Lodge had been built the meadow hut was transferred to the Club. According to Captain E. N. Russell, the Superintendent at Field of the Yoho Park, the first hut was built in the meadows in 1913 by the Canadian Pacific Railway. The lease was not acquired until 1921, and on October 1, 1931, it was relinquished by the Canadian Pacific Railway and a licence of occupation issued to the Club for a portion of the above-mentioned land.

The Guides have always endeavored to have the huts conducted in the best traditions of the Swiss Club huts, each party bringing up its own firewood and contributing a few cans of food to the hut reserve in the case of parties being storm-bound or taking refuge after an accident. But some savage and untutored persons have not acted up to this practice and have used up all the wood and provisions when there was no state of emergency.

Let us turn to the professional achievements of the Guides. In their many years of guiding in the Canadian Alps they have developed into first class route locators and explorers of unclimbed mountains, and the work of each such exploring trip has been of a high quality because the climbers have been well looked after and brought back in good condition. The Guides have also developed into skilled axemen and horse packers. To be able to read the topography of a mountain which is seen for the first time, and lay down a practical route up cliffs, across icefields and hanging glaciers with the aid of field glasses, and so provide for the ascent and descent, requires many years of experience in climbing and of training for the eyes.

The power of leadership and great physical strength was well illustrated during the season of 1921 by Rudolph Aemmer who led the rescue party sent out for Mrs. W. E. Stone on Mount Eon, when Doctor W. E. Stone lost his life. The writer had the story from Rudolph's own lips one evening on the verandah of the Lodge at Lake O'Hara, but unfortunately did not then write it down. However the *Canadian Alpine Journal* (1921-22, p. 19) gives an account by Captain MacCarthy of this wonderful achievement, in which Rudolph was ably supported by Edward and Conrad. The scene of the accident was the south face of Mount Eon, 10,860 feet, located about 3 miles south of Mount Assiniboine and on the north side of Aurora creek with Marvel pass, 7,050 feet, about 3 miles to the east. ". . . Mr. Waterman and Dr. Gilmour volunteered their services [July 22] to Rudolph in whatever capacity they could serve, as well as did all others present, but as it was now four days beyond the time when the Stones were to have returned, it seemed evident that an accident had occurred that must have resulted fatally to both, and Rudolph decided it best to take but a limited number who were in condition for heavy work, as he knew the men of the Trail Gang were available to pack in provisions for them.

"Accordingly, on the 23rd [July] he set out with Peyto, Childs, and a member of the North West Mounted Police. Ascending Marvel Pass they found the Stones' bivouac still undisturbed and the next morning, taking Fitten and Gombert's route around Gloria into the basin they worked up to the broad ledge of Eon and out to the summit of a south spur at 7,800 feet elevation that commanded a good view of the lower reaches of Eon's south face. After a long and careful scrutiny of the mountain side with field glasses they were about to give up the search for the day, as it was growing late, when Rudolph was startled by hearing a faint call from a point to the westward, and he discovered Mrs. Stone on a ledge almost a quarter of a mile away and 300 feet below them. Quickly firing a shot to notify her that rescue was at hand, he then worked around the mountain

side and was soon on the ledge above her. Rudolph then descended with the aid of a rope and, by the use of a rope from above and Rudolph's assistance below, Mrs. Stone was raised to the broad ledge; but the eight days of exposure with no food had rendered her too weak to walk, so Rudolph, strong and resolute, carried her on his back around the base of Eon for about a mile and up and down and along this much broken and unstable ledge and then down the morainal basin to timber line where they made bivouac for the night.

[The following are Rudolph's own words in describing the descent: "I carried her for 41/2 hours on my back. I cut some rope, made a sling or loop in which Mrs. Stone could sit and also large enough to get my shoulders in, with another rope I tied her to myself; that gave me the arms free to use for holds and the use of the ice-axe. I have learnt that at home in the first-aid course."]

"Here, fortunately, they were soon joined by Dr. Fred Bell, who took charge of Mrs. Stone. . . . During the two days here, while she was gaining strength, the weather was bad, but Rudolph and his men made a careful search of the lower reaches of the mountain side without result. By the use of an improvised stretcher, Mrs. Stone was then carried to a bivouac in Marvel Pass not far from the bivouac she and the Doctor had started from eleven days before. Here another rest was taken for two days while the Trail Gang slashed the trail from the pass down through the Valley of the Three Lakes and up to join the Wonder Pass trail. With this work completed, members of the Trail Gang assisted in carrying Mrs. Stone out on the stretcher for fourteen miles to the Trail Centre Camp, where Miss Brown, the manageress of the camp, and Mrs. Fred Bell, did everything possible for her comfort.

"This heavy work in bad weather had seriously told on all the members of the rescue party, and especially so on Rudolph, the leader, who bore the responsibility and had not spared himself in the work."

After time for rest and reorganization a fresh search party was made up of Rudolph, Edward, Conrad, Mr. Lindsay and Captain MacCarthy, which reached Marvel Pass on August 3. Doctor Stone's body was sighted by Edward near the 10,000 foot ledge and just below the summit on the 5th. The ice-axe and later the rucksack were discovered at different places, and at 6.00 p.m. a start was made in the unpleasant, difficult and exhausting job of lowering the body down the steep cliffs with a 200-foot rope, handled by Edward, Rudolph and Conrad. The body was left in a safe place at 9,400 feet, while the party bivouacked under a large rock at 9,000 feet. The next morning the hard rope work was carried on from 5.00 a.m. until 1.00 p.m. when the scree slopes were reached. Timberline was reached at 5.00 p.m. with every member of the party completely exhausted, so they left the body and went on to Marvel Pass Camp for supper. ... It took several more days of slashing and portering to get the body out to Trail Centre Camp.

In Switzerland the sons of Guides follow in their fathers' footsteps. They start as porters and gradually work up to Guides. They then pass the Cantonal examinations and with more practice become duly qualified Guides. The examination covers many subjects and is really very hard. Unfortunately the National Parks Department does not recognize nor provide for the testing and registering of mountaineering guides of the high Swiss standard, but only that of trail or hunting guides, so that there has been no inducement for the sons of Swiss Guides in Canada to take up this skilled profession. At any rate none of the sons of the Canadian Pacific Railway Swiss Guides have attempted to take up mountaineering guiding.

All the Swiss Guides who have remained at Golden have greatly developed the adventurous side of their characters. In the Alpine areas of Europe there are no unclimbed peaks, but the opposite is the case in Canada. Edward Feuz has made over 100 first ascents in 39 years, Rudolph Aemmer

35 first ascents in 32 years, Ernest Feuz 25 first ascents in 32 years, Christian Haesler 25 first ascents in 23 years, and Walter Feuz 22 first ascents in 14 years. Most of these first ascents have required one or more scouting trips to discover practical routes, trails and camping grounds. Lastly comes the job of waiting during bad weather and the joy of making the best use of fine weather when clear days do come along. The enjoyment and satisfaction of beautiful and grand mountain views can only be earned by much care, preparation and long exertion. At the end of the great ascent the Guide brings down his patron in good condition and happy. This entitles the little party to sit round the camp fire in the evening and talk over the joys of the ascent, the stay on the summit and the descent.

FLOWERS OF THE CANADIAN ROCKIES

*DESCRIPTION BY THE LATE MRS. JULIA HENSHAW.
PLANTS COLLECTED BY A.O. BRIGDEN: WINNIPEG.*

Romanzoffia sitchensis. At high altitudes, when the warmth of July has melted the snow and set the flowers free, you will find the creamy blossoms of these Mist Maidens in many a nook amongst the forbidding rocks, their corollas shimmering like pearls in the green setting of their round scalloped leaves. The texture of these flowers is simply marvellous, for they have a bloom upon them so beautiful that it resembles nothing less than richest white velvet, while in their centres a few pale yellow stamens give to each blossom a heart of gold.

Epilobium latifolium. The Water Willow-herb is a very handsome species which grows in wet places and marshes, or near water. It may always be recognized by its large bright magenta flowers and the glaucous appearance of the stems and leaves—that is to say, by the whitish bloom which covers them. The leaves are also thick and very soft, entire, sessile and narrow.

Saussurea densa. This plant grows chiefly on stony slopes and in other dry places among the mountains. The dark purple flower heads are quite handsome and grow in a compact terminal corymb.

Aquilegia flavescens. This columbine grows at great altitudes, and may be found amongst the rocks at a height of 8,000 feet, where the soil is so light and sparse that there seems to be no foothold for any vegetation at all, much less for such tall and graceful plants as these aquilegias, which stand from one to three feet high and bear abundant blossoms of pale yellow, pendent on their brittle stalks.

Saxifraga cernua. Nodding Saxifrage, is a creamy-white flower, more rare than many of its sister Saxifrages, and growing from four to eight inches high. The traveller will at once be struck by the little bright red bulbs that grow in the axils, where each upper leaf is attached to the stalk; and by this characteristic, as well as by its lower palm-like leaves, the Nodding Saxifrage may readily be known. It grows among the rocks at very high altitudes.

Dryas Drummondii. This insignificant little yellow flower, which meekly droops its head as if conscious of its lack of good looks, has the most lovely plumose seed-heads imaginable; and there are few prettier sights in the mountains than that of some low-lying alpine meadow literally covered with these frail feathery tufts, rising up on their long, slender, woody stems several inches above the prostrate foliage, half of which is curled over to show its silvery lining; for all the leaves of Drummond's *Dryas* are green and shining on top and white and silky underneath.

The flower consists of numerous small yellow petals enclosed in a short, hairy, green calyx; but as soon as these die and fall off, the stalk elongates and the seed-head quickly develops. This plant will grow in the poorest soil and is most frequently found on arid gravel beds and in the gravelly batters of the alpine streams.



Top
*Romanzoffa
sitchensis.*
Mummy Lake.

Centre
Epilobium latifolium.
Lake O'Hara

Bottom
Saussurea densa.
Scarab Lake.

Photos A.O. Brigden





Upper left
Dryas Drummondii.
Emerald Lake.

Upper right
Saxifraga cernua.
Mummy Lake.

Lower
Aquilegia flavescens.
Egypt Lake.

Photos A.O. Brigden

LORD TWEEDSMUIR AS A MOUNTAINEER

R. H. G. BONNYCASTLE

We reprint below a few paragraphs from *Memory Hold-the-Door*¹ as introduction to an account of Lord Tweedsmuir's ascent of Bear mountain and his visit to Tweedsmuir Park.

“Another of my consolations was mountaineering. In South Africa I had scrambled among the kloofs of the Drakensberg and the ranges of the Northern Transvaal, and, long before, I had climbed in the Highlands, but it was not until 1904 that I paid my first visit to the Alps. There I did a number of the usual courses, my chief resorts being Chamonix and Zermatt, and in 1906 I became a member of the Alpine Club. But my favourite ground was the Scots hills, especially Skye and the Coolins. In them it was still possible to make first ascents, and I came to know every crack and cranny from Garbsheinn to Sgurr-nan-Gillian. It was my ambition to be the first to traverse the whole range in a summer's day, but I put off the enterprise too long and others got in before me.

“We have many confessions of faith from those who have lifted their eyes to the hills. I like best Mr. Belloc's in his *Path to Rome*. ‘Up there, the sky above and below them, part of the sky, but part of us, the great peaks made communion between that homing, creeping part of me which loves vineyards and dances, and a slow movement among pastures, and that other part which is only properly at home in Heaven.’ The wittiest thing every said about mountaineering, I think, was by George Meredith, that ‘Every step is a debate between what you are and what you might become.’ For myself, it brought me again into touch with the wild nature with which I had lived intimately in South Africa. Just as sailing a small boat brings one close to the sea so mountaineering lays one alongside the bones of mother earth. One meets her on equal terms and matches one's skill and endurance against something which has no care for human life. There is also the joy of technical accomplishment. I never took kindly to snow and ice work, but I found a strong fascination in rock climbing, whether on the granite slabs of the Chamonix aiguilles, or the sheer fissured precipices of the Dolomites, or the gabbro of the Coolins. A long rock climb is a series of problems each one different from the rest, which have to be solved by ingenuity of mind and versatility of body. I was fortunate to have the opposite of vertigo, for I found a physical comfort in looking down from great heights. Bodily fitness is essential, for there are always courses which you must have the strength to complete or court disaster. In any mountaineering holiday there are miserable days when the muscles are being got in order by training walks; but when these are over I know no physical well-being so perfect as that enjoyed by the mountaineer.

“Then there are the moments of illumination. On a snow mountain there is the miserable getting up in the small hours, coffee in a bleak dining-room by the light of a single candle, a long stumble through dark pine woods and over dusky alpine pastures, a slow ascent among the crevasses of the glacier, and then—the second breakfast high up on a snow ridge when the world seems to heave itself out of night into day. Or on a rock mountain, when after hours spent hugging the framework of the earth in cracks and chimneys, one comes out at the top to a spacious sunlit universe. I always felt the drama of the transition most sharply in Skye when, after a course among difficult chimneys or over faces with exiguous holds, one reached the ridge and saw the Minch, incredibly far below, stretching its bright waters to the sunset and the ultimate isles. Such moments gave me the impression of somehow being outside the world in the ether to which clouds and birds

1 *Memory Hold-the-Door*, by John Buchan. Published and copyrighted by the Musson Book Company, Toronto, Ontario.

belong, of being very nearly pure spirit — until hunger reminded me that I had still a body.

“I never had an accident mountaineering, or anything like one, though I often got into trouble, and once or twice came so near the limits of my strength that the mountains seemed to be leaping like the Scriptural rams. But I had one experience which I shall not soon forget. It was in 1910 in the Bavarian Wittersteingebirge above Partenkirchen. There is a small rock peak in the neighbourhood called the Alp Spitze which I set out to climb about 2 a.m. one June morning, with, as my companion, a young forester called Sebastian. We duly reached the summit, and about 9 a.m., after breakfast at a little mountain inn, began our walk of six miles or so to the valley. It was a brilliant summer day with a promise of great heat, but our road lay through pleasant shady pine woods and flowery meadows. I noticed that my companion had fallen silent, and, glancing at him, was amazed to see that his face was dead-white, that sweat stood in beads on his forehead, and that his eyes were staring ahead as if he were in an agony of fear, as if terror were all around me so that he dared not look one way rather than another. Suddenly he began to run, and I ran too, some power not myself constraining me. Terror had seized me also, but I did not know what I dreaded; it was like the epidemic of giggling which overcomes children who have no wish to laugh. We ran — ran like demented bacchanals, tearing down the glades, leaping rocks, bursting through thickets, colliding with trees, sometimes colliding with each other, and all the time we never uttered a sound. At last we fetched up beside the much frequented valley highway, where we lay for a time utterly exhausted. For the rest of the road home we did not speak: we did not even dare look at each other.

“What was the cause? I suppose it was Panic. Sebastian had seen the goat-foot god, or something of the kind — he was forest born, and Bavarian peasants are very near primeval things — and he had made me feel his terror. I have never had a similar experience, but a friend of mine had something like it in Norway. He was alone, climbing in the Jotunheim, and suddenly in a wild upland glen the terror of space and solitude came upon him. He ran for dear life, crossed a considerable range of mountains, and at last reached a saeter. There was no one in the place, but there were cattle, and he found sanctuary in a byre, where he nuzzled his face into the neck of a most astonished cow.

“I have seen the sun rise in many places — West Highland dawns over the wintry Glasgow streets as I plodded to college; moorland dawns when I awoke chilled and famished beside some Galloway loch; the superb pageants which greet the mountaineer when he breakfasts on some high saddle of rock or snow; dawns in the African bush or on the high veld, when the dew lay heavy and the morning scents were like spices; eerie dawns in Flanders and Picardy when the sun sprang out of enemy country to the sound of enemy guns; dawns over ocean and prairie and desert. One of the misfortunes of advancing age is that you get out of touch with the sunrise. You take it for granted, and it is over and done with before you settle yourself for the daily routine. That is one reason, I think, why, as we grow older, the days seem shorter. We miss the high moments of their beginning.”

Lord Tweedsmuir's Trip Down The Mackenzie River And Ascent Of Bear Mountain

In July, 1937, I was assigned by my employers, the Hudson's Bay Company, to accompany Lord Tweedsmuir, then Governor-General of Canada, on the trip he proposed to make down the Mackenzie river to the Arctic on board the Company's steamers.

As I had made many previous journeys both up and down the Mackenzie, I did not at first appreciate my good fortune, and felt some uneasiness about the formality and ceremony which I

imagined might be demanded by the occasion. My fears were soon set at rest, because it took only a few minutes after the arrival of the special train at Waterways, Alberta, where the river voyage was to begin, to discover that the Governor-General was a most natural, friendly and charming person, and the members of his party were also fine travelling companions.

I shall always value most highly, as one of the great privileges of my life, the few weeks association with Lord Tweedsmuir on that trip.

The Mackenzie river has a great variety of scenery. The Athabaska river has high wooded banks on either side. Passing through the Slave river the terrain becomes more level, while the country round the southern shore of Great Slave lake and down nearly as far as Fort Simpson is comparatively low-lying but well wooded, the route skirting the Alberta plateau. Below Simpson are soon encountered fine views of the Mackenzie mountains, the McKenzie river running quite closely to them at one point. From Fort Norman looking across the river, and miles away to the southwest, the mountains stand guard over the vast distances with peaks reaching up 7,000 to 8,500 feet. To the northwest is a lesser range known as Richardson mountains, which are skirted by the most westerly channel of the Mackenzie delta. Altogether, with long hours of daylight and short periods of twilight substituted for darkness, one sees many never-to-be-forgotten scenes.

At Waterways we boarded the S.S. *Northland Echo*, which carried us three hundred miles down the Athabaska and Slave rivers, past historic Fort Chipewyan, to Fort Fitzgerald. From here we travelled the sixteen-mile portage by automobile, past the rapids, across the boundary line between Alberta and the Northwest Territories, to Fort Smith. There we boarded the S.S. *Distributor* for the 1,300-mile journey down the Mackenzie. The weather was glorious, such as only fine and far northern summers, with their long hours of daylight, can be, and the Governor-General, lover of the world of nature and of new surroundings, revelled in everything he saw and did.

Our sternwheel steamer stopped a few hours at Fort Resolution, Hay river, Forts Providence, Simpson and Wrigley, and reached Fort Norman, at 7.00 a.m. on July 28. Here we were delayed for a day while the fires in the steamer's boilers were put out and the engineers washed the river mud out of the boilers.

Fort Norman is a more or less typical fur trade post, located on the right bank of the Mackenzie, just above the junction of the Bear river which drains from Great Bear lake. It boasts the trading posts of the Hudson's Bay Company and other traders, a Royal Canadian Mounted Police detachment, two missions, a government radio station, and several log cabins of trappers or Indians.

Looking south from the post across the mighty Mackenzie, here nearly a mile wide, one has a magnificent view of the snow-capped Mackenzie mountains in the distance. Down stream, just below the mouth of the Bear river, Bear Rock rears itself up 1,300 feet from the river's edge, fairly sheer on the river side, but wooded and less steep on the other slope.

The Governor-General was always keen for physical exercise, and a mountain climber of repute, with experience in many parts of the world, and no sooner did he set eyes on Bear Rock than he wanted to climb it.

The enforced delay at Norman fitted in perfectly, and a party of a dozen or so was soon made up, comprising His Excellency, Mr. A. S. Redfern, Secretary to the Governor-General, Mrs. Redfern, Lieutenant Rivers-Smith, R.N., A.D.C., Dr. George A. Macdonald of Edmonton, Inspector Martin, R.C.M.P., the writer, and a number of others. A local half-breed lad, Fred Gaudet, and a young Indian boy, came along in the capacity of guides. A motor-boat ran us down the few miles to the foot of the mountain.

It was a perfect morning for a climb. Each took a package of sandwiches in his pocket. I took two thermos bottles of tea, which I left in the boat and a small flask of whisky which I carried with me.

The guides were late in arriving and the Governor-General and I led the procession, first through a strip of woods to the foot of the mountains, and then up the shale and rocky slopes. I had been up some years previously, and this time, avoiding the face of the mountain, which I knew was difficult, worked around to the wooded part of the slope. His Excellency insisted on going up the steep face while Lieutenant Rivers-Smith went up somewhere in the middle. The others followed in various places.

I told Lieutenant Rivers-Smith that I did not like to see His Excellency going up the place he had chosen, but the reply was he was an experienced mountaineer and we were not. Fred Gaudet and the Indian boy overtook us about this time and said the best way was the route I was taking. However Lieutenant Rivers-Smith and Dr. Macdonald swung in behind Lord Tweedsmuir, who was making good progress, and the two guides followed them.

I made the best pace I could to the top by the easy route. I was uneasy about those climbing up the face because of its difficulty and danger. I recalled my experience of several years before when, after attempting that route, I reached a point where I thought I could neither go up nor down. Two companions above me were climbing painfully slowly and with great difficulty, and sent pieces of rock whizzing past me every time they made a move. They had got so far that they felt they could not retrace their steps, but advised me to do so and this I eventually managed. They finally crawled over the top and were thankful to get there. No one of us on that occasion was a climber in any sense of the word.

On the present occasion I reached the top by the back way, and then made my way down the first easy slope of the front, towards the top of the face, intending to look over and see how the others were doing. I arrived just in time to find the Governor - General crawling flat on his stomach over the crest assisted by Fred Gaudet from below. He had made the ascent with great difficulty, and was very pleased with the result, saying it was one of the nastiest climbs he had ever made and would make the blood of experienced Alpiners curdle. The rock was so insecure and crumbling that one could not depend on any of it.

His Excellency sat down for a rest while we considered the positions of Lieutenant Rivers-Smith and Dr. Macdonald who were at a standstill approximately 100 feet from the top with the most perilous part ahead of them. They shouted that they could neither come up nor go down. The footholds Lord Tweedsmuir had found had either been dislodged or would not bear their heavier weight. They declared a rope was necessary to help them up or down. This meant some of us descending the Rock, going back to the ship and bringing ropes to the top again.

