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THE ALPINE CLUB OF CANADA

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1934 AND 1935

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HEADQUARTERS  
BANFF, ALBERTA

VOLUME XXIII

THE  
CANADIAN  
ALPINE JOURNAL

EDITED BY:  
A. A. McCOUBREY

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VOLUME XXIII  
1934 and 1935

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THE ALPINE CLUB OF CANADA  
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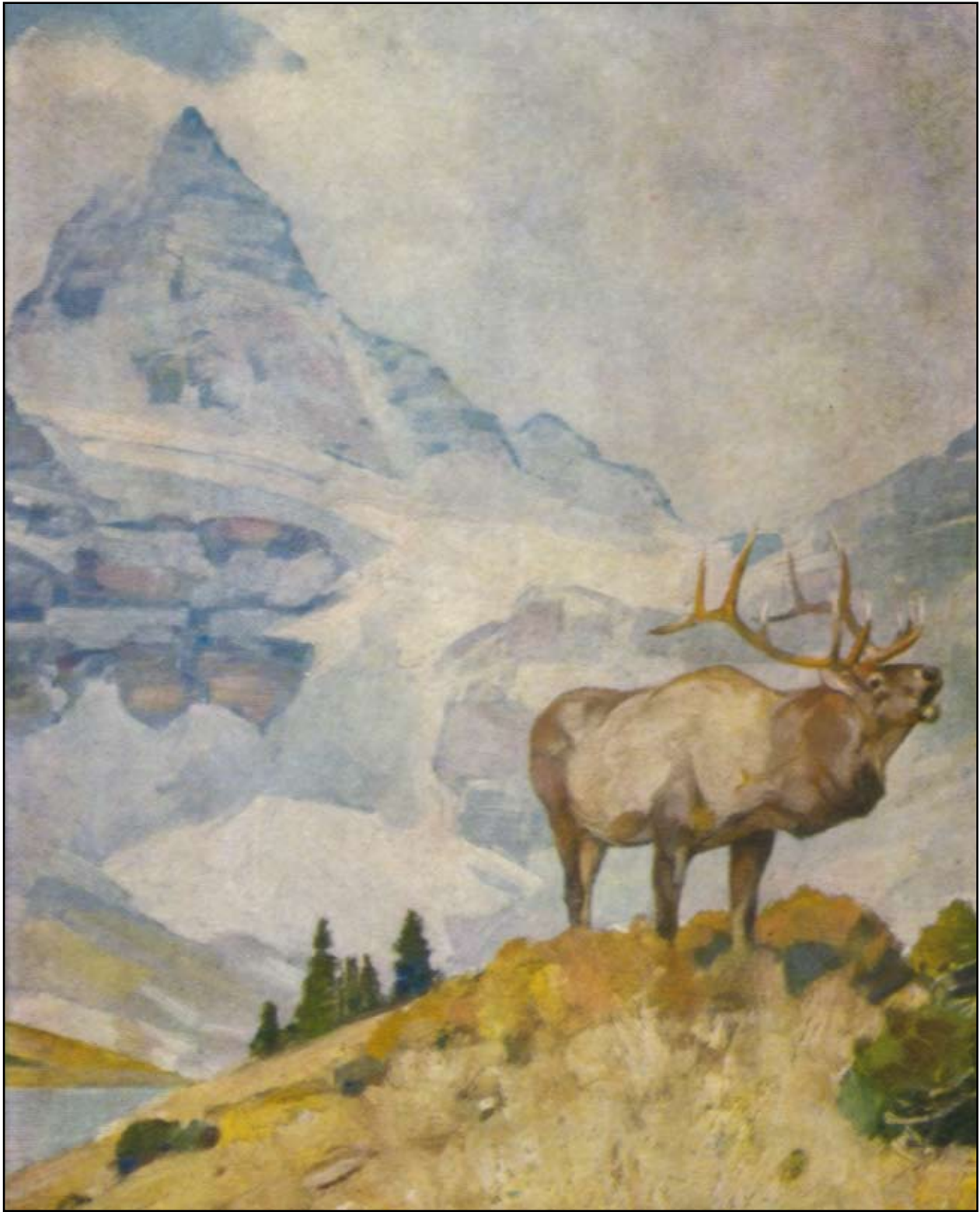


Articles for the Journal should be sent to the Editor, A. A. McCoubrey, Engineering Dept., Canadian Pacific Railway, Winnipeg, Man. Contributors are reminded that material for publication should be in the hands of the Editor at as early a date as possible, and NOT LATER than November 15, of each year.