By this time one of the Fathers from the Mission reached the top by the route I followed, and I arranged that he should go down with a note instructing the motor-boat to return to the ship at Fort Norman to get men and ropes. I also sent Fred Gaudet and the Indian boy, who had now come up behind the Governor-General, back by the easy route to the foot, telling them to climb up to Lieutenant Rivers-Smith and Dr. Macdonald from the bottom and help them to hold on or to climb down.

His Excellency and I then went on up to the crest where we found two others of the party who had come up the easy way. We all had a sandwich and a dram from the flask which I carried, His Excellency saying I put him to shame as he had forgotten to bring his. After a good rest I went down to the brow of the hill again, quite a lengthy clamber in itself, to see how the others were



Fort Norman And Bear Rock. *Photo Courtesy Hudson's Bay Company*



Thunder Mountain. *Courtesy British Columbia*

below. I could not see Lieutenant Rivers-Smith, but by shouting to the Doctor I ascertained that Fred Gaudet and the Indian boy had helped the Lieutenant down to a place of safety by steering his feet into footholds he could not find himself. I watched them while they did the same for the Doctor and then I returned to the summit with the good news. We four then began the descent by the back way and reached the foot without further incident.

We got back to the beach just as the boat arrived with the rope, and found Mr. and Mrs. Redfern much worried about Lord Tweedsmuir's safety. We soon relieved their anxiety and were laughing over the adventure. Everyone, including the Governor-General, had torn his trousers, and it was accounted a first-rate day. As His Excellency remarked, his Mackenzie river voyage was a most remarkable trip, with something new and exciting every day.

After the conclusion of the Mackenzie river trip by steamer, the party spent some time at the Arctic posts and after stopping at various points of interest, returned to Edmonton by aeroplane.

Lord Tweedsmuir's Visit To Tweedsmuir Park, British Columbia

On August 15, 1937, Lord Tweedsmuir, then Governor-General of Canada, Lady Tweedsmuir, and their party, visited the region set aside by the British Columbia government as a park and subsequently named Tweedsmuir Park in his honor.

They left the train at Burns lake, a small town on the Jasper-Prince Rupert branch, about 400 miles west of Jasper and about 315 miles east of Prince Rupert. They travelled by motor car southerly to Ootsa lake, the northern boundary of the park, a distance of about 42 miles, crossing on the way Francois lake by a Government ferry. On arrival at Ootsa lake lunch was served at Ootsa Lake Lodge. They were accompanied by Honorable A. W. Gray, Minister of Lands, Messrs. Connally, Kenny, and Labour-dais, three members of the B.C. Legislature, and others. After lunch, the party drove about two miles along the road adjoining Ootsa lake to Wilson's bay, where the boats were anchored in a quiet place. The open boats, driven by gasoline power, then sailed down the lake and the rapids in Ootsa river to Camp Susan, under the direction of Billy McNeill, an experienced guide of Ootsa. The Camp, which had been specially built by the Provincial Government for their guests, was situated on an attractive bay on Intata lake at the outlet of Ootsa river, on a height about twenty feet above the water level on a flat bench. Almost every day was spent in fishing and by trips on the water, going as far as the Nechako river. Trips by aeroplane were also taken from day to day as there were several planes available for use. The Great Circle trip taken by tourists by water, covering a distance of about 300 miles, was made by plane. The fishing was successful, and the hospital at Burns lake as well as the party, benefited by the results. After spending several days in this way the party went by plane to Stuiie Lodge, now known as Tweedsmuir Lodge, at the south part of the park. There were some trails in the Park at the time and rides on horseback were taken.

The park contains an area of about 5,400 square miles of mountains, lakes, rivers and valleys. It can be reached, as mentioned, from the north by railway and motor-car, and also from the south by a steamer from Vancouver to Bella Coola, thence by a motor road for about 42 miles to Stuiie. Some of the lakes are large, for example, Ootsa lake is about 50 miles in length, and varies from one to three miles in width. Many of the mountains are snow-covered throughout the year. The park is largely in its natural state, with good fishing and hunting of large game. At places the mountains rise practically perpendicularly from the lake shore. The levels of the lakes and rivers in the north part of the park are about 2,600 feet above sea level, although many in the interior are much higher; for example the level of Nutli lake is 4,453. The peaks vary in height from 5,500 to 7,500 feet.

An interesting account of this visit, entitled “Tweedsmuir Park and the Diary of a Pilgrimage,” was written by Lady Tweedsmuir of Elsfield, and was published in *The National Geographic Magazine* for April, 1938, No. 4 of Volume 73. She refers to the great variety of scenery, and its grace and beauty, and also to changing colors of the lakes. Lord Tweedsmuir considered it a good climbing field, especially for rock work.

In a foreword to a pamphlet issued by the British Columbia Government, Lord Tweedsmuir wrote as follows:

“I have now travelled over most of Canada and have seen many wonderful things, but I have seen nothing more beautiful and more wonderful than the great park which British Columbia has done me the honour to call by my name. Its five thousand square miles contain some of the loveliest lakes, rivers, and mountains on the continent; it shows every variety of North American game except the mountain-sheep; it provides a happy hunting ground for the sportsman, the fisherman, the naturalist, and the mountaineer.

“It is of historic interest, too, for there Alexander Mackenzie completed his great journey to the Pacific. I write these lines to invite Nature lovers to this noble reserve and to assure them that they will not be disappointed.”

SIR GEORGE SIMPSON'S CROSSING OF THE ROCKIES (1841)

J. MONROE THORINGTON

Until recently it had been assumed that the Wesleyan missionary, Robert Terrill Rundle, was the first white man to visit the site of Banff. In the Banff museum there is a note attached to his portrait, saying that he camped near Cascade mountain for five weeks in 1841. The present writer has been unable to discover the source of this incorrect statement, since Rundle's own journal¹ indicates that he did not ascend Bow river to that part of the mountains until 1847, and then proceeded directly to Lake Minnewanka. This was on June 28, and on June 30 he continued eastward along the lake, reaching Ghost river and a point near the Old Bow Fort on July 1.

Another white man however had passed through the site of Banff in 1841, and this was Sir George Simpson (1792-1860), making the first overland journey around the world.

Sir George, then governor of the Hudson's Bay Company in Canada, had come from England by way of Boston, Montreal, Fort William, Red river settlement and Fort Edmonton. Shortly after leaving the latter point, Simpson's party, on July 29, 1841, met Mr. Rundle, who had been visiting a camp of Crees at Gull lake, and Rundle accompanied the party as far as Battle river.

Simpson, continuing southward, crossed the Red Deer river, and thereafter was on an Indian trail from Rocky Mountain House on the North Saskatchewan to Ghost river, The Gap and Lake Minnewanka, where the Indians were accustomed to fish for salmon trout. At this time Simpson had as his guide a half-breed named Peechee, a chief of the Mountain Crees. Simpson named a lake for him² (as this was Peechee's usual home) and this is the present Lake Minnewanka.

In Simpson's narrative, Cascade mountain can be identified from the following: "From the top of a peak, that rose perpendicularly at least two thousand feet, there fell a stream of water, which, though of very considerable volume, looked like a thread of silver on the grey rock. It was said to be known as the spout, and to serve as a landmark in this wilderness of cliffs."

Peechee, whose name is now commemorated in a peak on the south side of Lake Minnewanka, led the party across Bow river, whence they traversed the watershed of the Rockies by the present Simpson pass. "We breakfasted on the level isthmus, which did not exceed fourteen paces in width, filling our kettles for this our lonely meal at once from the crystal sources of the Columbia and the Saskatchewan." Sir George was of the opinion that the spot was "inferior in grandeur to that of the Athabasca Portage."

In the Palliser Report (p. 93) one finds the following: "Sir George Simpson's pass branched off from the Vermilion pass, and it was shown to Dr. Hector by one of his men, James Richards, a half-breed, who had accompanied Sir George when he crossed the mountains. Dr. Hector did not follow up that pass, as it was hardly deserving of the name of a pass, because it involved the crossing of three heights of land, but nevertheless it is a most direct route."

Descending branches of Kootenay river, Peechee guided the party to Columbia lake, where a fresh guide from the west, named Edward Berland, met them. This was the junction with the Whiteman pass route, through which in the same year a party of emigrants had been conducted by John MacDonald (Bras Croche). Sir George visited the hot springs at Fairmont and continued by the usual route to Fort Colville.

More than sixty years afterward, an outfitter, camped on Simpson pass, turned over a

1 "White Man's God Comes to the Rockies." *C.A.J.*, xxvii, 182.

2 *Journey Round the World* (1847), 76.



Sir George Simpson. *Photo Hudson's Bay Company*



**Inscription Carved On Tree At Simpson Pass By Governor
Simpson And Factor John Rowand In 1841.**

fragment of an ancient fallen tree and found on it the carved inscription: “G S J R 1841.” This is still to be seen in the home of Mr. James Brewster in Banff.

The “J R” was John Rowand,³ born about 1787 at Montreal, who had risen to be a partner in the North-West Company, shortly before its coalition with the Hudson’s Bay Company. Rowand took up headquarters at Fort Edmonton (1823-54) and accompanied Sir George Simpson in 1841 from Red river to Honolulu. He died at Fort Pitt in 1854.

John Rowand had two sons, the younger of whom, Alexander,⁴ was a protégé of Sir George Simpson, lived with the latter’s family at Lachine and studied medicine at Edinburgh. It was he who served in the 1841 expedition as physician. He kept a journal, and it is probable that it was the source of Simpson’s book, it being an open secret that Sir George did not write it himself. Dr. Alexander Rowand practiced medicine at Montreal from 1844 to 1847, settling in Quebec in the latter year and dying there in February, 1889.

Simpson records the sad end of Peechee: “Having lost a horse at gambling, and refused to give it up, he was shot through the head for his pains by the winner.”

The First Crossing Of White Man Pass

Between Fort Carlton and Edmonton, Sir George Simpson had caught up with an emigrant train of twenty-three families from Red river settlement, “the first occasion perhaps, on which two large bands of civilized men had met as friends on these vast prairies.” Because they were slow moving and unlikely to reach their destination before winter, Sir George advised them to cross the mountains through Athabaska pass, but they subsequently followed his tracks. At Bow river they

3 The Hudson’s Bay Record Society: *Robertson’s Letters, 1817-22* (1939), 240.

4 Our attention was called to Dr. Alexander Rowand by Dr. Ross Mitchell, of Winnipeg. One should consult his articles: “John Rowand, Chief Factor,” *The Beaver*, June, 1935, 37 ; and “Student from Red River Colony Awarded Edinburgh Medical Degree,” *Manitoba Medical Assoc. Rev.*, xv (Feb., 1936), 18.

were deserted by their guide, James Sinclair, but met an Indian named Bras Croche, who took them “through a little to the southward by a pass infinitely superior to our own.”

This was the first recorded crossing of White Man pass,, through which Father De Smet came later (1854) from the west. The Sinclair who deserted the emigrants was a half-breed of some education, and is supposed to have crossed Kananaskis pass shortly after 1848, as in that year he knew of its existence and told Captain Palliser of his intention to use it. Sinclair pass and creek, the latter tributary to the Columbia river from the east below Lake Windermere, are named for him and form the cut-off route of the Banff-Windermere highway between the Kootenay and Columbia rivers.

The Indian Bras Croche is to be distinguished from John McDonald of Garth, who bore the same nickname because of a deformed arm, who built Rocky Mountain House on the North Saskatchewan in 1799, and who died in 1816.

GEOLOGY OF THE CONSOLATION LAKE AREA

BY W. H. MATHEWS

In the course of two weeks at the Consolation Lake Camp, July, 1942, climbers became very familiar with the appearance of the mountains and valleys, the rocks and scree slopes, snow and ice. Very few, however, were at all familiar with the way in which these mountains and valleys, etc., were formed or with the processes involved, yet in few areas in the world have these processes and the geological history been more simple and clear cut, or better illustrated than in the Canadian Rockies. With the twofold purpose of pointing out these processes and of relating the history this article has been written. It serves, moreover, a third purpose in extending the present geological information of the Rocky Mountains to a hitherto only sketchily studied area.

Since, with the possible exception of two small areas on the southern slopes of Mt. Fay and Mt. Little which may be occupied by intrusive rocks but which have not been examined at close hand, all the rocks of the Consolation lake area are sedimentary, the geological history may be resolved into four processes: sedimentation, metamorphism, deformation and erosion.

Sedimentation

Every one is familiar with the settling of muddy material in quiet water. Such settling goes on in precisely the same manner, though on a much grander scale, in the great seas of the earth's surface. Sand, mud and dissolved chemicals (salts) are being continually poured into these seas by rivers, large and small. The sand, which settles at the fastest rate, is deposited close to the mouths of the rivers and along the sea shores. The mud, which may take some days to settle, is carried some distance to sea. From the dissolved salts certain materials, notably calcium carbonate or lime, may be produced chemically or by organisms, and being insoluble they settle slowly to the sea floor. Near shore the small amount of lime produced this way is overwhelmed by the sand and mud, but farther to sea in the clear water it may form nearly pure deposits, later to be converted to limestone.

The origin of bedding or stratification should be familiar to all. Just as a winter storm may leave a deposit of snow but a few inches in thickness extending over many square miles of land surface, so may a period of sedimentation give rise to a single bed or stratum whose thickness is measurable in inches or feet but whose area is many hundreds of square miles. The character of a single bed may vary from place to place, often changing gradually from a sand near shore to a mud then in turn to a limy ooze far at sea. The period of sedimentation in which such a bed is being laid down may be interrupted by a sudden storm or a stormy season, in which event sandy and muddy material will be laid down much farther to sea on top of muds and limy oozes respectively. Changes in climate on the land surface will, therefore, give rise to a varied succession in the bedding of the adjacent seas. In spite of the changes that subsequently take place in the beds through metamorphism, these original variations may be preserved for millions of years and revealed to us in the sedimentary rocks of the present day.

Just as the process of settling or sedimentation goes on today, so has it gone on in the past. Certain peculiarities of sedimentary deposits are, however, worth mention. The great majority of the thick sedimentary deposits of the world, and this is true of the deposits of the Central Rockies, were laid down in shallow seas, in water 1,000 feet or less in depth. This fact is shown by the abundance of fossils of shallow water animals and plants and by the absence of fossils of animals

inhabiting deeper waters; by the presence of ripple marks and other evidences of currents (the water at great depths in the ocean is quite still), etc. One might suppose, then, that after 1,000 feet of lime, mud and sand are laid down on the sea floor there is no longer any room for further sedimentation; the sea has been filled to the water surface. Such is not the case; almost invariably the sea floor sinks to keep pace with the accumulating sediments until deposits many thousands of feet in thickness have been formed. Periodically this sinking is interrupted and sedimentation does cease; then, after a time, sinking recommences and further deposits of a later age are laid down.

In the Rockies sedimentation continued throughout most of the Cambrian period, which began about 500,000,000 years ago, an interval of time of perhaps 60,000,000 years, and in this time over 15,000 feet of sediments were laid down. At intervals in the succeeding 350,000,000 years sedimentation again took place and another 30,000 feet of sediments was added to the thick Cambrian deposit. Of this total of 45,000 feet of consolidated sands and muds and limy oozes, probably all was first laid down in shallow water, then carried downward with the sinking sea floor till the oldest beds lay fully eight miles below sea-level, finally to be thrust upward during a period of deformation and exposed well above sea-level on the slopes of the present mountains.

Metamorphism

Most mountaineers are familiar with the changes that take place in the character of snow from winter to spring and spring to summer, how it becomes more compact and coherent as time goes on, how it becomes coarser grained, and, if allowed to remain over a period of years, how it changes to a mass of solid ice, a glacier. Most people associate these changes with thawing, but, as can be shown by experiment, these changes can take place, though more slowly, at temperatures well below the melting point of ice. Similar changes can take place in sediments though at an exceedingly slow rate. Nevertheless, over the long period since the Cambrian period, over 400,000,000 years, and with the aid of the appreciable heat (perhaps 350° F.) and pressure at the great depths to which the sediments of the Central Rockies were buried, the cumulative change in the rocks is quite noticeable. Instead of an incoherent, unconsolidated mass of sand, similar to freshly fallen snow, firm, compact blocks of quartzite, analogous to blocks of glacial ice, have been developed. Where not excessively broken by fractures, a product of later deformation, this quartzite is, as on Mt. Bell, a fine solid rock, well suited for rock climbing, but, because of its extreme resistance to erosion, capable of forming bold cliffs, such as those skirting the lower slopes of Mt. Babel, which may offer serious problems to any ascent.

Just as sand is converted to quartzite, so is mud converted to shale and “argillite.” This latter material is, however, rather susceptible to fracturing with the slightest deformation and instead of being altered to a firm compact rock tends to change to a badly shattered material, slate, such as may be found mingled with the quartzite of Panorama ridge and of the lower slopes of nearly all the peaks of the area. Being badly fractured it fails to stand up in bold cliffs, forming instead ledges and scree slopes.

The original limy ooze has, under the influence of time, heat and pressure, become converted to a solid, if soft, rock, limestone, or occasionally to a coarser grained material of the same composition, marble. Though physically soft (it scratches readily under a boot nail), this rock is relatively unfractured and is capable of forming the prominent cliffs on the upper slopes of Eiffel peak, Pinnacle, Babel, etc.

Though the changes described above, of sand to quartzite, mud to shale and slate, and limy ooze to limestone and marble, are all the result of metamorphism, it is not to be inferred that these

are the only changes that can take place. Under a different set of conditions than that which has existed in the Central Rockies, precisely the same original materials can be converted into entirely different rocks, gneisses, schists, etc. In this part of the Rockies we have only to deal with one and a comparatively simple phase of metamorphism.

Deformation

The term deformation or “diastrophism” can be used to describe any earth movement, whether it be a slow and gradual uplift of a sea floor to form a coastal plain, a sinking of a land surface to form a sea, or a relatively violent, though protracted, crumpling and squeezing to form a mountain range. Such movements may be continuous (the Scandinavian coast is rising at the present time at the rate of about one foot a century), or interrupted (the west shore of the San Francisco peninsula is moving northwestward with respect to the eastern shore in jumps of about ten or twenty feet at roughly forty year intervals) in which case it is accompanied by earthquakes, but in either event the movement is very slow as judged by the usual human standards. It may take many tens of thousands of years to form a mountain range such as the Rockies.

Just as in metamorphism, deformation under one set of conditions may give rise to a totally different result from that produced under a second set of conditions. The original mountain building forces of the Western Rockies crumpled the formerly flat-lying strata into a series of great folds, inclined like breaking waves to the westward, complicated by numerous subordinate folds. On the other hand, in the eastern Rockies the beds were tilted, broken into numerous blocks, each many thousands of feet thick, which were then pushed bodily eastward over one another towards the foothills. In the Central Rockies no such evidences of extreme deformation are to be found. Instead, the land was uplifted, perhaps wedged upward by underthrust masses of rocks, and the strata flexed into a number of broad, gentle folds. After the main period of mountain building, however, there was a period of relaxation and adjustment in which a series of great fractures or “faults” developed and great blocks of rock were displaced from a few tens to several thousand feet with respect to each other (see page 227). The fractures themselves consist of zones of crushed rock from a fraction of an inch to several tens of feet in width, a fraction of a mile to many miles in length and extending downwards for an undetermined distance. Because of the displacement of the opposite walls of a fault, totally different beds may be brought in contact with each other. Thus on the northeast side of such a fault at Consolation pass (see section A-B) there is a thick succession of flat lying quartzite beds; on the southwest side at the same point there is instead a thick succession of limestone which, like the quartzite, lies in a nearly horizontal attitude.

Associated with the formation of folds and faults is the development of the numerous minor fractures or “joints” which everywhere intersect the rocks. At first glance it is generally apparent that many of these joints are parallel or nearly so to one another; such a group of joints is known as a joint “set.” On more careful inspection of the rock it will be found that nearly all the fractures can be readily grouped into a small number, generally three, of such sets. Thus in quartzite one group of joints is as a rule parallel to the bedding and two others are perpendicular both to the bedding and to one another. Quartzite, therefore, tends to break into more or less rectangular blocks. In the slate will be found only two joint sets, both nearly parallel to one another and to the bedding. As a result slate tends to break up not into rectangular blocks but into flat slabs. In limestone the joint sets may not be so well defined but in general they tend to form a rectangular pattern similar to that in quartzite. On one place on the upper slopes of Pinnacle, however, one vertical joint set in the limestone was very much better developed than the others and gave rise to a series of upright slabs

which were often, but erroneously, regarded as indicating vertical bedding. Care should always be taken to distinguish between the original characters produced during sedimentation and such characters subsequently imposed by deformation or metamorphism.

Erosion

Of all the processes described here, erosion is probably the most complex, yet its effects are more evident to the mountaineer than all others combined.

Erosion proceeds in cycles, each cycle initiated by a period of deformation during which a sea floor or old land surface is uplifted. At once streams develop on the newly uplifted surface, cutting downwards in their channels. The downcutting is rapid at first, but as the elevation of the stream bed is lowered it becomes slower and slower. The rate of downcutting is, in general, at first greatest in the lower parts of the streams; here are the canyons first developed. These early formed trenches then increase in depth and extend upwards towards the headwaters of the streams. At the same time as the streams are cutting canyons, the canyon walls are being attacked by atmospheric agencies, the wind and rain and frost, and as a result of landslips, rockfalls, soil creep, frost heaving, etc., these canyons become widened into ravines and valleys.

In the early stages of an erosion cycle, a great deal of the original land surface or sea floor is unaffected by erosion, and is left as plateaus interrupted by ravines or comparatively narrow and deep valleys. As these valleys widen, however, the plateaus decrease in size, become detached from one another as the valleys lengthen headwards, and finally disappear altogether. In their places are left first high ridges which become progressively lower and lower until, in the closing stages of a cycle, they remain only as low hillocks on a broad plain (such a residual gently rolling land surface is known as a peneplain). In theory the cycle would be complete when all the land was reduced to a horizontal surface at sea-level, but invariably before that state is reached a renewed uplift initiates a new cycle or sinking of the land permits invasion by the sea.

Mountain chains, once formed by deformation, in general undergo a series of uplifts and erosion cycles. After each cycle, older and older rocks are exposed till finally the very core of the mountain chain is revealed.

Mountain chains have suffered not only from the more or less continuous erosion by rivers, but also, at times, by ice, notably during the past million years. At the start of the latter period the climate, apparently over the whole globe, became colder and wetter; amid the higher peaks the snow lingered later and later into the summer, then persisted throughout the year as snowfield and névé which, in turn gave rise to glaciers. These then crept farther and farther down the valleys which had already been excavated by the rivers, carrying with them first loose soil and debris, then blocks of solid rock torn from the valley walls and floor.

As the erosion by glaciers progressed, the valleys became deeper and wider; they assumed a U-shaped vertical cross-section. The floors of the major valleys were excavated more rapidly by the great glaciers they contained than were those of the tributary valleys, till now, where the ice has departed, the brooks leaving the latter often must cascade over steep slopes, even precipices, down to the level of the main stream. At the same time, the smaller mountain glaciers were carving at their heads amphitheatres or “cirques” and sapping the bases of the ridges and peaks leaving many as jagged arêtes and steep-sided horns. In time the cold, wet climate abated; the glaciers shrank, leaving in their wake the rock debris they were no longer able to bear. Whenever the retreat of the ice was continuous, the debris was left as a relatively thin mantle on valley floor and walls, but whenever the retreat was intermittent a series of ridges, “recessional moraines,” was formed at the

snout of the glacier. The older and outer of the moraines were first attacked by the atmosphere and in time decomposed or weathered into a fertile soil which was soon clothed with vegetation; the inner and younger moraines, however, may still remain as barren heaps of rubble.

In eastern America and Europe we have records in a series of moraines of not merely one great advance and retreat of the ice, but of at least four. Between these ice ages there were warm “interglacial” periods during which the climate was as mild as it is at present, and the land was inhabited by innumerable species of plants and by a host of animals from great mammoths to insignificant beetles. In the Rockies, however, any record of more than one ice age and of the fauna and flora of interglacial periods still awaits discovery.

Geological History

Having briefly reviewed the general geological processes that have acted throughout the Canadian Rockies, it is now possible to discuss in more detail the local history of the Consolation lake area.

It is customary in any description of a sedimentary succession, such as follows, to divide it into groups of beds or “formations,” each fairly readily distinguishable from its neighbors and each of a size to be conveniently indicated on a geological map. Thus a particular group of shaly beds found on the middle slopes of the mountains of the Consolation lake area, overlying a thick deposit of dark grey limestone and underlying a still thicker deposit of a lighter coloured limestone is known as the Stephen formation. Formations are, moreover, very often characterized by a certain group of fossil animals and plants, a group which is found only in rocks of identical age in other parts of the world. Thus the fossil trilobite “*Olenellus*” of which fragmentary remains have been found on the lower slopes of Mt. Stephen¹ has been found only in rocks of “Lower Cambrian” age, whether these be in the Canadian Rockies or on Cape Breton Island, in Arizona or in Wales, indeed the term “*Olenellus* zone” is often used to describe a subdivision of the Lower Cambrian. It is by means of these fossils or fossil groups that the more or less incomplete sedimentary successions in various localities have been pieced together and a more or less complete sedimentary history of the world for the past 500,000,000 years has been prepared and with it a geological “calendar.” Such terms as Cambrian or Lower (older), Middle and Upper (younger) Cambrian can be regarded as the names of “months” on this calendar even though they have since been found to represent periods of as much as 60,000,000 years.

Formations are named, as a general rule, after the locality in which they were first discovered or are best exposed. This policy has been followed here; the formation names proposed by Dr. Walcott, Dr. Allen and others after their geological studies at Field, Lake Louise and the Bow valley, have been used in the description of the succession in the Consolation lake area. A similar policy has also been used in establishing many of the names on the geological calendar. From an old series of rocks first studied in Wales (Cambria) over a century ago the name Cambrian was first adopted. Now the term Cambrian refers not only to these rocks in Wales but to rocks of a corresponding age in all parts of the world.

The distribution of formations can be represented in several ways. The first of these is the geological map (see page 226). Here it should be noted that because the formations of the Consolation lake area are very nearly flat lying, in any horizontal plan they will be found to follow very sinuous courses approximating the contours of the hillsides on which they are exposed. The

1 “Mt. Stephen Rocks and Fossils,” by Dr. Charles Walcott, *C.A.J.*, Vol I, No. 2, 1908.

second means of representation is the vertical cross-section (see page 227). In such a section the beds will be seen to take the very gently undulating attitude that is often apparent on the steep valley walls of Paradise valley or the Valley of the Ten Peaks. Formations may also be listed in tabular form and, following the sequence normally exposed on a hillside, the youngest beds are placed at the top of the list (see page 223).

At the very bottom of a list of formations of the Consolation lake area will be found the Hector and Corral Creek formations which because they are still older than the Cambrian are described as Pre-Cambrian. Their history is as follows:

Table Of Formations

Age	Formation	Thickness (approx.)	General Character
Upper Cambrian	Bosworth	500+ feet	Grey, distinctly bedded limestone and limy shale
Middle Cambrian	Eldon	1,000 feet	Light-colored, indistinctly bedded limestone
	Stephen	100 feet	Distinctly bedded grey limy shales, locally fossiliferous
	Cathedral	700 feet	Grey, indistinctly bedded limestone
		300 feet	Brown, distinctly bedded limestone
Lower Cambrian	Mt. Whyte	2,700 feet	Brownish and greenish shale
			Alternating shale and pink to white quartzite
	St. Piran		Pink to white quartzite with rare beds of shale
	Lake Louise	100 feet	Distinctly bedded red and red-brown shales
	Fairview	200 ? feet	Quartzite, grey conglomerate
Pre-Cambrian	Hector and Corral Cr.	1,000+ feet	Grey shales and slates, etc.

Hector and Corral Creek Formations—Towards the end of the Pre-Cambrian era, more than 500,000,000 years ago, a great thickness of muds, now shales and slates, was laid down on the floor of a great sea which probably extended along the site of the Rocky mountains all the way from Arizona to the Yukon. What may also be the same succession of shales and slates is exposed in the eastern part of the Purcell range where it is known as the Horsethief creek series. The Hector and Corral creek formations now appear across the floor of the Bow valley up to the hills at the eastern base of Mt. Temple and to the middle slopes of “Panorama ridge” wherever the thick mantle of gravels, morainal material and forest cover permits. They are also at or very near the surface in Prospectors valley a short distance below Eagle Eyrie.

After these sediments, the first of which we have record in the Consolation lake area, were laid down it appears that they were uplifted and warped when subjected to prolonged erosion, but the evidence of these changes is fragmentary and far from conclusive.

Soon after the beginning of the Cambrian period, sedimentation again commenced and

continued with no outstanding interruption for many millions of years. In this time an enormous thickness of sands and muds and limy oozes was laid down; even now after compaction and consolidation the aggregate thickness of these Cambrian sediments exceeds 35,000 feet. Of this succession, however, only the lowermost is exposed in the Consolation lake area. The remainder of the Cambrian rocks, along with still younger rocks that presumably once covered the area, have by now been completely stripped away by erosion.

The Cambrian sea, like its predecessor, apparently extended for the full length of the Rockies from Arizona to the Yukon. Its eastern limit is not known but to the west it evidently extended to the eastern half of the present Selkirk and Purcell ranges. From time to time, as the adjacent lands were uplifted or sank, the shores of this sea shifted and the character of the sediments changed, but for long periods the conditions remained remarkably uniform.

Fairview Formation — When the Cambrian sea first transgressed across the area now occupied by the Bow range, a gravel or shingle beach was formed in places and later buried under sand washed onto it from the adjacent land. This gravel has by now been changed to a hard conglomerate, which may be found today as a thin, probably discontinuous bed extending along the middle slopes of “Panorama ridge,” or as detached fragments in the talus as far down as Consolation lake. The overlying deposit of sand has been converted to a hard quartzite.

Lake Louise Formation—Perhaps the sea transgressed still farther across the area, perhaps the supply of sediment from the adjacent land areas declined; in any event, the deposition of sand, mentioned in the last paragraph, gave way to that of mud, a mud richly charged with iron compounds and, consequently, of a characteristic red-brown colour. This deposit of mud, now a red shale, appears on Panorama ridge, on the floor of Consolation valley a mile above Consolation lake, on the floor of Prospectors valley above the Eagle Eyrie and across Opabin pass on the lower slopes of Mount Yukness.

Saint Piran and Mount Whyte Formations—The change was then reversed; mud gave way to sand. Over the red-brown muds was laid down a rather pure sand, now altered to a hard white or pink quartzite that forms the upper slopes of Panorama ridge and Mt. Bell, and the lower slopes of nearly all the other peaks of the area. The deposit accumulated to a great thickness, for even now after a certain amount of compaction it approximates 2,700 feet. The lower part is dominantly quartzite, but in the upper part are found bands of shale which becomes more and more numerous till at its summit this part of the succession is composed almost entirely of the latter material.

Cathedral Formation—At the next stage, the sea transgressed farther or the supply of sediment became smaller than ever before; deposition of muds and sands gave way to that of limy ooze. For long periods conditions remained remarkably uniform and hundreds of feet of limestone were formed with scarcely a sign of variation or of stratification. The first limestone formed now possesses a characteristic brown colour, probably, though not certainly, original. It disintegrates rather readily and forms a broad sloping “terrace” or bench that is fairly prominent on the middle slopes of most of the mountains of the area, particularly of Mt. Temple. Above this brown band is a band of grey limestone, almost 700 feet thick, in which the vagaries of color are quite noticeable. In it are lens-shaped to irregular patches of creamy-white limestone which have evidently been formed by the bleaching of the grey limestones by solutions slowly percolating through the rock. On the southern slopes of Mt. Temple these patches are well developed and a somewhat similar patchy coloration may also be observed on the south ridge of Mt. Biddle above Eagle Eyrie.

Stephen Formation — For a short period, a distinctly bedded limy mud was deposited over the Cathedral formation. Now a limy shale, these beds are exposed at the summits of Mounts Pinnacle and Eiffel. Their surface exposure has evidently formed a favorable line of attack for water and ice; these agents have apparently been able to cut inwards along them, thereby sapping the overlying rocks. The underlying grey Cathedral limestone has been much more capable of resisting the attack of these agents and now often remains as a prominent bench. As a result, over great areas to the west and southeast of Mt. Quadra the glaciers ride over the top of the Cathedral limestone and the Stephen shale is often exposed along the margins of the icefields wherever these are thinnest. It is in the Stephen formation that the only recognizable fossils of the Consolation lake area were found; at the summit of Pinnacle mountain are layers containing an abundance of trilobite fragments in a moderate state of preservation². This particular group of limy shales is the same as that in which the abundant fossils of Mt. Stephen and Mt. Burgess were found by Dr. Walcott years ago.

Eldon Formation — On the limy muds was deposited a considerable thickness of light colored lime, now a limestone which forms the summits of Mounts Hungabee and Bident, and of all but the highest of the Ten Peaks.

Bosworth Formation — On this light-colored limestone were laid down a distinctly beeded grey lime and limy mud that now appear on Mt. Biddle and on the highest of the Ten Peaks, on Mt. Quadra and on a number of peaks to the south. It represents the youngest rocks exposed in the Consolation lake area, and apparently corresponds with the rocks exposed on the slopes of Mt. Bosworth, north of Wapta lake at the Great Divide.

After the deposition of the limy muds of the Bosworth formation, there was a long period in the geological history of the Consolation lake area of which we have no direct record. During this interval, the sands and muds and limy oozes apparently became deeply buried and metamorphosed into the relatively hard rocks we know today, and during this and a later period they became broken by the joints and fractures so prominent today.

The next event of which we have definite record occurred several hundred million years later, in the period of the geological calendar known as the Upper Cretaceous (this name originates from the Latin word *creta*, meaning chalk, in allusion to the rocks of this age in southeastern England, the famous chalk cliffs). At this time, some 60,000,000 years ago, for reasons not well understood, the western part of the North American continent suffered from one of the fits of squeezing and crumpling that occasionally affect great belts of the earth's surface. Over almost all of British Columbia and the western fringe of Alberta the rocks were folded and great mountain chains, the predecessors of the present ones, created. Oddly enough the beds of this part of the Bow range withstood this storm to a remarkable degree; they retained their original attitude, horizontal and unflexed, but were apparently wedged upwards from below. In the end, however, as the forces were relaxing, the rocks were broken by two or three great faults and a number of minor ones, into a set of great blocks bounded by zones of crushed rocks. The three major faults all trend northwest and southeast and all "dip" (incline downwards) to the southwest, and all follow valleys, the first Opabin pass and Prospectors valley, the second Sentinel pass, and the third Consolation valley.

² Of these trilobites Dr. M. Y. Williams, Professor of Paleontology at the University of British Columbia, states that they "appear to be *Dolichometopus productus*, described from the middle Cambrian of the Grand Canyon of the Colorado." As the fossils are exfoliated pygidia "tails" only, I am not sure of my identification, but they seem to correspond rather closely with this species.

Immediately the first mountains were formed erosion set in. We can, however, only infer the changing landscape as this erosion proceeded. Streams soon found the weakest zones and rocks along which to cut their courses; of these the broken crest of an arching fold proved favorable for the ancestral Bow river, and the crushed belts of rock along the faults mentioned above for the ancestral Consolation creek and Tokum creek (Prospectors valley). Other structural features may have been responsible for the initiation of Paradise valley and the Valley of the Ten Peaks, but such structures, if they now remain, are hidden beneath moraines and glaciers.

In all probability the first-formed mountains were reduced to minor ridges and hills, then reborn as the present great range. The old streams again cut downwards into their floors, forming canyons which resembled in form, if not in size, the Grand Canyon of the Colorado. In time these became wider and less spectacular.

Then came the glaciers, first to the shaded north and east slopes of the peaks, then, as they grew, occupying all the valleys of the area. At its greatest flood, ice apparently filled the Bow valley and its tributary valleys to an elevation of 7,000 feet or more above the present sea-level. Along the margins of this great, branching river of ice were formed lateral moraines, often of considerable size. One of these can still be detected on the east slope of Consolation valley, 1,000 feet above its floor, as a narrow but continuous terrace. Below this terrace the surface material is composed of an assortment of rock fragments ranging in size from boulders to particles no bigger than a grain of sand or silt; above it is only talus and scree. A similar lateral moraine occurs on the north and west slopes of the Valley of the Ten Peaks, forming between it and the slopes of Mount Temple a broad shallow basin, Larch valley.

The ice then retreated, leaving a desolate waste to be weathered to a soil suitable for the advance of vegetation. The glaciers shrank back to the sheltered basins of their sources, still sapping at the bases of the cliffs now so conspicuous on the north slopes of many of the peaks. The opposite sunlit faces, freed from ice, developed long sloping surfaces on which cliffs were less, and rockslides more, conspicuous.

Not long ago, probably within the last one thousand years, the glaciers again made a feeble advance, and created new, still relatively unweathered, terminal moraines; notably the one forming a natural dam at the outlet of Moraine lake. Then, as if exhausted by this effort, within the last century they began a retreat that is still in progress. Should this retreat continue at its present rate, within the next few centuries mountaineers may no longer be able to enjoy the experience of crossing the glaciers in single file and roped to one another, or of cutting a way step by step up the ragged icefalls, of this area.

We have now studied, step by step, the geological history of this area right up to the present; this account is ended, but the work of the geological processes is not. The mountains may still rise, the rivers will still continue to sweep them, grain by grain, to the sea, and those who have lain at night listening to the distant roar of falling ice and the crash of rolling rocks can verify that these agents of erosion are never hesitating in their work.

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Mt. Temple And Consolation Valley *Photo W.H. Mathews*

illustrates the steep undercut northeast face of mt. babel and the smooth even southwestern slopes of panorama ridge.



**A Glaciated Slab Of Lake Louise Shale
Near Opabin Pass.** *Photo W.H. Mathews*



Eiffel Peak *Photo E.R. Fraser*

illustrating the dominant vertical jointing which appears in the cathedral limestone and gives rise to vertical towers.

LITTLE YOHO VALLEY MILITARY CAMP

BY H. J. GRAVES

The introduction of training for Mountain Troops was made a part of the Club's activities for the first time at the 1942 Camp at Consolation valley when seventeen officers of the Canadian Army were present to receive instruction in mountaineering practice for use in military operations. That course was conducted with the basic idea that those attending should be able to go back to their respective Units and take some responsibility for parties proceeding in rough and semi-mountainous country. Accordingly, after two or three days' instruction and observation, they were given responsibility to an extent in organizing expeditions of various kinds, certain officers being detailed for various duties, such as route, equipment, commissariat, camps.

At the conclusion of the two weeks' course a six-day Field Test was arranged, designed to give the officers practice in travel over all types of mountain terrain, rock, meadowland, snow and glacier, to simulate as far as possible the sort of country which troops might be expected to encounter in actual operations of warfare.

On August 25, 1942, a communication was received from Ottawa thanking all concerned for the splendid cooperation and practical assistance rendered in respect to the training given and asking if the Club would be prepared to undertake a similar course of training for a larger number of men from the Forces, preferably at their Annual Camp in 1943. The communication also stated that from reports received from the first trainees, it was indicated that the instruction appeared to have a definite value for the Military in conducting operations and the best source of knowledge on the subject was undoubtedly contained in the membership of the Club.

The President thereupon laid the matter before the Executive, who concurred in the proposal to place the whole of the resources of the Club, both of personnel and equipment, at the service of the Department. Considerable correspondence ensued discussing ways and means during which the members were canvassed as to their ability and willingness to devote their services to the plan with the result that twenty-five members volunteered to attend, some of them subject to being able to arrange leave of absence or holiday leave.

This favorable response encouraged the President to advise the Minister that the Club would undertake the operation of a Military Instruction Camp in lieu of their Annual Camp, and to ask him to forward a list of requirements necessary for the success of the undertaking. The original number of trainees suggested by the Minister was 100, which appeared to be a suitable number for the Instructors available. The Department, however, while accepting the proposed number of Instructors, increased the number of trainees by fifty per cent, which entailed a certain amount of revision in the schedule proposed.

Arrangements between the Department and the Club relative to transportation and maintenance for Instructors were carried on by correspondence with the Department and interviews with representatives in Vancouver, with results satisfactory to both parties, following which the final details were worked out. Due to the fact that many of the Instructors resided at widely separated and distant points extending from the Atlantic to the Pacific, and that the larger group was domiciled in and around Vancouver, the home of the President naturally became the base where meetings could be held and plans developed.

Consequently, following an initial meeting on February 13, when the Instructors were present, a committee of the whole was formed and the situation having been reviewed, a select

committee was appointed, four in number, the President *ex officio*, to prepare a syllabus and time schedule covering a three weeks' course. The select committee set to work immediately and at regular intervals made progress reports to the general committee when the reports were analyzed and suggestions received for their guidance. The work of preparation of the time schedule and subjects for instruction was done by the select committee at meetings held regularly for that purpose and covered a period of one month, following which the syllabus was planned, the work being divided among the individual members. When all was ready the finished syllabus was placed before the general committee and received its approval.

The next move was for the President to make a visit to Camp Hale, U.S. Army Mountain Training Centre, to discover whether items of information for our guidance could there be obtained and to check up on our prepared plan. On his return the President reported that the course at Camp Hale very closely approximated what had been prepared by the committee. It was therefore decided to make no alterations.

Copies of the complete syllabus and schedule were mimeographed and sent to all Instructors for their perusal and suggestions. In due course these suggestions were returned, considered, and in most cases adopted either as addition or revision. After this the set up was finally approved and adopted with copies forwarded to the Department officers who likewise expressed their approval.

The time occupied with this phase of preparation was approximately four months, during which time some of those who expected to attend were called for other assignments and the number of Instructors reduced to twenty-two, the number actually on the roll at Camp. In view of this situation it was planned to select from among the trainees those showing an early aptitude for the work and enroll them as Assistant Instructors.

The Camp was to be of three weeks' duration, extending from July 17 to August 7. The site chosen, the Little Yoho valley, was a very happy selection, convenient in every way for the transportation of supplies and the conveyance of the men part of the way, thus enabling them to reach Camp in the late afternoon of the day of their arrival at Field. A Base Camp was established at Takakkaw falls, where the road ends, and the remainder of the journey to Camp was made via the lower trail by packhorses and the high trail by pedestrians.

On July 8, Major Tweedy entered the valley with the Camp equipment for the purpose of setting up the Camp, no small job as snow was still on the ground and the weather was most foul. However, you know the Major! When the advance party arrived on July 15 the camp was set and all preparation, save that of supplies, made for the reception of the expected guests.

During the weekend preceding the opening of the course, Instructors were arriving at intervals, singly and in groups, glad to renew acquaintances after several years' absence in some cases, and to greet those who had been together at last year's Camp. By Sunday the hut was a hive of activity and quickly took on the atmosphere of a real mountain hut. Ice-axes were in every corner, boots, socks and other articles were suspended from the beams. Ropes festooned the walls. Conversation and laughter followed anecdotes as members discussed their activities and experiences since their last meeting — a truly heartening scene and one which will long be remembered by all. The weather which had been stormy and unsettled now showed signs of improvement and promised to be fine for the opening of Camp. Although rain had continued to fall throughout the morning the afternoon brought a definite improvement.

During the day minor preparations were made by individuals. Later the whole group arranged a layout chart of instruction personnel and the composition of parties to be ready for the commencement of the course next day. As this was the first meeting of all the Instructors, there

were many points to be discussed and explained. Some time was devoted to the matter of rope-handling and technique, the knots to be used and taught and so on — a most interesting feature. An amusing picture was created by Hassler Whitney, who demonstrated a particular point by seating himself on the floor and tying himself with knots of weird and wonderful contrivance. Other demonstrations were made by passing the rope over the central beam, when members were suspended therefrom to illustrate the value of certain applications of their favorite knots.

Difficulties regarding certain necessary items of equipment such as ice-axes, mountain boots, snowglasses, ropes, etc., became apparent early in the proceedings but by patience and perseverance plus much correspondence they were eventually overcome, in no small measure through the sympathetic help of our friends at Washington, D.C., who were most ready to assist in making our undertaking successful.

While small parties explored the surrounding terrain and selected suitable locations for instruction in rock, snow and ice work, a group set to work cutting and fashioning alpenstocks. The men took over that job and we proceeded to rig up sun visors from a supply of green mosquito netting which had fortunately been brought into camp. Meanwhile the men, who had arrived the previous evening and were getting settled, were fitted with mountain boots, a limited number having been brought up from Base Camp. Altogether it was a very busy day for everyone and a mild excitement existed with speculation upon the probable success of the opening day and succeeding days of the first week of this new undertaking. By 11.00 p.m. the tent dwellers had departed and the occupants of the hut had settled down for the night, a trifle crowded but happy and confident.

The First Course

The first week opened with a simple climb to the peak of Mt. Kerr, in which everyone joined. Quite a large party for one mountain but by using different routes congestion was avoided. The party returned over the second peak and coming down all and sundry enjoyed a half-hour of fun, glissading. Camp was reached without untoward incident and the opening day concluded, voted by all to have been a successful introduction to mountaineering.

Instruction began in earnest on Tuesday according to the plan and syllabus which provided for Elementary Instruction during the first week of the course, Advanced Instruction during the second and Practical Exercises in the third week. The trainees were divided into three platoons, the Instructors being assigned more or less equally to the three main branches of instruction, namely, snow-craft, ice travel and rock climbing. The platoons rotated day by day, each platoon receiving lessons in all three subjects. The fourth day of instruction was occupied in kindred subjects such as route selection and climbing with equipment, making a fairly light day for all hands, while a number of Instructors enjoyed a rest day. This easing up was in preparation for Saturday's test event, the ascent of Mts. President and Vice-President in which all the Trainees and all Instructors took part. It was an opportunity for observing the results of the first week's training, which everyone agreed was most satisfactory from every standpoint.

Saturday morning reveille at 3.45 was followed by breakfast at 4.00, leaving an hour of preparation for the start.

The men were paraded on the Camp square where Instructors were placed in charge of their individual groups. Ropes, alpenstocks, snowglasses and boots were checked over before moving off at 5.15. An unforgettable sight to observe so large a body of men setting forth on what for many was their first real climb. Before long their training was evidenced by their slow, steady pace, their body movements and carriage. At the glacier all were roped up and the ascent to the pass began.

A remarkable sight it was to see the many roped parties converging by various routes towards the pass. Generally the men climbed like veterans and by 8.00 a.m. the main body was crossing the berg-schrand by a snow bridge on the President side, the bergschrand extending right across the top of the pass except at that point and another on the Vice-President end. All crossed safely and the climb to the summit was completed at 9.00 a.m. by the largest party ever to make the ascent. Only two ropes went on to Vice-President, the higher peak being the favorite choice.

Although the summit area is quite extensive there seemed to be a great crowd and the first arrivals moved down again quickly to make room for the others. When the sandwiches had been disposed of and the men rested, the descent began. So exhilarating was the glissading that some even climbed back part way to glissade down again. Camp was reached at 11.00 a.m. thus concluding what was voted by all those responsible as a most successful conclusion to our first week of mountain instruction. An afternoon of rest and repair followed by a campfire with anecdotes, poetry and song brought the day and the week to a close.

On Sunday the Park officials came into camp and made a complete and interesting demonstration of forest fire fighting, which most of the men turned out to witness.

The second week of training was a repetition of the first, the instruction being stepped up with fuller detail and more difficult exercises introduced, including climbing with equipment. Instruction in advanced climbing with the rope, rappelling, roping-off, traversing and chimney climbing both up and down, was given to all sections and as the week progressed the ability and confidence of the men noticeably improved. A long trek was planned for the latter part of this second week to be a test, as it were, of their newly acquired knowledge. Instructors were to be present as observers and guides. The whole proceeding was to occupy a day and a half, with one night out in bivouac.

The route chosen for one party consisting of two platoons was to Yoho river, thence over Yoho, Wapta and Des Poilus glaciers, over the col between Isolated and McArthur Peaks and so down to Camp. Meanwhile a second party comprising one platoon of over fifty men marched to Summit lake where they spent the night in bivouac. Next morning they made the ascent of Michael Peak continuing along the ridge beyond, over Angle Peak and on to the summit of Mt. Vice-President, descending to the President col down the President glacier and so to Camp. A remarkable feat for a large body of men, after only two weeks' instruction.

All the men carried arms and equipment, the food being dumped in advance at the selected bivouac sites. Again the benefit of their instruction was in evidence. Their travel over boulder-strewn mountainside, creek bed, ice and snow, all previously unfamiliar terrain was a great credit to them and to their Instructors. Camp was reached in time for supper on Saturday and the second week came to a close with the satisfactory feeling that the results of the course were quite up to our expectations.

It remained for the third and last week to apply in practice what had been taught to date and to add whatever items of technique time would permit. A night operation of military character was a main feature of the third week, two opposing forces being engaged in the occupation and holding of a mountain pass. The chief purpose of the exercise was to test the ability of troops in mountain travel at night, the results proving that much had already been gained during the training. Instructors were present as observers and umpires. A clear night sky simplified matters considerably, besides providing an attractive supplementary feature in a wonderful arc of Aurora, which extended in a narrow band of bright light from north to southwest, from horizon to horizon, remaining unchanged for several hours. This operation commenced at 10.00 p.m. and continued until 4.30 a.m.

Naturally not all the trainees proved equal in ability or interest but among them were many who displayed excellent judgment and skill. The Club determined to take advantage of this and select a number for special training, that they in turn might become Instructors. A system of grading for trainees was adopted, the three grades, A, B, C, being applied by Instructors to men in their charge. At the conclusion of the second week the reports were analyzed and all "A" men grouped together and invited to undertake special instruction as leaders. From those volunteering, twelve were selected for positions as Assistant Instructors, and given special attention during the third week. On the morning of Thursday, August 5, before the conclusion of Camp, a class was conducted at the hut. Three Instructors were appointed examiners and the Assistants were taken through the whole syllabus covering each subject: snow, ice, and rock. As a result the twelve Assistants were pronounced fit and capable of giving instruction to the other trainees and were appointed A.C.I.'s for the second period.

Well, the day arrived when the course should end and, according to schedule, the whole party marched out to Field by way of Emerald pass, bivouacked for the night at Emerald lake, and proceeded next morning by road to Field. There the train took them away from the camp in the mountains where they had enjoyed a complete change of scene and living conditions and, above all, relaxation in pleasant surroundings. Not all of them appreciated it, particularly at the beginning, but it is certain that their association with the Alpine Club of Canada through its members has provided pleasant recollections which will remain with them as long as life itself. Throughout the first period the weather was consistently favorable, a stretch of eighteen days, continually fine, being a contributing factor to our success.

Camp Visitors

During the period of the Camp we were visited by a number of officers whose interest in the proceedings inspired them to come and see the training and exercises, chief among them Major General G. R. Pearkes, V.C., G.O.C.-in-C. Pacific Command. He stayed in Camp long enough to witness the exercises in some of which he actually took part, being quite attracted to the long rappel which one platoon was doing. He, himself, made the rappel, about 60 feet over rock cliffs, as well as one of lesser height, besides visiting all the platoons on the ground and making interested inquiries concerning the method of training. He was most interested in the ice work and was in high praise of the men's performance with the ice-axe, his comment being that he particularly wanted them to become proficient on ice.

In the evening the General was a guest of the Club at the Stanley Mitchell Hut, when all the Instructors were introduced. In the course of his discussion of the day's proceedings he expressed his complete satisfaction with the work in hand. So much was he impressed with the value and possibilities of the Course that he determined to extend the length of the Camp by another three weeks and requested the Club to accept the training of another group of equal number to the first, from other units. To this the member Instructors agreed and it was so arranged. Before his departure he suggested that the training might be continued through the winter in some convenient area and that next year the school might be enlarged to 500 or possibly 1,000 trainees. This appreciation of our efforts was very gratifying and his frank and outspoken approval greatly encouraging.

We received further encouragement from Major General Ganong, G.O.C. 8th Division, who spent two days at camp, a good deal of it in the field. His first act was to climb Mt. Kerr, in company with Colonel Westmorland, no mean feat for a man quite unfamiliar with climbing, and unaccustomed to the altitude. During his visit he also witnessed the various groups at their training, which continued without interruption. His keen appreciation of all he saw was evident when at the

hut in the evening he discussed with us all the points of the training. He asked for full information regarding the course as the higher authorities are much interested in developing the scheme. He was supplied with all information possible and presented with a copy of the syllabus and schedule, after a perusal of which he requested that a précis be prepared by the Club covering the instruction in detail. The General left camp next morning accompanied by his aide, Lt. Trenholme, evidently well satisfied with the results of his visit.

Major Bolton, second in command of the regiment whose men were in training, arrived in Camp the day of Major General Ganong's departure. He was quite pleased with the instruction his men were receiving and when he left Camp the same day his comments were most favorable.

Another visitor was Major W. H. Lidell, R.C.O.C., H.Q. Pacific Command, Vancouver, who arrived in company with Lt. K. A. McKenzie, and Lt. M. Davies of the same department. The training was of special interest to him, he being in charge of all instruction in special courses.

The U.S. Army heads, on the alert as ever, had made a request to be allowed to send two trainees from Camp Hale. This permission was gladly given and two officers in the persons of Capt. John Jay and Lieut. Chas. (Chuck) Bradley arrived the day before opening, to be followed next day by Major Albert H. Jackman, G.S.C., from Washington, D.C., as observer. It was felt that this was a compliment to the Club and they certainly were a welcome addition to the party. Bright, breezy fellows, they fitted in splendidly and took great interest in the work, at times assisting with helpful suggestions. Out every day, they covered the Course from beginning to end and their departure was met with genuine regret on both sides.

At intervals Major R. Langford, Supervising Warden, Yoho National Park, came to see us and his courteous cooperation was most helpful.

As was to be expected, the unusual gathering of such a group as ours did not escape the watchful eyes of the R.C.M.P. and it was no surprise when two officers in the persons of Sgt. Jakeman from Banff accompanied by Constable Bryson from Field rode into camp. Their visit was merely in the routine of duty and their bright uniforms certainly added color to the Camp picture.

Major General Potts, G.O.C. 6th Division, arrived at Camp on the evening of Tuesday, August 24, attended by his aide, Lt. Webb. Advice of his intended visit had reached us earlier and plans were made to give a field day, both to honor him and to demonstrate the application of mountaineering to mountain warfare. This took the form of an assault on a mountain ridge at an elevation of approximately 7,500 feet, approached over extremely difficult and rough country, and necessitating crossing two high glacial moraines which were separated by a defile down which flowed the swift-running stream which emerges from the snout of the glacier. The plan was such that the General could witness at one time as many as possible of the various phases of training which the troops had undergone during the period of their instruction.

On Wednesday morning the troops moved into position as planned and the assault began, continuing from 8.30 till 12.00. From a high commanding position the G.O.C. saw everything from the opening barrage and the flanking movements to the rescue of wounded brought down off the ice and lowered by ropes over a 60-foot cliff on the way to, R.A.P. A most realistic display well designed and carried out with great enthusiasm by all hands. The G.O.C.'s comments at the campfire that evening were, "I was astounded at the way in which the men behaved and the agility and skill which they displayed in covering the ground. I could scarcely believe that in so short a period of training they could have become so proficient and the greatest possible credit is due to the Instructors for the excellent work they have done."

It was a very happy campfire meeting and we all felt, both Army and civilians, that a great

deal had been accomplished and that the results more than justified the effort.

During the first period there were also present Lt. Bell and Mr. Rowed, official photographers from Ottawa; as well as Sgt. Christopher, an official writer; Mr. Hague, representing the Associated Screen News; Mr. Surrey, a representative of the Montreal Standard; and Mr. W. Buchanan of the War Information Board. These men went out at different times with the parties receiving instruction and in that manner covered the whole Course. Their stories and pictures when released to the press should be most interesting.

Brigadier Bostock, Pacific Command H.Q. Staff, arrived at Camp on August 29 and remained until the Camp closed, when he marched out with the troops to Emerald lake. He likewise was quite enthusiastic over the training and declared it to be essential for operations which may develop in the future.

The packing from and to Base Camp was done by the R.C.A.S.C., their O.C. being Col. Westmorland, himself an enthusiastic mountaineer, a member of the Alpine Club and formerly a member of the Alpine Club of Canada. He rode into Camp quite frequently and climbed several of the neighboring peaks as a supplement to his official duties. It was an opportunity for many of us to renew acquaintance with him and moreover to appreciate his very efficient operation of the supply lines.

Some Interesting Incidents

Lack of space prohibits a full description of many interesting incidents, but among them was the discovery by Henry Kingman of Whymper's legend, recording the first ascent of Mt. Kerr. It was found in the cairn on the North Peak and consists of a piece of linen paper, about 3 inches by 12 inches, bearing the printed inscription "Edward Whymper, July 31, 1901," the month and date written with pencil, also, in pencil the names of the following Guides — C. Klucker, J. Pollinger, C. Kauffman. Across the creek from the hut Kingman also discovered what he believes to be Whymper's old campsite of 1901. On a blazed tree the written inscription "July 31-Aug. 10, 1901. The barometer was hung on this tree." In addition he found several wine bottles, empty, with wires attached, stone jars, possibly potted meat jars, and a small wooden packsaddle, badly weathered. These were brought to the hut as relics. Of course the authenticity of the find lacks confirmation but just the same much interest was aroused by the event.

The "Rock" men reported that in return for instruction given by them, the troops taught them how to snare gophers with a shoe lace.

Then there was the lad who was sent out as scout to report on the country ahead and on returning told his officer, "Just the same as here, sir. Nothing but mountains."

Considerable interest was provided by the grizzly. This old rascal kept the inhabitants of the valley very much on the alert during the whole of Camp. He, or she, no one can say which, commenced operations by attacking and badly mauling the Park Superintendent, Mr. Horsey, a few days before Camp opened, causing such injuries as to make hospital treatment necessary. The animal was seen on more than one occasion and heard on many, while its tracks provided evidence that it was roaming in the locality, scaring horses and keeping travellers on the qui vive. For a time men travelling by the main trail were accompanied by an armed escort except when in large parties. At the campfires bear stories were evoked as a consequence.

A Day in the Life of an Instructor

A typical day in the life of an Instructor could be described thus:

Reveille at 6.00 a.m., sounded by the camp watchman, one stroke on the frying pan. At first the Hutites put their only faith in an alarm clock which erupted at a time approximating

somewhat that indicated on the dial. It surely woke us. Dress, wash at the creek, shave (perhaps), make one's way to the camp about five minutes' distance to be on hand for breakfast at 6.45. Lovely mornings, the sun just up, bright sparkling atmosphere. Good to be alive. After breakfast a brief discussion, maybe on the subject of vitamins on the way back to the hut where each member collected his personal gear, rucksack, ice-axe, etc., checked up on sunburn lotion, snowglasses or other little necessity, then on to the Parade Ground where the troops were lined up at 7.45. Call at the Secretary's tent for ropes, at the cook tent for a lunch plus a can of juice (maybe), then on to join the party placed under one's charge. Enter in the notebook numbers and names of the class, check their boots, eye-shades, alpenstocks, lunches, etc., and in due course move off to the appointed place for instruction. We usually got away at 8.00 to 8.15, arriving at the respective field of operation about 9.00 a.m.

In all cases a period of verbal instruction preceded the actual practice after which there were demonstrations and the trainees individually performed the various exercises. This occupied the time until noon when a halt was called for lunch, usually one hour. Before leaving the lunch place, a short time was devoted to discussion or explanations on pertinent subjects, after which instruction was resumed, continuing until about 4.00 or 4.30, when we all moved back to Camp, allowing time to write a report on the day's proceedings, to collect mail and attend to other personal affairs before appearing for supper at 5.30. After supper the Instructors assembled at the hut to exchange notes on the day's doings, cut wood or perform other little chores.

At 7.00 p.m. the troops were paraded for lectures, lasting one hour. Then the Instructors returned to the hut in time for meetings, when, under the chairmanship of the President, the events of the day were reviewed, comments exchanged and plans for the next day checked over. At times Army officers were invited to be present at these Instructors' meetings. Usually the meetings ended about 10.00 p.m. which allowed time for a brew of cocoa before retiring at 10.30. The writing of letters, diaries, etc., had to be sandwiched in at convenient intervals. It will be obvious that Instructors had very little, if any, spare time until the weekend in which to indulge in their favorite pastime of climbing a selected peak, for the work was quite strenuous, and a certain amount of rest necessary. Nevertheless, a number of private climbs did take place and the Club upheld its reputation for doing things.

The Second Course

On Sunday, August 8, in the evening, the second company of troops arrived in Camp, being preceded by a few hours by an advance party and the packtrain. The camp came to life again after two days of rest.

The second period began under less auspicious conditions than the first, for the weather, which had been fine for so long, had now become stormy and decidedly cooler. Also our Instructor staff was now reduced to ten, but with the addition of Captain R. Nourse, who had been at the 1942 Camp, and the twelve Assistant Instructors, it was confidently expected that the course could be kept up to the standard set by the first. So it proved, due in a great measure to the excellent performance of the A.C.I.'s plus the experience we had gained in the first period.

In operation the second course was practically a duplicate of the first with a few variations which the changed conditions made necessary. The highlight was undoubtedly the Field Operation on the occasion of Major General Potts' visit, described above, and it is worth recording that one of the sergeants, on being asked if he thought that the men could have carried through that operation two weeks ago, replied emphatically, "Certainly not. Why, they could not even have started."

Yes, the second period was very different from the first, but the results were the same, and the Instructors felt satisfied that the standard of training had been maintained.

On Sunday, August 22, the thermometer dropped to 36° and we were treated to a fall of snow of about 3 inches.

Lectures and Entertainment

The lectures were an important part of the instruction course and were usually given at 7.00 p.m. at the campfire. With but few exceptions all Instructors took part, besides some of the visitors, notably Major Jackman, U.S. Army, who told of his very interesting experiences on Mt. McKinley in 1942. Captain Gibson, who was on the same expedition, gave a lecture full of interest and entertainment. Other lectures were as follows: Henry Hall, Mt. Logan and Other Expeditions; Don Munday, Snowcraft; Andrew Sibbald, Route Selection; Roger Neave, Route Finding; Alan Lambert, Brad Gilman, Hassler Whitney, The Rope; L. V. Randall, Military Manoeuvres in Mountain Country; Dr. Canfield Beattie, Rescues.

Campfire entertainments were somehow a little infrequent, about one a week, doubtless due to the fact that time was occupied otherwise, but when they did happen they were really good. Of course, we spread ourselves for such occasions as visits from Major Generals, but at all times the field was pretty well divided between Army and Club. Some of the troops were a little shy at first, but when they got over that they really let themselves go. The song books provided by the Y.M.C.A. helped a great deal in keeping things rolling and everyone enjoyed these occasions. Entertainment at the campfires was contributed more or less equally by Army and civilians and included group singing when everyone joined in, also Army only and civilians only. There were quartets, duets, solos, rounds, and once a grand free style offering when several groups offered their various contributions independently and coincidentally.

The beauty of the surroundings may have been responsible or it may have been an epidemic but the Poetic Muse had a good innings and inspired Andy Sibbald, John Gibson and L. Randall to create verses dealing with appropriate themes. The Instructors did an impromptu skit for their collective offering. No one who witnessed it will ever forget the Army's little farce, "A Mock Trial," our friend Private Pineapple acting the part of the accused. It was a scream!

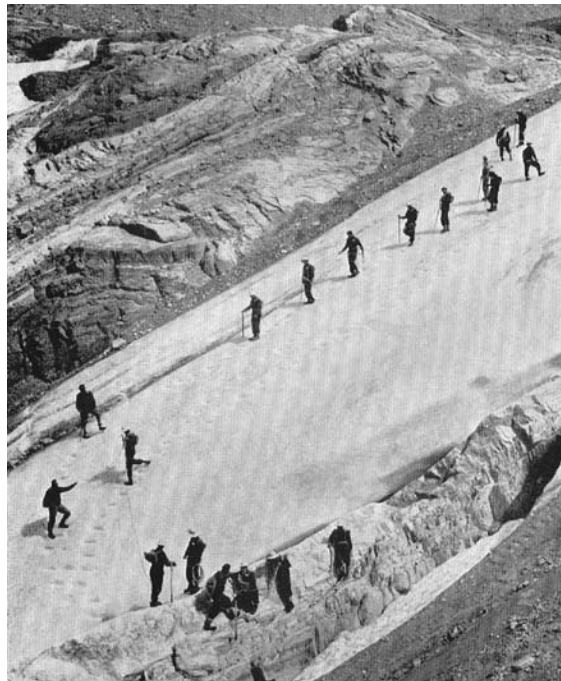
The bivouac campfires at Upper Yoho were something in a class by themselves. The first one was an all night affair and was responsible for many weary bodies next day. The second, at the same place, followed a long day's travel with an easy day ahead, and was also controlled by "Lights Out." In the late dusk the different fires burned brightly and the songs of the men, especially the Chansons sung chanty-wise by the French-speaking members had a very romantic effect. An interpretation of an Indian Dance by one of the men was most realistic. Bearing an ice-axe as a tomahawk, he presented a fiendish appearance as he circled the fire advancing and receding with wild and fearsome antics, to the accompaniment of wild cries and whoops from his companions. Something to remember, indeed!

This narrative would be incomplete without mention of "Rusty," the Army's mascot. A small, nondescript creature, this little dog went everywhere with the men and could always be found with one or another of the groups every day. He went at all times unroped and did more climbs than any of the men. On snow and ice he was quite at home, as his ascent of Mt. President proved, and when climbing on rock could be relied upon to get up even on the steep pitches, frequently using a man's back, shoulder or head for a lift. He had no favorites but was every man's friend. A real Army pup.

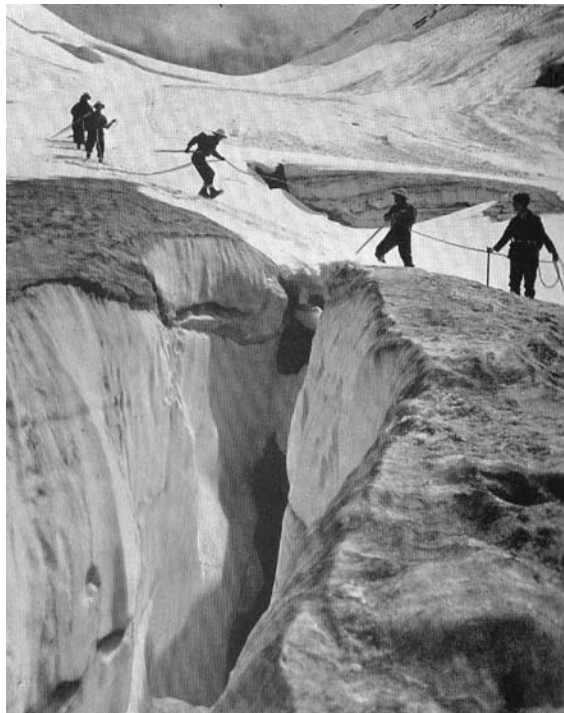
Many comments have been made on the harmony which prevailed among the Instructors



Ambulance Drill *Photo National Film Board*



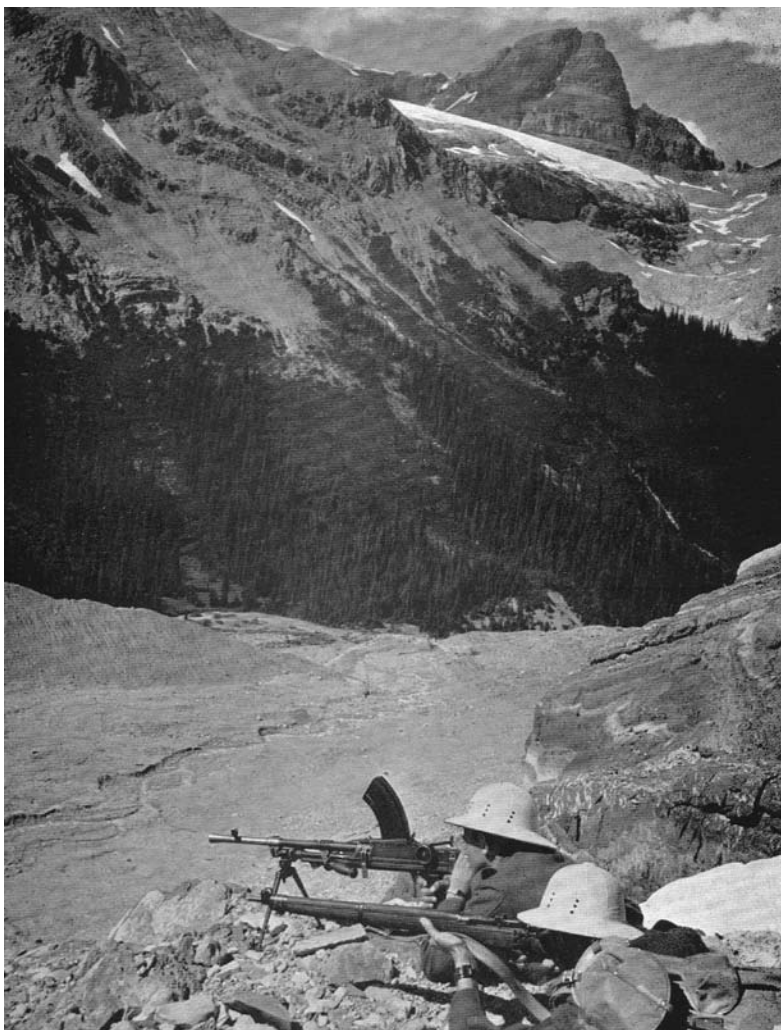
A Class In Ice Technique *Photo National Film Board*



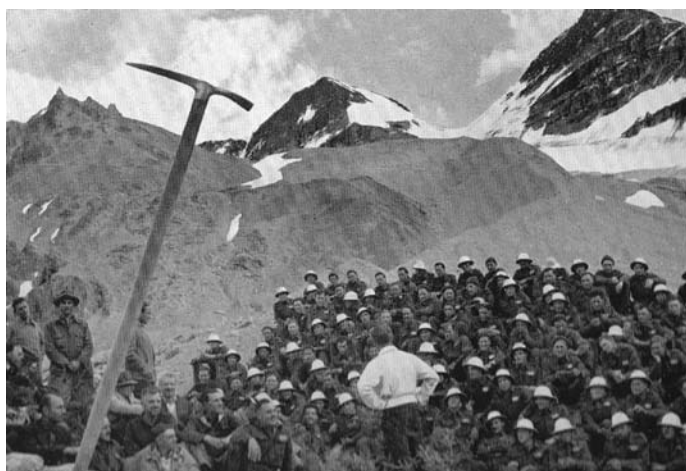
Practice In Crossing A Crevasse *Photo National Film Board*



Climbing A Snow Slope High On Mt. President
Photo National Film Board



Bren Gun And Rifle Over The Valley *Photo National Film Board*



A Lecture On Mountain Manoeuvres *Photo National Film Board*



A Lesson In Rope Technique *Photo National Film Board*



A Discussion On Ice Technique *Photo National Film Board*

who appeared at all times to be in happy agreement with one another. The gatherings at the hut were such that one wished Mr. Mitchell could be present to share with us this truly wonderful occasion.

In conclusion it may be said that the whole course was completely successful, even beyond the hopes of many who took part. Besides teaching the Army the members themselves learned a great deal. They have done a good job and proved themselves capable of giving instruction in the basic; elements of mountaineering. At the same time the Alpine Club of Canada has justified its claim to be the leader in Canadian Mountaineering affairs and has shown that ability to advance which its founders foresaw. We have made a bold experiment and proved our worth as an Alpine Club to which every member may feel proud to belong.

Names of Instructors

Dr. Canfield Beattie	Portland, Ore., U.S.A.
Paul Blanc	Montreal, P.Q.
John F. Brett.....	Montreal, P.Q.
Eric C. Brooks	Vancouver, B.C.
Russ Cuthbertson.....	Shaunavon, Sask.
Captain Rex Gibson.....	Petawawa, Ont.
F/O John Gibson.....	De Winton, Alta.
Brad. Gilman	Worcester, Mass., U.S.A.
Harold Graves.....	Vancouver, B.C.
Henry Hall, Jr.....	Cambridge, Mass., U.S.A.
Henry Kingman	Minneapolis, Minn., U.S.A.
Andy Kramer.....	Chicago, Ill., U.S.A.
Alan Lambert.....	New Westminster, B.C.
Fred LeCouteur.....	Vancouver, B.C.
Don Munday	North Vancouver, B.C.
Ferris Neave.....	Nanaimo, B.C.
Roger Neave	Sarnia, Ont.
Ludwig Randall	Montreal, P.Q.
Dr. Ivor Richards	Cambridge, Mass, U.S.A.
Andrew Sibbald.....	Regina, Sask.
John Wheeler	Banff, Alta.
Hassler Whitney	Cambridge, Mass., U.S.A.
Captain Reg. Nourse.....	R.C.A.

AC.I's

Sgt. Burns	Cpl. Mollison
Cpl. Park	Pte. Kohlman
Pte. G. Power.....	Cpl. Tunnaccliffe
Pte. E. Power	Cpl. Chartrand
Pte. La Rose.....	Cpl. Langley
Pte. Totten.....	Pte. Langero

IN MEMORIAM

Howard W. Vernon

1867 - 1942

Our older members, to whom Howard Vernon was a familiar figure in camp, in hiking parties and around the campfire, will learn with sorrow of his death from cancer on November 3, 1942, after a long illness.

Known to most of our members as a lover of the mountains, as a genial companion and entertaining conversationalist, he was known to his school and college mates as a brilliant student and as an athlete, particularly as an oarsman, a winner of races as a single sculler and a member of his class crews while at Yale.

Shortly after his graduation, with high honors, in 1889 he went to San Francisco to take up employment in his uncle's company, E. L. G. Steele and Company, successor to the internationally known firm of A. A. Low and Co., shippers, and it was characteristic of him that he went via the Isthmus of Panama where the first French Company had been at work for eight years beginning the construction of the projected Canal.

Arriving at San Francisco, he soon discovered that, as much of the company's business was with Central and South America, a knowledge of Spanish was desirable and he at once began its study and took up residence in a Spanish speaking boarding-house, of which he had many amusing reminiscences. This led to his becoming the agent of the company in Guatemala where he became a director of the Champerico Northern Railroad of Guatemala. While there he was stricken with typhoid fever and after a long and nearly fatal illness, through which he was nursed by the two daughters of the local plumber, as there were no professional nurses in the community, he returned to San Francisco, where he at once plunged into business without an adequate convalescent period. The result was that he suffered a complete physical breakdown and about 1900 was compelled to return to his home in Brooklyn and devote the next few years to regaining his health.

During this period he renewed his interest in athletics, joining the Crescent Athletic Club—with clubhouses in Brooklyn and on Long Island Sound—and the Fresh Air Club, locally well known for its trail hiking in the mountain country of northern New Jersey and southeastern New York State. In both of these he became active, taking up golf, rowing, hiking and skating. These interests he retained up to his last illness.

In 1902 he became a partner with his brother in the firm of Paul E. Vernon and Co., wholesale paper merchants and continued in this business until his retirement in 1936. In 1903 he also became a partner in the firm of H. W. and P. E. Vernon, real estate, in which he continued up to the time of his death.

Mr. Vernon was a man of wide interests to which he gave freely of his time and energy, one of them being the Brooklyn Institute of Arts and Sciences, in which he was a director and secretary of the Department of Ethnology. He was a regular attendant at the meetings of the New York Section A.C.C., its one time chairman and often a member of its committees. He joined our Club in 1912 having made his graduating climb at Sherbrooke Lake Camp in 1911. Although he was too heavy to do much real climbing in later years, few had a better record of attendance at camp. Unfortunately there is no complete record. Those who were present at Yoho pass in 1919 will remember that he was there with his bride—who was the former Miss Susan D. Huntington, Director of the International School for Girls in Spain. In addition to his activities with the Club,



Howard W. Vernon

Mr. Vernon was an enthusiastic participant in numerous pack trips in the mountains. Mr. Vernon's death takes from us one of our most scholarly, most companionable and best loved members. He will be greatly missed.

—F.N.W.

Byron Hill Harmon

1876 - 1942

Born at Tacoma, Washington, Byron H. Harmon came to Banff in 1902. I first met him then at the Grand View Villa, Dr. Brett's little tourist hotel at the Upper Hot Springs. We were both taking the sulphur baths there. He asked me if I thought he could make a living developing photographs for tourists. He started a business which grew to large proportions and resulted in his becoming one of Banff's leading business men and his emporium there the home of what was said to be the finest collection of Canadian Rocky Mountain photographs in existence.

In the earlier years of his residence at Banff he was busy getting established and in building up the nucleus of his outstanding photographic collection. He joined the Alpine Club of Canada in 1906, the year of its foundation, and was one of its "original" members. He was greatly interested in the Club and took an active part in a number of its finest achievements.

In 1910 we had with us at our Consolation Valley Camp the celebrated Himalayan mountain climber, Doctor Tom Longstaff. At the close of the camp I conducted him on a hunting trip up Bugaboo creek to Howser pass. Here he shot three grizzly bears, an old one and two full-grown cubs. Harmon and the Club's guide, Konrad Kain, were of the party. Harmon's picture of Dr. Tom, the writer and the three grizzlies was printed on picture postcards and sold by the hundreds in all parts of Canada and abroad.

In 1911, as official photographer, he was with the Alpine Club of Canada's expedition to the Rainbow mountains, of which Mt. Robson is the chief, under the leadership of the writer. He then, with Konrad Kain, made the first ascent of Mt. Resplendent (11,173 feet), a feat of which he was always very proud and which he describes graphically in the Journal. The report of the expedition in the 1912 *Canadian Alpine Journal* is illustrated by many of his fine photographs. The expedition closed with a reconnaissance survey of Maligne lake, when Harmon returned to Banff across the mountains with Curly Phillips. Thus, the first trip through the main range from steel to steel was made by an Alpine Club party of which he was a member. A record snow storm enabled him to get a number of fine snowscapes, for which he was keen, to add to his collection.

Byron Harmon attended many of the Alpine Club's annual camps, thus visiting various parts of the Rockies and yearly adding to his steadily growing collection of mountain photographs. He also obtained some very fine motion picture films, the first of the Canadian Rockies.

The Allied Congress of Alpinism was held at Monaco in May, 1920, under the patronage of H.S.H., the Prince of Monaco, and presidency of M. le baron Gabet, President of the Club Alpin Français. It embraced all the great Alpine clubs of the allied nations. Harmon went to Monaco as one of the Club's delegates, having also been appointed to represent the Dominion of Canada. With his whole-hearted assistance, as Director of the Club, I was enabled to arrange a magnificent exhibit of photographic enlargements, some 150 in number, composed largely of his beautiful pictures and unsurpassed motion films. The latter carried his audience off its feet and he was called on to show them again and again throughout the duration of the Congress.

Byron Harmon was a man of keen inventive genius. When copied by others he was

philosophically amused rather than annoyed and would say, “There are plenty more ideas.” Once in 1922, he conceived the idea of blowing up the tongue of a glacier with dynamite to get a striking moving picture of the result. He visited the Lake of the Hanging Glacier, accompanied by Dr. Cora Best and the guide Konrad Kain for this purpose and got all set for the movie. There were plenty of cameras and thirty-six sticks of dynamite. Konrad dug a hole in the ice and put in seventeen sticks. When the dynamite exploded the earth shook, the air turned purple and a few pounds of ice tumbled into the lake. Among the packhorses close by was Old Bill with a well-known reputation for always being in mischief. The explosion frightened him and he charged wildly into Harmon and the cameras. At that moment the whole icy top and face of the mountain beside the dynamited glacier broke loose and crashed to the ice below in a most spectacular avalanche, the chance of a lifetime. Did he get it? No! Old Bill had taken care of that.

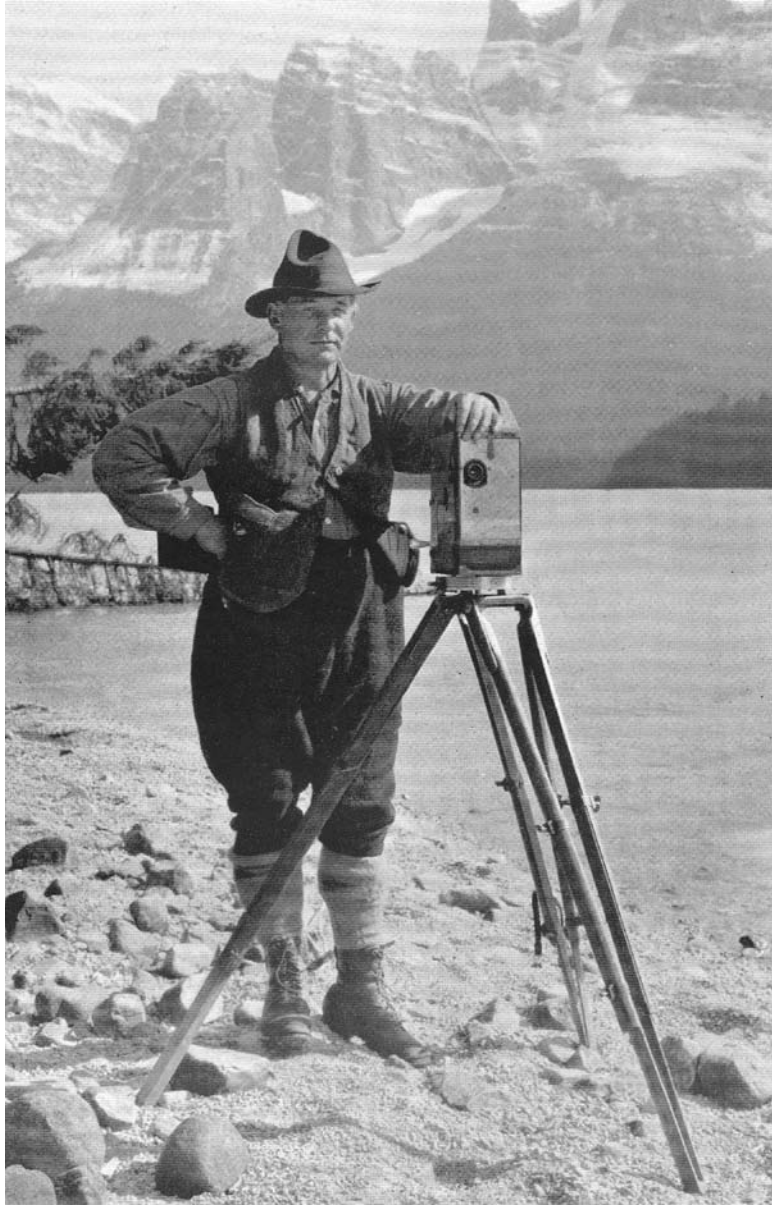
Lewis R. Freeman’s book, *On the Roof of the Rockies*, is dedicated: “To Byron Harmon who, through his photographs, has given the Canadian Rockies to the World.” In the late summer of 1920 Harmon had arranged a photographic expedition by trail from Lake Louise Station to Jasper with the Columbia icefield as his main objective. He planned to return to Banff at the beginning of winter so as to obtain a series of good snowscapes. He invited Freeman who, in his book tells the story of the adventure to accompany him. It is interesting and amusing if a bit glorified by an amateur at that kind of travel, and is splendidly illustrated by many of Harmon’s photographs, taken on the trip, and by a number of Freeman’s, who also obtained excellent results. On this occasion too Harmon’s inventive genius showed itself. For some years he had been breeding homing pigeons at Banff and this seemed a good opportunity to try them out. Of those dispatched with messages one came back to Banff and the message of another was mailed to Banff, but the pigeon was not returned. A second experiment was that of taking a portable radio. The trials and tribulations of that radio are very amusing; by the united efforts of the party it worked and on one occasion, while listening in, they heard an announcer telling about themselves.

On October 7 the party started for home from Maligne lake via Poboktan pass and the Brazeau river valley. It was a case of bucking snow all the way as winter had set in and, as may be seen from the illustrations in Freeman’s book, Harmon was most successful in getting a lot of very fine snowscapes, the object in view for his return so late in the season.

Apart from his connection with the Alpine Club of Canada, Harmon did much in the early days to spread abroad and make known the fame of the Canadian Rockies by lectures, motion pictures and superb coloured and plane photographs and lantern slides. His wonderful collection of such material is known wherever the Canadian Rockies have been heard of. He was a delightful trail companion, genial, kindly, competent and with a keen sense of humour. Members of the Club, when visiting Banff, were always drawn to his unique collection of photographs at his curio and art emporium. He was never too busy to have a pleasant little chat with them concerning mutual interests in the mountain ranges he loved so well and had travelled over so often. In the art and science of photography he was outstanding *par excellence* and greatly assisted the Club in the publication of the Canadian Alpine Journal by means of photographic illustration. We liked him well and shall not readily forget him and the living records of his life work.

He died at Canmore hospital on July 10, 1942, and is survived by his wife, daughter and two sons. The Alpine Club of Canada takes this opportunity of expressing to them the deepest sympathy in their bereavement.

—A.O.W.



Byron Hill Harmon

Mortimer Bishop

1856 - 1942

We have lost another old friend, a member of the Club for twenty-eight years. Mortimer Bishop died on September 15, 1942, of a heart attack, in his 86th year. He had not attended the later Club camps because some ten years ago he was knocked down and trampled by a frightened horse. His leg was injured in this accident and so his tramping days were over. It required something as drastic as this to keep him from the mountains he loved so well.

In 1929, at the age of 72, he made a six-weeks' trip of 150 miles into the mountains north of Jasper and 1930 found him again riding the mountain trails and attending the Maligne Lake camp. He had always taken a deep interest in club affairs, had several times served as Chairman of the New York section and on its advisory committee. He was most generous in subscribing funds for the various Club huts, particularly for that one to the memory of his old friend, Benjamin Seaver.

Over the long span of his life, aside from his profession as a lawyer, his prime interest was amateur athletics and the outdoor life and this interest was active, sympathetic and directive. He was a good trumper, boxer, wrestler, skater, swimmer, and, in his youth, a particularly fine sprinter. Back in the 1880's he ran for the American Athletic Club along with Lon Meyers, still considered by many the greatest sprinter America ever produced. Meyers was sometimes beaten by Mr. Bishop in handicap races.

In his college days he was a member of the New York University track team and in 1938 he received from the Letter Club of his college a miniature running shoe in gold and a citation "as an alumnus who has made substantial contributions over a long period of years to the field of amateur athletics."

Beside being one of the foremost authorities on track and field sports, he had been since 1880 one of the outstanding timers of races right down to the year of his death. He officiated in nearly every important American Amateur Union and University track meet and was an official timer at the Olympic games in 1924 and 1932.

In 1876, when but few tramped unless the horse had gone lame, he was one of the founders of a walking club which later became The Fresh Air Club. This is probably the oldest and surely one of the most strenuous of such clubs in the New York area, for it usually covered from 15 to 18 miles in less than 43/2 hours, over the trails and heights of the New York and New Jersey highlands. Of this club he was long the president.

For over fifty years he was a member of the New York Athletic Club, was active in its committee work, served on its board of governors and was president of its Veterans' Association.

He was a member of The Explorers Club for over 11 years and of The Appalachian Mountain Club for over 41 years. At this club's camp at Cold River, N.H., he owned a cabin where he spent his last twelve summers. It was on his return from camp that he passed quietly away on the train.

All the organizations of which he was a member have, in their publications, testified to the affection and respect in which he was held, to the great amount of his time and labor he gave to their affairs, and to the value they placed on his well-considered advice. He was one of the most kindly, generous, imperturbable and genial of men.

We will long remember our good friend and comrade of the trails, "Mort" Bishop.

—C.F.H.



Mortimer Bishop

Doctor Mary Goddard Potter

1864 - 1943

Dr. Mary Goddard Potter was a pioneer as to her vocation and her avocation. Born in Barre, Mass., she was a descendent of old New England families. She graduated from Boston University, obtained her M.D. degree and became a practising physician when that profession was not favorably regarded as a career for women. From 1912 until she retired in 1934 she was a physical training teacher in Wadleigh High School, New York City, where her medical training was a great asset.

Throughout her life Dr. Mary's greatest pleasure was in tramping and riding the trails and climbing mountains, activities in which few women of her generation engaged.

In 1899 she became an active member of the Appalachian Mountain Club. In 1912 she joined the Alpine Club of Canada and in 1921 the American Alpine Club. From 1912 on, she spent many of her summers in the Canadian Rockies.

As far back as 1895, in the Selkirks, Dr. Mary helped blaze a trail up Glacier Crest, crossed the névé and came down the entire length of the Illecillewaet glacier. She climbed the Beehive and Fairview near Lake Louise when there were no trails. In 1898 she was one of a party of four, led by Dr. Sperry, which explored Sperry glacier and Gunsight pass, then trail-less, in what is now Glacier Park.

In the United States she climbed Long's Peak and Mt. Rainier. Among her climbs in the Canadian Rockies were Storm mountain, No. 4 of the Ten Peaks at Moraine lake, Ptarmigan, President and Vice-President, Habel, Sir Donald and Castleguard. She also took part in explorations of the Wapta icefield, Yoho glacier, the snowfield and Continental Divide of Balfour, and the Asulkan glacier in the Selkirks.

Dr. Mary early became a devotee of trail riding, loving the exploration, the mountains, the flowers and the animals. She was among the first to join The Trail Riders of the Canadian Rockies, having already covered several thousand miles on horseback. In 1929 she took the pack trip with the Mt. Sir Alexander climbing party. Her final trail record was over 10,000 miles, a trail mileage surpassed by few women.

Dr. Mary gave a cabin to the A.M.C. camp at Cold river, N.H., and another to the A.C.C. at Banff. The latter she called Inglismaldie after a mountain seen from the veranda, and when she could no longer tramp or ride she spent each summer there as long as she was able to travel west.

Four years ago Dr. Mary suffered a stroke which partially paralyzed one side, and was under nurses' care at The Kelmar Nursing Home at Greenwich, Conn., until her death, January 13, 1943. She is survived by her brother, Dr. Henry Potter, former principal of New Utrecht High School, Brooklyn, N.Y., now retired.

—E.P.M.

Sir Edward Beatty

The Club lost a staunch friend and one of its Honorary Vice-Presidents in the passing of Sir Edward Beatty on March 23, 1943, at Montreal, at the Royal Victoria Hospital, of which he was President and to which he made valuable contribution in time, influence and financial assistance. Sir Edward never was an ardent mountaineer but he was interested in the work of the Club largely



Dr. Mary Goddard Potter

through his connection with the Canadian Pacific Railway Company, of which he was for many years President and Chairman of its Board of Directors. He was educated at Toronto and was a graduate of University College and of Osgoode Hall. A short time after he was admitted to the Ontario Bar, he became associated with the late Adam Creelman, K.C., in a large Toronto firm, and when the latter was appointed General Counsel to the Canadian Pacific Railway with offices at Montreal, Sir Edward went with him and entered into the service of the Canadian Pacific Railway and then gradually rose in such service until he became President and Chairman of the Board. It was most unusual for the President to come up except through the operating departments of the railway.

Sir Edward's passing, which was after a year's illness, was written up so extensively at the time that only a short reference to some of his attainments need be mentioned here. His association with the Canadian Pacific Railway was outstanding and his business ability caused him to be elected to many Boards of Directors of financial and industrial institutions. He was also largely interested in educational matters and was for some time Chancellor of Queen's University and later of McGill University and he was honored with the degree of Doctor of Laws by some six universities.

He took a lively interest in the youth of the country and among other things was head of the Boy Scouts Association for Canada. He was knighted in 1935 and had many other honors conferred upon him. He was a liberal contributor to every good cause and many of his benefactions were never known because he never let his left hand know what his right hand did. From a personal acquaintance of half a century the writer would say that his outstanding personal quality was his quiet unassuming and friendly attitude. His loss was Canada's.

—H.E.S.

William Roland Reader, F.R.H.S.

1875 - 1943

The suddenness of the passing of William R. Reader, on the evening of January 26, 1943, brought a shock to all who knew him, and his friends were legion. He was on his way home after delivering an address, illustrated from his collection of lantern slides, on the development of the parks and beauty spots which he had created, and of which the citizens of Calgary are so justly proud.

His love of the mountains and their flora prompted him to become a member of the Alpine Club of Canada in 1930. He found great happiness in taking his camera and wandering along the valleys and over the hills with one or two companions. No flower was too small nor too common to attract his notice. One of his pleasures was gathering seeds of flowers and plants native to the Rockies and sending them to his horticultural friends in many countries. He was an outstanding authority on the flora of Western Canada and the Rocky Mountains, and his rock garden with its thousands of rare plants and flowers collected over many years from all parts of the world was known far and wide. He was a Fellow of the Royal Horticultural Society.

For many years he had been a valued member of the Club House Committee and was most interested in the beautification of the Club House grounds. Only lack of finances prevented the committee from putting his plans into effect.

So many of our members will have memories of excursions which were rendered more pleasant by his presence, not only because of his extensive knowledge but because of his quiet



William Roland Reader
Photo H. Pollard

humour and sympathetic interest in everything pertaining to the outdoors. He was Vice-President of the Sky-line Trail Hikers and enjoyed to the full the annual weekend outings of that organization.

Mr. Reader was born in London, England, and spent his boyhood in Kent. He lived successively in Essex, Surrey, Hertfordshire, Derbyshire, Lincolnshire, Yorkshire and Worcestershire, before he came to Calgary in 1908. He started out in life to be a teacher, but his love of horticulture became too strong and he turned to that profession in which he gained international fame. After conducting a landscape gardening business for a few years he was appointed Park Superintendent of Calgary in 1913. Under his care more than 1,300 acres of City Parks were developed, countless unsightly corners and vacant spaces were beautifully transformed, and streets and avenues lined with trees. He was always ready with advice and assistance to the citizens who continually came to him for guidance. He planned and laid out the grounds of the Prince of Wales' Ranch at Pekisko, Alberta.

His profession was also his hobby and he travelled extensively, giving lectures and showing his wonderful slides.

After twenty-nine years as Park Superintendent he was retired on the 31st of December, 1942, and on the 29th day of his retirement was laid to rest on a sunny afternoon on a gentle slope in the cemetery he himself had created.

He was a lovable friend and a delightful companion, and those of us who shared his excursions will feel his presence for a long time to come.

R.B.R. — S.R.V.

Madeline Marguerite Julia Brett

1895 - 1942

It is with regret that we have to announce the untimely death of Madeline Brett. One who so truly loved the mountains and who never missed, when at all possible, any opportunity to be present at the Alpine Club Camps where her boundless energy made her one of our most active members.

She was born at Grandson, Switzerland, in 1895. A few years later, the family moved to the Valais at the foot of the Lotschental and it was there that Madeline began to be fascinated by the wonderful world of mountains.

Her summers were spent at Kippel where with her brother she explored all that region. Later on came ascents in the Trient and in the Alpes Vaudoises.

Madeline came to Canada in 1913 and settled in Montreal and at once took to the trails of the Laurentians and countless were her trips to the White Mountains, the Green Mountains and the Adirondacks. She often went alone on these excursions.

When she heard of the wonders of our Rockies she decided to see for herself, and so went west for the first time in 1937, when she attended the Little Yoho Camp. Her delight in this new wonderland was so great that henceforth all her plans and energies were bent on being with the Alpine Club on every possible occasion.

The year 1939 saw her at the Goodsir Camp, and 1941, the Glacier Camp. This was her last camp with us and she seemed to enjoy it to the full, climbing continually in that beautiful spot.

Madeline Brett passed away on August 25, 1942, never having recovered from a severe automobile accident earlier in the year.

—E.B.

Godfrey Allan Solly

1858 - 1942

Godfrey Solly first climbed in the Alps in 1885 and soon acquired an outstanding qualifying record for membership in the Alpine Club to which he was elected in 1890.

In the fifty-two years of his membership he was remarkable for his number of guideless climbs, of which the Dent Blanche was made in 1890 with Cecil Slingsby and Haskett-Smith, when they experienced a severe thunderstorm and Haskett-Smith was struck by lightning. It will be remembered that Haskett-Smith was a guest of the Alpine Club of Canada at its Mt. Robson Camp in 1913, when he was struck in the leg by a falling stone and, owing to acute inflammation, had to be carried the nineteen miles to the railway on a stretcher, borne on the shoulders of volunteers, en route to a hospital at Edmonton.

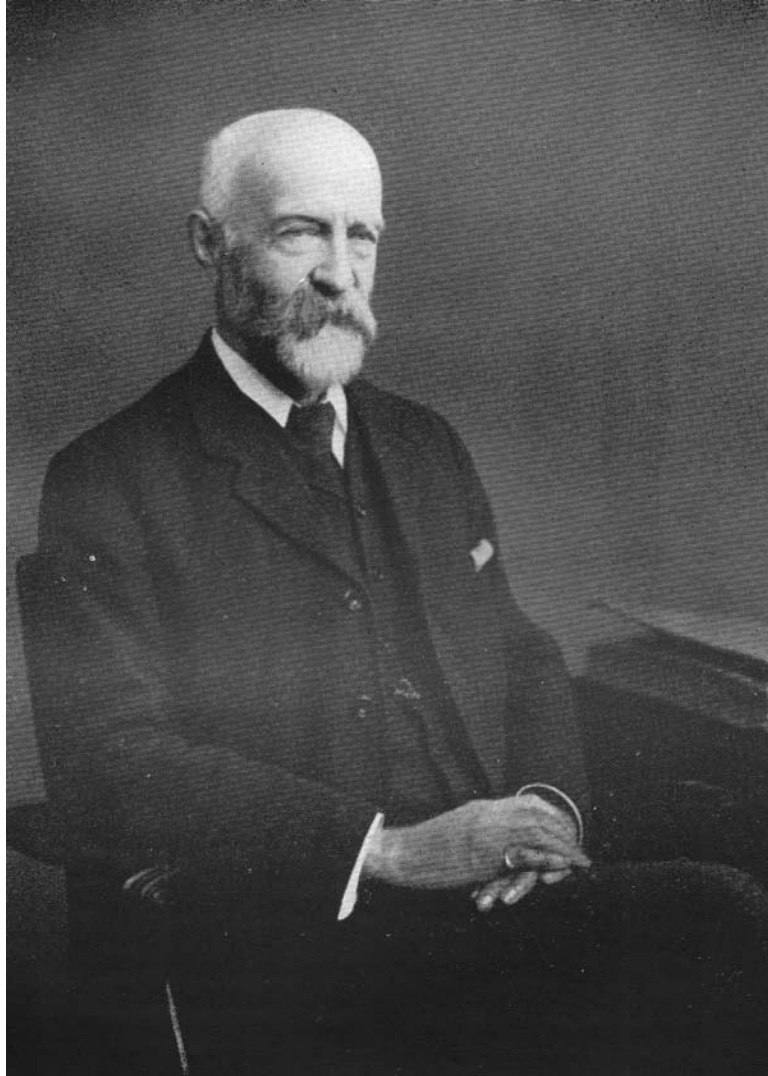
In 1891 and 1892 Solly climbed with Mummery and the year following made his first visit to the Caucasus without guides. His second visit was in 1894 when he made two first ascents. From 1894 to 1909 he spent much time in the Alps and in addition to many new ascents traversed Mt. Blanc from the Dome glacier to Chamonix.

In 1909, accompanied by Mrs. Solly and his sister-in-law, Miss Maclay, they visited the Canadian Rockies as guests of the Alpine Club of Canada, that club having extended an invitation to a party of twenty from the Alpine Club, who were attending the meeting of the British Association for the Advancement of Science, held that year at Winnipeg. Among our guests were L. S. Amery, Doctor Norman Collie, Edward Whymper, Harold Dickson, A. L. Mumm, Geoffrey Hastings, Arthur Bartlett and others. We entertained them for three weeks at our newly opened Club House on the slopes of Sulphur mountain at Banff, at our Annual Camp held that year at Lake O'Hara and finally took them for a six-day trip around the Yoho valley, the eastern half of the distance over high passes above timber-line and far-reaching icefields, the western half by pack-train over established pony trails. All supplies and camp outfit for the eastern half of the trip were packed on the backs of volunteers from the young stalwarts of the Canadian club. Did our guests enjoy it? They said they had never done anything like it before and, sotto voce, hoped they would never do anything like it again; but the majority joined the Alpine Club of Canada as life members. While in Canada, Godfrey Solly climbed six peaks and crossed six alpine passes without professional guides.

Solly was an active climber for nearly the whole of his life. At the age of sixty-three he traversed the Grepon with a guideless party and at the age of seventy-five climbed the Strahlhorn (13,751 feet). In fifty years he did not miss attending the Alpine Club's annual dinner. He served on the Club's Committee in 1897 and was Vice-President 1921-23. He was an enthusiastic member of the Scottish Mountaineering Club and was Vice-President in 1908 and President in 1910. He was elected an honorary member of the Fell and Rock Climbing Club at the time of its foundation and was its President in 1920.

Educated at Rugby he was admitted as solicitor in 1882. He served as Mayor of Birkenhead and was made a Freeman of that borough in recognition of his fifty years of devoted service.

We found him, his wife, and sister-in-law very charming guests, full of life and out for a good time. The writer and his wife corresponded with Mr. and Mrs. Solly for many years and though, as in the writer's case, his eighty-three years of life drew to a close his possibilities for alpine climbs, his tenure was longer than usual. We desire to convey to the Alpine Club our sincere sympathy for the loss of a member of so very great worth and of such lifelong devotion to the Club and all it stands for.



Godfrey Allan Solly
Photo T. & R. Annan & Sons, Glasgow

The writer desires to make his acknowledgements to Mr. W. N. Ling from whose “In Memoriam” notice in the *Alpine Journal*, November, 1942, much of the information here given was obtained.

A.O.W.

John Norman Collie

1859 - 1942

The Club¹ has lost, in Norman Collie, a mountaineer of outstanding eminence, an ex-President, a great scientist, and a very lovable character, though, on account of his modest and retiring nature, he was perhaps not known intimately to many of the younger generation.

John Norman Collie was born on September 10, 1859, at Alderley Edge in Cheshire, the son of Mr. John Collie, his mother being a sister of S. Winkworth, who was elected to the Alpine Club in 1861. He was educated at Charterhouse, Clifton, University College, Bristol, and Wurzburg University, where he obtained the degree of Ph.D. From 1884 to 1886 he taught Chemistry at the Ladies' College, Cheltenham. After that he was appointed Professor of Organic Chemistry to the Pharmaceutical Society of Great Britain until 1902, when he became Professor of Organic Chemistry at University College, London. He held this Professorship until his retirement. He was elected a Fellow of the Royal Society in 1896 and served on the Council 1905-07, Fellow of the Chemical Society in 1885, served on the Council 1889-94 and 1900-01, Vice-President 1909-12, and Member of Advisory Council for British Dyes in 1915. In 1897 he became a Fellow of the Royal Geographical Society and a member of the Council 1902-05. He was a Corresponding Member of the Appalachian Mountain Club, 1899, an Honorary Member of the American Alpine Club and of the Alpine Club of Canada. Other Clubs of which he was a member were the Yorkshire Ramblers' Club, the Fell and Rock Climbing Club, and the Scottish Mountaineering Club. He was elected to the Alpine Club in February, 1893, served on the Committee 1896-98, was elected Vice-President in 1910 and President in 1920.

His climbing career was so long and varied that space forbids a full recital of his mountaineering expeditions and explorations, although I feel that reference should be made to some of his more notable first ascents. Thus, in 1893, together with G. Hastings, A. F. Mummery and W. C. Slingsby, without guides, he made the first ascent of the Dent du Requin (*AJ.17.9*) the first ascent from the S.W. of the Aiguille du Plan and the first traverse of the Grepon in 1892. In 1894 with Hastings and Mummery, he made the first ascent from the N. of the Col des Courtes and the sixth and first guideless ascent of Mont Blanc by the Brenva Glacier (*AJ.17.537*). In 1895 with the same two companions he visited the Himalaya and made the first and, at that time, the only exploration of Nanga Parbat. There were no guides with the party. The late Brigadier-General C. G. Bruce joined them later on. Accompanied by Mummery, Collie made the first ascent of the Diamirai Peak, c.a. 19,000 feet. Later on during this expedition, Mummery was lost near Nanga Parbat. In 1897, Collie organized the first expedition by British climbers to the Canadian Rockies, to be followed by many others, and in that year he made first ascents of Mount Lefroy and Mount Gordon. On the latter expedition he rescued a member of the party from a crevasse under circumstances of great difficulty. In 1898, with H. E. M. Stutfield, and H. Woolley he reached the Saskatchewan by

¹ This notice is reprinted from *The Alpine Journal*, May, 1943, as the notice kindly written by Colonel E. L., Strutt failed to arrive. The Alpine Club of Canada too has lost an eminent mountaineer in Norman Collie who was an original Honorary Member.

the Pipestone Pass, carrying on northward his exploration of the previous year. He also made first ascents of Survey Peak, Mt. Athabasca, the Diadem, and Mt. Thompson. This party, without guides, discovered the Columbia icefield and explored much entirely new ground (*A.J.* 19.441). Again in 1900, with H. E. M. Stutfield and S. Spencer, he made first ascents of Goat Peak, a peak to the S. of Bush River, and Mt. Edith, near Banff. Collie sought a change of scenery in 1901 and explored the mountains of the Lofoten Islands, making two more expeditions there in 1903 and 1904, during which many first ascents were made (*A.J.* 21.90; 22.3). The years 1902, 1910 and 1911 were devoted to the Canadian Rockies, with first ascents of Mts. Murchison, Freshfield, Forbes, Neptuak, Bess, and an unnamed snow peak, as well as much exploration (*A.J.* 26.5).

The above is the merest outline of Collie's amazing mountaineering career and is very far from doing justice to his extraordinary ability as a climber and explorer, but I am sure that every one of his companions on these numerous expeditions would have voted Collie the best of companions. Although greatly attracted by the Canadian Rockies and the Himalaya, Collie did not disdain our own hills and mountains, for he climbed about 80 separate peaks in Scotland over 3,000 feet, and did many rock climbs on Snowdon and in the Lake District. His book *Mountaineering on the Himalaya and other Mountain Ranges* (*A.J.* 21.279), was published in 1902. He also contributed a number of articles to the alpine journal and the Geographical Journal and read numerous Papers at General Meetings of the Club. In their meticulous accuracy and lucid exposition of the subjects they are typical of him. In collaboration with H. E. M. Stutfield, he was the author of *Climbs and Exploration in the Canadian Rockies* (*A.J.* 22.80).

His more active days being past, Collie still remained a tower of strength and wise in counsel, and the Everest Committee, on which he served for several years and was first chairman, had the benefit of his long experience during the organization of various Everest expeditions. At all times he was ready with help and advice. Then came his retirement from the busy life at University College and, four years ago, the return to his beloved Sligachan in Skye, there to spend his remaining years in quiet contemplation of its mountain scenery and the pursuit of his favorite sport of fishing. There he lived the simple life of the village, beloved by everyone, with an ever genial welcome to his younger friends in the Club who were able to pay him a visit, and there, on All Saints' Day, 1942, he died and was laid to rest by the side of his old friend and guide John Mackenzie, mourned by his friends. For the precept and example of his life we members of the Alpine Club owe Collie our lasting gratitude, for no finer man ever trod a mountain. *Ave atque vale.*

—J. E. C. EATON.

Perhaps the chief characteristic of Norman Collie's mountaineering career was what may be called "inspired direction." As a topographer and pathfinder he stood, among all the expeditions of which he was a member, in a class almost by himself. Not only was he expert as an iceman, *vide* the upper seracs of the Brenva Mont Blanc, or rock climber, but he was pre-eminently a great "mountaineer." Many leaders have owed much to the inspired direction of their party. Where, to quote only the names of departed, would Daniel Maquignaz have been without Farrar? Where Venetz without Burgener?

One instance of a classic peak may be quoted. In the first ascent of the often attempted Dent du Requin, the problem was solved at once by Collie: a descent of 200 feet of the E. face thus enabling the party to attain the S.E. arête. Collie on his first and only visit to the Himalaya appreciated fully the overwhelming dangers of avalanches. He and Bruce have spoken often to me of the risks taken by Mummery in his attempts on Nanga Parbat. The latter, relying on his wonderful



John Norman Collie

By Courtesy Of G.H. Lee. From A Portrait By Nowell

skill, committed himself and his Gurkhas to chances which might be taken in the Alps but never in the great Himalaya. Had Collie been present with his inspired direction, who knows whether the accident of 1895 would not have been avoided? It seems probable that, as “mountaineers,” Collie and Cecil Slingsby had few rivals in their generation.

—E. L. STRUTT.

Norman Collie was all but the last survivor of a group of great mountaineers who followed upon the first Alpine pioneers and prophets, carried climbing into a score of other countries and ranges, and by their feats and writings stimulated a vast increase in the mountain following. Freshfield, Conway, Slingsby, Bruce, Collie, Mummery, each found his own new territory and wrote his own prophetic books of adventure. And of them all, perhaps, Norman Collie was the man of the greatest natural endowment and the man most exclusively devoted to mountains. I cannot write of his scientific attainment, although I used to hear his great predecessor in the London chair, Sir William Ramsay, pay tribute to his discoveries long before I knew of him as a mountaineer, but I feel bound to record, even here, that, in a characteristically sardonic aside, Collie once observed: “If anyone ever happens to write an obituary of me, I want two things said—I first discovered Neon, and I took the first X-ray photographs.”

If he was a great scientist, he was no less a gifted artist, an aesthete in the finest sense, a romantic-minded Celt, and a robust athlete never out of training. His accomplishments were many, and he lived, almost literally, for beauty. He painted effectively, and made an admirable portrait of his gillie and friend John Mackenzie, the only authentic local guide ever produced in our islands, whom Collie himself had trained, and beside whom he now lies buried. As an art connoisseur and collector he had few, if any, superiors in his own sphere. His knowledge covered the whole field of Chinese and Japanese art, porcelain, ivories, bronzes, embroideries, and our museums availed themselves of his infallible knowledge of date and authorship. The sensitiveness of his aesthetic judgment was not only of the eye, but equally of touch and taste and smell. He was an authority on wines—especially French wines—and on cigars, both of which he always bought himself at sales, and he was an expert judge of food and cooking. He was widely read, especially in English literature and mediaeval science, and he was a collector of editions and beautiful types and bindings. His rooms, those which he occupied in Campden Grove from his student days, until they were pulled down, and his later house in Gower Street, were piled high with variegated treasures, in seeming chaos. But everything in sight, china and jade and metals and books and paintings, was so arranged as to pick up and repeat color and lighting on a scheme designed for his own pleasure. To a degree almost unfair, among collectors, his scientific knowledge complemented his artistic judgment: he could buy precious stones on sight at auctions or on the docks, and at bargain prices, since his expert touch told him as much of their nature by weight and feel as his eye by their color. And he would dilate on the multiple glory he could obtain from the colors of jewels, when he bombarded them with rays in his laboratory.

Of north Irish extraction, he was a Celt in imagination; mysticism and poetry occupied his thoughts as much as scientific speculation. Here, again, his contradictions helped one another, as in his photography, in which he produced some of the most artistically perfect pictures of his time, and in color photography and color processes, in which he was a pioneer. In his speeches indeed, and at times in his writing, the poetry could overweight his style. But he was a thrilling raconteur of eerie stories and folk mystery, of which it was impossible to say how much he himself believed. The best of them had the same blend, of science and romanticism; as in the famous adventure of the Long Grey Man of Ben MacDhui, in which much of the grue depended on recalling the exact

height of the ordnance cairn; and in the adventure of the haunted and nerve-shaking sea cave in Donegal, where his scientific coda, that the tide-driven air was playing upon the cavern mouth as upon a great organ pipe, so that, within it, the slow vibrations shattered through one while remaining inaudible, was almost as uncanny as the peasants' supernatural monster. He was an originator, in every one of his interests. He lived only to explore, no matter how hazardously. And mountaineering, with its many appeals to his abnormally acute senses, best satisfied this passion. New ascents in the Alps, plotted beforehand with Slingsby, Mummery and Hastings, and referred to only half humorously in their correspondence as "the Quest"; new regions in the Rockies, in the Himalaya, in Norway, and in every still unknown corner of these islands. He first explored alone many of the now popular climbing cliffs in Scotland, Ireland and the smaller-islands.

He was one of the most daring of the Lakeland pioneers, and no one probably has ever approached his detailed knowledge of the Scottish and Irish sea cliffs. His attachment to the Island of Skye grew steadily with the years, and he has given his reasons for preferring it to all other hill country and ranges, in the best of his writings. For climbing and exploring he was as gifted physically as temperamentally. In spite of a gaunt and grey-silvery aspect that suggested fragility and even senescence, he was never ill and never tired; he remained erect, agile and hardy into great age, and had his machinery and breathing under such unusual control that, as he told me, he would often light his pipe as a preliminary to attempting a stiff rock problem.

His icemanship and rock technique were equally first-rate. He is never known to have made a mislead or a false step, and on more than one occasion his skill and nerve saved a party or an individual from disaster.

His eye for country, for reconnaissance in a new range or for a route up a complicated face was unsurpassed, even among his accomplished colleagues. He was an excellent and resourceful companion in difficult conditions; but he was also entirely happy alone, in any weather and facing any risks. Much of his early wandering went unrecorded; and in later life he might now and again chuckle grimly over accounts of new climbs on Scottish cliffs, and remark with the familiar saturnine sidelif of his lip; "They'll find a little cairn there—when they get up!" His discovery of the great but invisible pinnacle of the Cioch, from detecting an unusual shaped shadow on a photograph of the face is the most often quoted example of good reconnaissance work in our island climbing.

It was only another of his contradictions that, although something of a recluse, he was devoted to good company, and talked wittily and picturesquely. A Lucullan dinner in his rooms, with maybe Hugh Stutfield, the mediaeval scholar W. P. Ker, the painter Colin Philip, Younghusband, Bruce, or his closest friend Slingsby, would be memorable for the range of the discussion, over problems of exploration, of philosophy, or art or of literature, with perhaps short shows of his beautiful slides to bring some new region into the talk. He was less interested in human beings than in ideas and form and color, and he was not easily approachable except upon the ground of a common interest. His friends were from among the few with whom he had pursued one or more of these interests actively, and especially his far-flung climbing.

To younger men, with the same enthusiasms, he was generous and helpful; he started Dr. Kellas on his revolutionary method of Himalayan exploration, and in a meeting at our house in Cambridge between him and Gino Watkins, he appreciated so quickly that young Elizabethan's exceptional quality, that he promised him at once on behalf of the Royal Geographical Society the first financial support Gino's Arctic expeditions received. When he became interested in a man, his penetrating eyes flashed suddenly into an observant personal sympathy; when he was not, he was incapable of the pretence, even of awareness of him.

The leader of the first German Nanga Parbat expedition—a very nice fellow—asked me to introduce him to Collie, the survivor of the first explorers. Between, however, the blond and bluff young modernist, efficient and hustling, with his card neatly printed as “Leader of the Nanga Parbat Expedition,” and the supersensitive “Wandering Scholar-artist” out of the Middle Ages, reluctantly materializing as a deep-grooved, yellow-ivory profile against dusty bronze and brocades, with something of a werewolf lurking in his quizzical half-smile, the gap, of time and temperament, proved unbridgable; when we left, Collie was still discoursing remotely and to space about, I think, the optical miracle represented by the first character of the Chinese alphabet.

The last glimpse we have of him is, however, once again entirely sympathetic. With the coming of the war, he retired finally into Skye, and from the world. And then, in that remarkable book, *The Last Enemy*, we find Richard Hillary, the heroic young airman who was killed, later, almost at the time of Collie’s death, describing how he and a colleague spent a leave at Sligachan, and made trial of the alternative dangers of crags. “We were alone in the inn,” he writes, “save for one old man who had returned there to die. His hair was white but his face and bearing were still those of a mountaineer, though he must have been a great age. He never spoke, but appeared regularly at meals, to take his place at a table tight-pressed against the window, alone with his wine and his memories. We thought him rather fine.” There follows the story of a fantastic rock scramble and escape; and then, “Over dinner we told the landlord of our novel descent. His sole comment was ‘Humph,’ but the old man at the window turned and smiled at us. I think he approved.” Norman Collie, I feel sure, would have liked that, for his own last appearance: to be unnamed himself, but turning at the sound of a mountain adventure, smiling over its rash absurdity, and flashing a silent approval at the close to the younger adventurer.

Most of us, as the years pass, find our once exclusive devotion to mountains becomes divided, at least, as between them and other and more human ties. Of all the wholehearted mountaineers I have known, Collie alone remained to the end wholly and passionately absorbed in the mountain world. His old age and death may seem to us to have been, in the result, solitary. But no man was better qualified by his talents to judge between the values that life offers. He lived a very long life consistently for, and among, the things that he found the most lovely; and he died surrounded by the unageing beauty of his principal devotion.

—G. WINTHROP YOUNG.

REVIEWS

Handbook of American Mountaineering,

by Kenneth A. Henderson, Pp. 239, with 149 illustrations.
Houghton Mifflin Co.. Boston, 1942; \$2.75.

The full title of this compact volume is *The American Alpine Club's Handbook of American Mountaineering*, and it tries “to provide the American climber with a practical description of climbing technique, and to apply the _knowledge of a broad field of climbing experience to American conditions.”

So far as actual climbing technique is concerned it is a condensed —sometimes too condensed—recapitulation of methods developed by European climbers. Use of dog teams, pack horse and airplanes are strictly methods of transport, not climbing innovations. Condensation of the text leads to generalities, things which tend to get the inexperienced into trouble. Also, it invites criticism from experienced climbers who know that varying conditions mock such rigid statements.

For instance, the only practicable way to carry an ice-axe through dense brush is head first.

The butterfly knot is recommended, and the old middleman's knot—known to have been a fatal slip-knot sometimes—is wisely omitted. On p. 13, Fig. 15, the fisherman's knot is wrongly called a reef knot. The defect of the reef knot for joining two climbing ropes is that if it catches it may readily be opened and then slip apart.

It is stressed rightly that in snow “the leader should . . . suit the length of his stride to that of the shortest member of his party.” The present reviewer had a member of his party once unrope on a glacier in protest against steps too short for his liking. He had taken no part in breaking trail, and when he thought himself unobserved went on using it.

Text and illustrative sketches sometimes differ. Fig. 66 shows the right glissading position, but any skier will realize that the text is wrong in advising that the leading leg should be straight. G. W. Young, in *Mountain Craft*, mentions the number of fatal accidents traceable to bad glissading, and says “it has never been widely recognized that the art [of glissading] has to be learned.” Young gives 22 pages to glissading, so one feels that the “Handbook's” 16 lines underrate the value of its mastery and the danger of failure to do so.

Possibly the illustrator was not a climber. Fig. 73 hardly succeeds in showing that to stop a slip on snow or ice the full length of the shaft of the ice-axe must be under the body. Fig. 64, “heeling down” a snow slope, scarcely suggests a capable snow-craftsman thrusting boldly down with something of a backward kick, landing with lower leg vertical, with body weight behind it to stamp a solid stance. Fig. 65, “facing in,” lacks suggestion of maintaining all possible erectness. The illustration labelled “right” (Fig. 58), for cutting steps upward shows the upper knee resting on the slope — good enough when a gale forces one to crouch. It lessens one's free swing which copies as far as possible the woodsman's axe swing if true proficiency has been acquired, and not a pecking motion with the arms. Fig. 59 shows a climber bending forward straight down a slope to cut steps. Standing sideways permits one to lean down farther with less tendency to overbalance. Provided one's aim is true, it may even be quicker to stand straighter, grip the axe full-length in one hand, and so swing with circular motion. The long swing permits a most powerful blow. The final trimming up of the steps often can be done two-handed.

Strange that so much is written about avalanches, yet so little about how most avalanches

flow, which explains why a person is almost certainly buried if caught in one. The following passage (in *Glacier Playfields of Mt. Rainier National Park* by J. T. Hazard) does not describe typical avalanche action: “Snow avalanched . . . caught us, and carried us onward . . . speed was safely terrific, for we sat cross-legged and at ease upon our 500-ton snow sled.”

The reviewer and a companion started a wet snow avalanche while glissading on parallel courses. The front of the avalanche simulated a wave rolling along a flat beach, the fast surface snow kept rolling under the front. It rolled the slack of our rope under. Embedded in the slower bottom layers it now pulled us back and down. A swimming action kept us on the surface, never more than a few yards from the deadly front till the avalanche stopped 20 feet from a gaping crevasse. Only the braking action of the buried rope saved us from being buried.

The “Handbook” does not mention making a sounding “well” with ice-axe or ski stick to reveal the nature of lower snow layers. The “Handbook’s” snow section is quite good, though lacking the admonition that snowcraft is not mastered in a few easy lessons, or a few seasons.

The “Handbook” rightly stresses wisdom of edge nails under the instep. Mention of “Tricouni irons” for the heel as being heavy is obscure to the reviewer. The regular aluminum heel frame with its steel nails generally weighs less than the leather which should be removed (or omitted) from the heel of the boot. (There is a relatively light steel frame for ski boots.)

Capt. A. H. McCarthy is credited with having told the Mt. Logan party, “It’s the little things that don’t weigh anything that make your pack heavy.” The camping chapter smacks a bit of the automobile camper; steel wool for scouring instead of sand and moss; an asbestos or leather glove for campfire use rather than for protection while chopping trail through devils club; an eggbeater instead of a fork for mixing powdered milk; a hand or foot pump instead of human lungs (slow, deep breathing does the trick) to inflate the air mattress; a whisk (for which we are solemnly told “there is no good substitute”) to sweep with, instead of the bundle of twigs used by pioneer housewives to keep floors dust-free long before the American Revolution.

Light yielded in relation to weight by carbide seems unappreciated, also the fact that an acetylene lamp works well if need be on almost any watery mixture, wholesome or otherwise.

Much useful and sound information has been packed into the chapter headed “Cooking,” but dealing more with types of food.

To climb on snowshoes one is advised to flip the snowshoe up against one’s heel and at the same time kick the front of the racquet into the slope. A much more practical method, except for very short slopes, is to tie the snowshoe in contact with the heel. This is less tiring.

P. 64, “A line of footsteps straight up a slope makes no line at all for an avalanche to start from.” Mountain literature proves this statement is too sweeping. A party may be caught through ignorance or by unforeseen weather changes on a slope where even a handful of snow dropping off a boot and rolling down will fan out into an avalanche which provokes others by leaving the snow above unsupported.

Inferentially the “Handbook” gives its blessing to a two-man party on any kind of rock climb, but declares that “a two-man party on a glacier is dangerous.” This inconsistent attitude sounds suspiciously like the views of those who excel on rock but are less good on snow. The “Handbook” echoes a popular belief, but it is time to challenge the holders of it to produce figures to prove that fewer two-man parties meet disaster on rocks than on neves. Good rock climbers should recognize that equally good snowcraftsmen—whatever the number in the party—court no greater risks, and that either group may go with reasonable safety where the less skillful would invite calamity.

Ski-mountaineering is briefly dealt with, the reader being referred to several writers on skiing, but without mention of Arnold Lunn. Nowhere in the bibliographies does one find mention of the excellent *Handbook of Travel* of the Harvard Travellers' Club (reviewed in *C.A.J.*, 1934-35, p. 102) which contains much of value to climbers. Nor is reference made to the greatest book on snow in any language, *Snow Structure and Ski Fields* (MacMillan) by Gerald Seligman.

The "Handbook" was produced hurriedly, mainly by one man, to help in the training of United States mountain troops. Possibly a more finished edition will follow. Mention of a number of small deficiencies in this first edition must not be taken to infer that the book has not much excellence.

Probably it will stimulate American mountaineering. Some of us recall a time when some of the western clubs looked askance on climbing technique of European origin and how one club published praise of its rope technique—"the moving hand rail," consisting of a rope tied only to leader and end man, with almost any number of people clinging to the rope with one hand.

On Mt. Robson, Conrad Kain heaped not wholly unprofane abuse upon a climber whose willful disobedience several times imperiled the whole party. His reproaches brought no protest from her until he ended with, "Your country hasn't even a mountaineering literature!" Conrad was, of course, too sweeping in that. Since then both American mountaineering and mountaineering literature have made important advances.

W.A.D.M.

Geomorphology

by Norman E. A. Hinds. 894 pages, numerous illustrations.
Prentice-Hall Inc., 70 Fifth Avenue, New York. \$5.00.

This book is ponderous in two respects; the title, which hardly suggests an adventure story, and the avoirdupois, which is not surprising in a volume of nearly a thousand pages. In every other respect, *Geomorphology* will be a most welcome addition to the library of any climber who takes his avocation at all seriously. For the benefit of those whose Latin has faded away with the passing years, it may be explained that geomorphology is a branch of geology dealing especially with the evolution of landscape, and hence is of definite interest to the mountaineer, whose principal ambition is to set his foot on the top of the most elevated piece of landscape within reach.

Although the book is in the form of a treatise, it is nevertheless eminently readable, even by one having no previous knowledge of geology. The interest of the subject is greatly enhanced by a wealth of illustrations, mostly full-page reproductions of photographs, with an occasional line drawing thrown in for good measure. The reviewer made no attempt to count the pictures, but there are eighteen in the first chapter alone, against only five pages of letterpress! That proportion is typical of the whole book. Many of the photographs display a high standard of artistic excellence, in addition to illustrating the subject matter admirably.

On the first page of the preface, Professor Hinds says: "Some years ago, as I stopped to rest during a climb up Lassen Peak in northern California, two men came down from the top. I asked them what they had seen. The reply was 'Nothing but a big pile of rocks.' " There are not many climbers in the Canadian Rockies who can find nothing more interesting than rocks on the mountains they ascend, but it is undoubtedly true that an aesthetic appreciation of mountain scenery goes hand-in-hand with some knowledge of how that scenery was evolved. Professor Hinds gives the requisite knowledge to his readers in a form that is exhaustive without being exhausting, pala-

table without being cloying. Even if the reader lacks patience to study the entire book from cover to cover, he will find much enjoyment in browsing; and simply to look at the pictures and read their titles is a liberal education in the structure of the earth.

If there is any part of this book which may be justly criticized, it is that the author has deliberately hidden his talents under a bushel of “technological terminology.” Starting with the title itself, continuing into such chapter headings as “Evolution of Land Forms by Epigene Agents,” and spattering out into paragraph headings like “Extrusive Igneous Rocks” and “Rock Mantle or Regolith,” Professor Hinds seems determined that his work shall never incur the stigma of a facile popularity. It is almost as if Edgar Rice Burroughs had entitled his famous story *Egocentric Anthropology*—nor is the comparison too unfair, for Geomorphology is far more interesting than *Tarzan of the Apes*, at least to the mountaineer—but you have to read it in order to discover the fact. The titles will never give the secret away!

Written primarily for readers in the United States, both the text and the illustrations deal very largely with the evolution of scenery in that country. It is only when the subject of glacial action is considered that Canada is called upon to contribute her share. Perhaps the present writer is over-sensitive, but he was conscious of a feeling of regret to find pictures of United States scenery described in such detail that the reader could locate the place without difficulty on a map, while such world-famous Canadian beauty spots as Lake O’Hara are simply entitled “A Rock-Basin Lake in ... British Columbia.”

Let no Canadian mountaineer hesitate to acquire *Geomorphology* on account of such slight criticisms. It is a delightful book, magnificently illustrated and printed on an excellent quality of paper. It admirably fulfils its purpose, which is “to give a better understanding of the world about us” to “the student and the general reader uninitiated, or nearly so, in earth lore.” There is a good index and, for those who wish to pursue any branch of the subject in greater detail, a very lengthy bibliography.

—C.G.W.



ALPINE NOTES

Norway House

Mountaineers who have climbed in the Canadian Rockies are familiar with various branches of the Saskatchewan river, and know of its long course to Lake Winnipeg and thence, as Nelson river, to Hudson Bay. But not many climbers have visited the lake, as my wife and I did in the summer of 1942, making the week-long round-trip voyage of more than 500 miles from the city of Winnipeg.

Our interest was increased by having with us the *York Factory Express Journal* of Edward Ermatinger (*Tr. R.S.C.*, 1913, 90). On his return journey from the Pacific in the spring of 1827, Ermatinger had as his passenger David Douglas, the Scotch botanist, who, during the crossing of Athabaska pass, made the first ascent of Mt. Brown. Just before reaching Lake Winnipeg, the Saskatchewan falls 71 feet in 5 miles, most of this being concentrated in the middle 2 miles where the river cuts through a narrow limestone canyon. About 1860, the Hudson's Bay Co. constructed a narrow-gauge horse-drawn tram, about 7 miles in length, across the bend in the river around which the rapids descend, thus facilitating the transport of goods when the York boats were being tracked up the river.

This has now become a tourist attraction. The steamer coming into the mouth of the river early on a frosty morning still gives one the feeling of being in a remote place, with dogs barking and the evenly spaced cabins of the Indian homesteads. The tram takes a capacity load to the river above the rapids, which are then descended in canoes with Indian guides. The water is unobstructed, but very fast, with much spray and flights of white pelicans in the canyon, the hardy voyagers being brought back to the docked steamer.

York Factory Express Journal. Tuesday, June 12th, 1827—Hoist sail with a fair wind at 3 a.m., breeze freshens, reach the lower end of Cedar Lake by 10.00 o'clock, breakfast—resume at half past two. Proceed thro' narrows and across Cross Lake—then down the River to the Grand Rapids. Boats run down full cargoes. One breaks upon the rocks.

From this point the steamer makes an overnight run, often a rough passage, to the outlet of Lake Winnipeg, where Nelson river begins its long course to Hudson Bay, a large launch taking passengers for a day's excursion to Norway House.

York Factory Express Journal. Saturday, June 16th, 1827. Fine weather . . . Arrive at Norway House, old establishment at Noon.

The old fort was on the west side of the lake's outlet, opposite the point separating Lake Winnipeg from Playgreen lake, the new post (1825), being 25 miles below, on a channel of the Nelson river. The first buildings were erected by Norwegians, driven away during the disturbances in the Red River Colony (Franklin, *First Journey*, 43).

Lieutenant Back, in 1833, states that the Hudson's Bay Co. changed the situation owing to progressive advance of the water, which had washed away the banks to within a few feet of the buildings, although the distance from the lake in 1819 was 300 yards (*Arctic Expedition*, 32).

Norway House became the American headquarters after the union in 1821 of the Hudson's Bay Co. and the North-West Co., Fort William being allowed to fall into disrepair (Morice, *Northern Interior of British Columbia*, 121).

The present post of Norway House, except for absence of the old stockade, looks much like the model to be seen in the historical collection at the Hudson's Bay store in Winnipeg. It consists

of a rectangular court, surrounded by low, white-washed log buildings with red roofs, entrance from the dock being through a massive gate with bell-tower. In the court there is a well-made leaden sundial, said to be the work of the Franklin expedition.

York Factory Express Journal. Sunday, June 17th, 1827. Fine weather. Governor Simpson arrives at 5.00 a.m. The rest of the Saskatchewan Boats arrive shortly after.

A few days later, Capt. Franklin arrived, offering Douglas passage to the mouth of Winnipeg river in his canoe. Douglas arrived at Red river settlement on July 12. Life on Lake Winnipeg is still a curious mixture of primitive and modern ways. There are no doctors in the settlements and no radio transmitters. Seriously ill people are taken out by plane when one is available. Grand Rapids receives mail by canoe from the railroad near The Pas, this 100-mile journey being quicker than by the steamer from Winnipeg. French priests arrive by way of Hudson's Bay and may never see a Canadian city. The Indians are comparatively well off, the white-fish industry, trapping and freighting supplies to various mines affording them a good living.

J.M.T.

Mt. Slesse

Labor weekend, 1942, a party of three Alpine Club members, Bill Mathews, Bert Brink and Nelly Fraser, left Vancouver by car, driving east on the Trans-Canada Highway for about 65 miles to the outskirts of Chilliwack, then 4 miles south on the Cultus lake road and east again for about 8 miles on a narrow winding road along the north side of Chilliwack river, When the comfort of the car was left and packing started, a gray sky threatened rain at any moment. A good trail followed the north bank for about a mile then across the river and along the south bank for about 4 miles, crossing to the north bank again on an old logging railroad bridge partly demolished but still firmly anchored. After a little over half a mile the Slesse creek trail branches off the main Chilliwack river trail and follows Slesse creek which drains into Chilliwack river from the southeast. On this part of the trail the footing was good but at times the vegetation entwined before your face in a most annoying fashion. About 6 miles up Slesse creek at an altitude of 1,800 feet a cabin encouraged camping. By this time one or two stars had appeared and promised a fine day for the climb of Mt. Slesse.

Next morning, not as early as planned, the party got under way and after another mile of trail, turned northeast up a creek, which soon developed a series of canyons, giving very good climbing, and finally, at about 6,000 feet, gave access to a steep meadow with a marvellous view to the south and west. The Border Peaks filled the immediate field of view. The writer gave up the struggle at this point and ate blueberries and watched the play of the sun on the glaciers across the valley for the rest of the afternoon, while the boys carried on for the remaining 2,000 feet. Their route led up a steep twisting chimney and ended in an extremely exposed traverse. The peak is sheer on three sides and on the fourth so steep it overlooks the meadow left three hours before. This was the sixth ascent of Mt. Slesse. A fascinating panorama stretched from the Interior plateau to the sea.

After a short stay for pictures the descent was commenced and the meadow reached about 6.00 p.m. Little time was wasted but darkness arrived while the party was still well up among the canyons. Carbides were lighted and by means of rappelling and other less orthodox methods the descent was completed and the cabin reached at midnight. Next day, the party returned to town with memories of a particularly fine climb and of amusing incidents while scrambling,, often in a waterfall, down rock walls in the dark.

E.R.F.

A Crossing of Athabaska Pass in 1838

One of the least known journeys across the mountains, unrecorded by its principals because of fatal termination, was that of the botanists, Robert Wallace and Peter Banks, in 1838.

They were sent to America by Joseph (later Sir Joseph) Paxton, head gardener at Chatsworth, the estate of the Duke of Devonshire, as a result of the interest created among British botanists by the collections and reports of David Douglas, who had returned across the mountains by way of Athabaska pass in 1827.

Wallace and Banks arrived at Norway House, on Lake Winnipeg, from Lachine in June, 1838, and Wallace married a young woman variously called Maria Simpson or Maria Miles. The party travelled by way of Fort Edmonton, and crossed the Rockies to Boat Encampment. There they embarked in a heavily overloaded boat, carrying 1 freight and twenty-six persons. The boat capsized in running the Little Dalles, above the site of Revelstoke, twelve of the party being drowned, including Wallace and his wife, Banks, and five children. It was one of the worst accidents in the history of Columbia river travel.

Paxton received two letters from Wallace, one describing the journey from New York to Lachine and another giving an account of travel from Lachine to Norway House, but news of the catastrophe did not reach England until the following year.

A more complete account of these events will be found in *The Beaver*, for September, 1942, p. 19.

J.M.T.

Canadian Camping Song

“Canadian Camping Song,” written by A. P. Coleman, President of the Club, 1910-1914, has been recently set to music by his sister, Helena Coleman, and dedicated to the Club.

Reproduced below is the first stanza of the song which was composed by Mr. Coleman for his nephews, who are keen mountaineers, and was not intended for publication. Since his death, however, Miss Coleman has had the words and music published by the Draper Music Company of Toronto to make them available to all members who are interested.

CANADIAN CAMPING SONG

For the Alpine Club of Canada

Slowly fades the western glow,
Softly falls the hush of night,
Darkness hides the valley low,
Shadows climb the mountain white.
Yellow in the dusky blue
Shines the sinking evening star,
Starry gold of finer hue
Than the dust from river bar.
Bright burns the campfire while my thoughts roam
Far thro' the twilight toward loved ones and home.

Congratulations!

It gives us very great pleasure to extend to our Honorary member, Brigadier Sir Oliver Wheeler, M.C., our hearty congratulations upon the honor of knighthood conferred upon him by His Majesty's New Year honors. We feel sure that all members of the Club who know him will join with us.

Oliver graduated at the Royal Military College of Kingston, where he was Sergeant-Major, head of the college students, in his third year. Successful in his final examinations, when he captured the Sword of Honor and the Governor General's gold medal, he accepted a commission in the Royal Engineers and was sent to Chatham for a training course. Selecting India as his station he joined his regiment there and in 1914 was sent to France as one of the officers in charge of the Indian contingent. He was in France for a year and a half and was then sent with his Indians to Mesopotamia. He received the M.C. and was mentioned seven times in despatches. He had then risen to the rank of Major.

At the close of the war he was attached to the Survey of India. He was loaned by the Indian Government to the Alpine Club on its first reconnaissance survey of Mt. Everest and then climbed to the North Col with Mallory. Commissioned by the Indian government, he made a phototopographic survey of the Tibetan side of the mountain and subsequently a detailed contour map which was used on later expeditions. He could not complete the survey as the Nepal government would not permit entry for that purpose.

In the Survey of India he gradually rose from Major to Colonel and was made Director of the Northern Circle of the Survey. His next step was the appointment of Surveyor General of India and shortly after he was promoted to Brigadier. During his long career with the Survey he has done much good work and the world war has made many calls upon his outstanding talents. His Majesty's conferring knighthood upon him came as a great surprise and was much appreciated as a recognition of work well done.

Lewis Fox Frissell, 1872-1943

In the summer of 1894 five Yale men made a journey to the Canadian Rockies. They were Walter D. Wilcox, Samuel E. S. Allen, George H. Warrington, Yandell Henderson and Lewis F. Frissell. Henderson wrote a delightful account of their adventuring for the *Canadian Alpine Journal* of 1933.

At that time Frissell was chiefly interested in geography, but nearly ended his career by a fall in the couloir of Mt. Lefroy. This was on July 12, but the injury proved to be only a torn muscle and he was able to rejoin the party in Paradise valley in the following month, taking part (with Allen and Wilcox) in the first ascents of Mts. Temple and Aberdeen. The guideless ascent of Mt. Temple was the first on which an elevation of more than 11,000 feet had been attained in the Canadian Rockies.

Dr. Frissell was born in Bloomfield, N.J., but lived most of his life in New York City. He was a descendant of Richard Varick, mayor of New York from 1789 to 1801. He graduated from Yale in 1895 and received his M.D. in 1900 from the College of Physicians and Surgeons. He taught there as assistant professor of clinical medicine from 1907 until his retirement in 1938. He was president of the New York Clinical Society in 1927, and for thirty-nine years was a member of

the New York Academy of Medicine, of which he had been both trustee and recording secretary.

He lost his son, Varick, in the explosion of the steamer Viking off Newfoundland in 1931, during the course of a motion picture expedition. Bernt Balchen and other fliers were commissioned to search for survivors but none were found.

—J.M.T.

Isolated Peak by the East Ridge

The first ascent of the east ridge of Isolated Peak was made by my brother Ferris and myself on July 25, 1943. We left the Stanley Mitchell Hut about 8.00 a.m. and went up to the col between Isolated and Whaleback, then turned over to the north of the gendarmes on the lower ridge. At the notch on the ridge we changed to rubber shoes and had an excellent climb to the summit which was reached about noon.

—R.N.

CLUB PROCEEDINGS

Lake O'Hara Camp, 1943

BY DOROTHY PILLEY RICHARDS

“Informal Camp” was the original title of the 1943 O'Hara Camp—It gave the imagination plenty to play with. What makes an Alpine Club Camp formal anyhow? Tweedy's book, bell and candle? Fixed meal hours, a Chinese cook and a vast enough fly to serve his offerings under? It was clear early enough that there would be none of these things this year.

From first to last the atmosphere of the Camp was a masterpiece of our Mr. Sampson's ingenuity in improvisation. As wise and deep in experience and as hardy as Nestor himself, nothing found him at a loss. On the heels of the initial letter starting the game, there followed strings of notes, express letters, telegrams; they flowed about the continent between provinces and states. Messages of imperative implications seemed constantly to be arriving. “Jam cannot be obtained. Secure honey.” After infinite search, I got it and packed it at the very heart of my largest dunnage bag. In vain, alas! The strong arm of the Canadian Pacific Railway broke my three-pound jar into multitudinous invisible pieces. What a day I spent at Lake Louise Station exploring the mysteries of omnipresence while I separated out the conglomerate roly-poly of my adhesive clothes.

Next, an express letter, “Prunes and apricots non-existent here, bring canned fruit.” A distress signal indeed! Under all these handicaps Sampson and Richardson had got together. Documents as impressive as State Papers commuted between Calgary and Regina. Small dry beans were balanced against macaroni. “I do not think much of it, but some people seem to like eating it.” Discussions raged round the merits of tapioca. Wasted ink and wasted breath—tapioca too had joined the immortals and was no longer to be seen on earth! Odd contrasts showed up in the supply zones: thus Regina had none of the canned milk so easy to find in Calgary. As often it was the other way about. When it came to less mundane matters, more ethereal flights of the culinary art, Sampson's memos (I was fortunate enough to see them later) on the relative merits

of different lines in fancy prepared puddings (Jello *versus* Nabob, 20 rounds daily: “One pudding is sufficient to do 2 persons—which would mean an average of about 20 puddings per day, with pudding supplied only for one meal”) and viscid, cornstarch concoctions (“Should they be butter-scotch or caramel flavor?”) would enthrall and instruct any epicure. As to the raw materials there was no doubt that this informal camp would be well found in them—with 300 pounds of potatoes still to peel. But how about co-operative or isolationist cooking ?

One of the earliest notices told us that since the Club camp equipment was in use at the Yoho Military Camp each member should bring a knife, fork, teaspoon, tablespoon, granite plate and cup, small cooking dish and frying pan. Visions swam up of 57 climbers with 57 frying pans, cooking on 57 fires 57 varieties of food. An uproariously informal, self-organized camp it certainly would be!

As always—human nature was ever the same — this *work* — it’s no use, for me, pretending that camp life consists all of fun—was performed by the knowledgeable and efficient. We others did what we could and admired the real *cuisiniers* as much as we enjoyed their products. Meanwhile, the wood pile and the washing up, the water-supply and the scavenging (amazing how many cans and bottles an active camp must dispose of) kept the rest of us out of Satan’s clutches.

Actually 35 of us turned up and divided—more or less by sections —into messes consisting of some dozen in each, more or less. I cannot like this term “messes” in this connection. Whatever may have occurred in some of those groups which used to seem so frenetically agitated about dinner time some hundred yards away, there was no mess, as I understand the word, around my culinary bunch. Nor did I meet members of other groups who confessed to any such messiness!

The beginning of Camp—that is, the arrival of our Nestor and the provisions—is shrouded in mystery. He seems to have camped in a ditch beside the right-of-way in order to ensure a proper welcome to all those dropping off the trains from east and west. On Saturday, July 17, hidden under a sack the size of himself, he led the way into Camp. Is there any moment more to be taken and held in the mind, turned over and examined than the first deep breath on the tramp up the trail into the mountains ? The stream seems clearer, swifter, more living as it sweeps over the rocks—and ours was Cataract brook freshet-filled with spring waters—each flower stands out as itself and all its forerunners; the flexibilities of the balsam boughs, the bloom on the moss, all strike with the force of an unutterable newness infinitely familiar and dear. We walked up in a happy dream disregarding the rain showers.

But it was this very drizzle which decided us to change the campsite from the old A.C.C. location on the south shore of Lake O’Hara to one beside the Elizabeth Parker Cabin. This had a double advantage, it was a drier site and we would have the cabin to retreat to if the rain went on. Our fears were groundless, except for this first Saturday, we enjoyed two weeks of perfect weather. Here your Chronicler would like to do justice to Lake O’Hara under an azure cloudless sky, but, what can you do with adjectives, verbs and nouns to recapture even the leap, the spread or weight of the waterfall in the middle distance—or tell over the colors of the paintbrush (cream! lime! coral! pink! claret! flame! scarlet!) in the long lush grasses?

On Sunday, July 11, the majority arrived and stirred up a scene of immense bustle and activity. Ray Legace packed for us and his assistant, Donald Hoover, arrived with a packtrain of food and luggage. Charlie Richardson and big Tom Marston seemed to be everywhere helping to put up tents. Only five official, orange, Club tents were available and the variety of color and shape of the small, private tents gave an added piquancy to the scene. Gangs of marauders went in all directions to collect from old campsites odd tables, benches, cupboards. Derelict packing-

cases were brought in from the furthest coigns of the underbrush, slabs of stone and bits of rusty iron were constructed into fine open-air stoves. By evening a pleasant promise of comfort was achieved, as we busied ourselves around them.

Our Nestor, guide, philosopher and friend of all the world—meantime had installed himself in solitary grandeur. His tent was the admiration of everybody. Whenever you visited him, he seemed to be eating ravishing little meals, standing, at all hours of the day or night under a cloud of smudge which was enviably efficient in driving the mosquitos over to the rest of us. Those mosquitos! As with the scenery, words again fail me. This focus of the Camp was the, Mecca not only for those who enjoyed being teased but for all who wanted counsel and judicious advice. They got it in generous measure. Right through spring there had been heavy snow even up to our arrival and Nestor, always a sound advocate of the Club's responsibility for teaching the novice the rudiments of the sport, started off with a campfire of admonition and a demonstration of how knots are to be tied for safety. Need I add that this quickly led into the entertaining and inevitable controversy on the relative merits of the overhand and butterfly knots? Each side becomes ever more arrogantly certain that there can only be one view of the question.

Again our Counsellor saw to it that nothing rash was done. We were gently and persuasively induced to take proper training. Our first day, in flashes of sunlight between showers, we went up to Lake Oesa. Next day, in measured gradation, a huge photographing party, we walked to Lake McArthur. A rare landscape, such as most of us had never seen in the Rockies, for the season was immensely late and the sickle-blade ridge from Schaffer up Biddle and down towards Park was gleaming with snow. As on an early June day those rolling uplands were sprinkled with creamy Pasque flowers, tinged with faint blue beneath. The feathery grass-green larches swayed in the breeze. The lake itself was crisply solid with ice.

Next came Opabin pass, made memorable by a grizzly's tracks. We certainly couldn't allow the Military Camp to have a monopoly although it was secretly much to our relief that we talked about rather than met him. Interesting climbs up the various rock peaks were by now being led boldly and carefully by Phil Munday followed by others. She led the way up Yukness and Wiwaxy and marble-ridged Schaffer. By different permutations of parties and pitches almost everybody visited all three. And what could be more pleasant than these short sound ascents over rocks suited to every taste and skill. And for those who had done most of the O'Hara climbs many times already there was the fishing. Lillian Gest, for example, had the chance, which she did not fumble, to prove herself as successful with her rod and line as with her ice-axe. Still she couldn't match young Ronnie Feuz whose twinkling dark eyes captivated all the girls and seemed to have a Pied Piper's power over fishes too. His father, Walter, in charge of the Canadian Pacific Railway Bungalow, was our news source and expert consultant—much needed with Huber still out of condition. At night the campfire glowed, as we shouted the favorite old songs under the vivacious leadership of Cora Sutter's soprano which outstripped and outsoared us all. And as the bright moon rose over Hungabee, that ghostly giant, most of us remembered other days and other camps—how in 1925 we started for Hungabee at 2.00 a.m., my first Camp and first climb with Nestor, I recall. Then we went to bed in that mood of recollected happiness which is one of the mountains' most precious gifts.

At our first weekend we had an unexpected visit from our President, Eric Brooks, and I. A. Richards, from the Military Camp. This same evening news came in of Mrs. Rans' bad luck in breaking her leg. A slip on a root, far down the trail in McArthur creek had done the mischief. A rescue party—Nestor, Big Tom and Dr. Clarke—was soon on its way bearing what comforts

it could for the night and next day Mrs. Rans came down on horseback showing a stoic courage which impressed us all.

Our next arrival was from the R.A.F., Tom Waller, that balanced cragsman, eager to crowd all he could in a limited time. He and Phil Munday led the grand finale of the fortnight, the ascent of Odaray, now at last coming into condition though still cluttered with snow. In its tricky-looking chimneys on the far side of the gap, “fun was had by all” of sundry sorts.

Then there was the dramatic night when all the camp seems to have been awake except me. First the cry was heard, “Oh you’ll die, you’ll die. Whatever shall I do?” Instantly everyone round Emmie Brooks’ tent was on the alert or rushing to the rescue. Mr. Chips, our short-legged canine mascot had recklessly clashed with a porcupine and the usually self-possessed Emmie was trying to dissuade him with wild cries of distress, of command, of appeal. By the time the alarmed group had gathered—pyjamas flapping in the chill night air—Emmie had recovered Chippie who looked like a pincushion. He and the porcupine might almost have changed skins except that Chips’ quills were the wrong way out. “You’re full of them,” she wailed. “They’ll work into you.” Fortunately the two main First-Aiders, Bea Martin and Phil Munday, were ready to meet the call, though a nail file had to take the place of tweezers, and the poor, but courageous little dog, held firmly by his mistress, was submitted to their tender mercies. When we reassembled in the morning 150-odd extracted porky quills stood as evidence of a nightmare experience. One useful hint for other occasions, was Walter Feuz’ recommendation that we use vinegar to soften the quills before trying to draw them out. It is to be hoped that Mr. Chips will learn this lesson. Porcupines on future meetings ought to leave him cold.

The time came to break up. Few exits from Camp can have been as eccentric as lively Ruby Crealock’s. Urgently wanting to get back to Calgary, she found herself at Hector Station alone, without information on how to stop the onrushing train from the west. All she could find was a mop which she brandished desperately at the monster but to no avail. It wasn’t used to stopping except at a signal from a dignified green and white flag. Luckily there was a second section to succor her.

Another notable exit was that of Phil Munday, Tom Waller and Aletta Kramer. After supper, hidden under colossal loads of wood they set off to traverse Abbot pass. The unquenchable flow of Aletta’s witty comment drifted back to us through the evening shades. At the end of camp Eric Brooks, pensively provident as usual, returned with John Brett from Military Camp. John and Elizabeth had much to tell us about their newly discovered cliffs in the Laurentians. A great work they are doing there for the Club—as I found out on my way home in September. Sound and superb climbing it is which eastern members should not miss.

Last of all this pleasant company to depart were the President and Mrs. President gently roller-coasting down the trail in a car laden with other people’s rucksacks. “Return! Return” the mountains called. “If so, maybe we will,” we said.

Consolation Lake Camp

July 19 to August 1, 1942

The thirty-seventh annual camp was located on the site of the 1910 camp near Lower Consolation lake. The difficulties and troubles of the times naturally restricted numbers attending but the total registration was augmented by the presence of some seventeen officers taking a course

in mountaineering arranged by the Club's Executive at the request of the Department of National Defence.

So successful was this short course that the Club has been asked to continue them in the future and to undertake the training of a larger number of officers. Your Executive is therefore hard at work planning and arranging a program for next year with a view to a fuller course, at which it is hoped we shall be able to train some one hundred to one hundred and twenty-five officers.

The thanks of all are due to those leaders who gave of their time and knowledge, not forgetting our old friends Edward Feuz and Rudolph Aemmer, as well as Ralph Rink and his crew.

During the Camp period the weather was very uncertain to say the least. Although there was certainly something wrong with the drainage system, this did not hinder a very full program being carried out. A fly camp was established early at Larch valley. This was well attended for climbs to Eiffel, Pinnacle and Temple, while some more hardy members ventured over to the Fay hut and the officers spent a night in bivouac at Boom lake.

Climbs were made of Bident, Babel and the Tower, Quadra and "Mt. Bell," from Main Camp. Numerous expeditions were also made to Consolation pass, Moraine lake, Lake Louise and Wenkchemna pass.

The campfire programs were varied and interesting as usual, talks of great interest being given by J. Murray Gibbon, Dr. Thorington, R. Hind, P/O Ingham, Lt. Punnet and Dr. Richards, as well as lectures by various authorities present. Mention should also be made of a skit put on by the officers, entitled "A Novice's Nightmare."

The following passed the test for Active membership:

Mt. Temple:

Mrs. E. F. Brett, Mrs. G. Rans, Mrs. J. Sherlock, Miss E. Hymus, Miss P. Partridge, J. Hudson, H. Rans, R. Hunter, J. Ingham, and F. Holmes.

Mt. Eiffel:

Miss P. Pue, Miss H. M. Brown, Miss M. Clermont, Mrs. V. Miller and Miss E. Rummel.

ANNUAL CAMP VISITORS

Visitors were drawn from:

CANADA

British Columbia—Capilano, Vancouver, Vernon, Victoria. **Alberta**—Banff, Calgary, Edmonton, Kew, Medicine Hat, Pearce. **Saskatchewan**—Estevan, Regina, Saskatoon. **Manitoba**—Winnipeg. Ontario—Ottawa. **Quebec**—Montreal.

UNITED STATES

Illinois—Chicago, Highland Park, Wilmette.

Massachusetts—Cambridge, Worcester.

Minnesota—Minneapolis.

Ohio—Cleveland. Oregon—Portland.

Pennsylvania—Merion, Philadelphia.

Wisconsin—Milwaukee.

Altogether one hundred and six, with the officers and the crew, were placed under canvas. Representatives attending from The Alpine Club and The Ladies' Alpine Club of England, The American, Swiss and French Alpine Clubs. The Royal Geographical Society, The Appalachian Mountain Club, The B.C. Mountaineering Club, The Scottish Mountaineering Club and The Mazamas.

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