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Mount Assiniboine.  
*Photo Courtesy, Can. Pac. Ry.*

# CANADIAN ALPINE JOURNAL

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VOL. XXIII

PUBLISHED BY  
THE ALPINE CLUB OF CANADA

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## IN SEARCH OF THE LEANING TOWERS

BY A. A. MCCOUBREY

*Something lost behind the Ranges.*  
—KIPLING.

On an August morning in 1924, I balanced myself cautiously on the top of a quartzite slab topping a Purcell peak and hopefully exposed a roll of film in my camera— hopefully, in spite of the smoke from a distant forest fire that was rolling up and dimming the landscape. I was anxious to record a beautiful snowy peak lying to the south, from the farther edge of which a curious rock spire thrust its head upwards. It was impossible to tell whether the spire was a part of the snowy massif or not, but at the moment my interest was in the snowy peak. Here seemed a peak worthy to bear the name of that ardent champion of alpinism in Canada who, for the past thirty years, has by her pen inspired many young Canadians to seek the high peaks. Bestowal of the name<sup>1</sup> could wait for a subsequent year when it was hoped to find a way to its crest from the depths of the forested valley that seemed to lie at our feet.

From a different viewpoint, however, the spire or one of its neighbors, forced itself upon our attention when, in 1928, Ferris Neave and the writer made the seventy-mile traverse of the Purcell range from Argenta on Kootenay lake to Wilmer on the Columbia.

Next year we photographed the tip of one of the spires and took bearings from Mt. Toby, always with the hope that some day we might find an opportunity to seek the summit.

It was not until the winter of 1932-1933 that I was able to turn my attention again to the problem of the position of the spires and to the best method of approach. In these trailless valleys, impassable for horses, it was necessary to find a route that would permit of the objective being reached within the time limits of a summer vacation.

In the meantime others had recorded their impressions of these distant peaks. Gilbert Wilson in the course of geological explorations in the southern Purcells in 1924 climbed Mt. Skookumchuck and much later wrote (1933) in the pages of the *Geographical Journal*

“and westwards across a sea of unknown mountains stood the strangely shaped Fry Pinnacles.”

while Thorington and Cromwell in 1931 in the pages of the same journal wrote,

“Beyond in the southeastern angle between Fry river and Kootenay lake, rise the immense pinnacles we had already observed in 1928 and 1930 from Mt. Toby and Mt. Findlay. Of

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<sup>1</sup> The suggested name was Mt. Elizabeth for Mrs. Elizabeth Parker, co-founder of the Alpine Club of Canada, who has, throughout a long life, been the means of interesting Canadians in their own mountains.

In 1931, Thorington and Cromwell, in the pages of the *Geographical Journal*, suggested the name Mt. Pambrun for the peak. No mountaineer has as yet set foot upon the peak.

dolomite sheerness, they are as lofty and spectacular as one could wish for. The valley of Fry river is a gateway to them but a difficult and forbidden one.”

Careful study of all the data convinced me that the best approach was not by Fry creek but by one of the creeks farther south, heading in an easterly direction into the range. Aeroplane oblique photographs, taken from some thirty miles south of the probable location of the pinnacles, showed, amid a welter of snowclad summits, a range of steep black towers, too steep to retain the snow upon its flanks. Were these the peaks? Memory supplied the last clue. Long a reader of the *Kaslo Kootenai*, I seemed to recall a paragraph appearing in its columns many years previously referring to “the leaning towers, those 10,000-foot overhanging peaks that can be seen from the mountains above Kaslo.” If, then, the peaks were conspicuous from the mountains above Kaslo, it seemed likely that an approach might be successfully made by following one of the Purcell valleys near that point.

Campbell creek, flowing from the Purcell range and discharging into the easterly shore of Kootenay lake some three miles north of Kaslo, was accordingly selected as the approach. Correspondence with a geological friend who was familiar with the lower reaches of the creek was not reassuring, for he painted a gloomy picture of the difficulties to be encountered in attempting to force a way with packs up the valley.

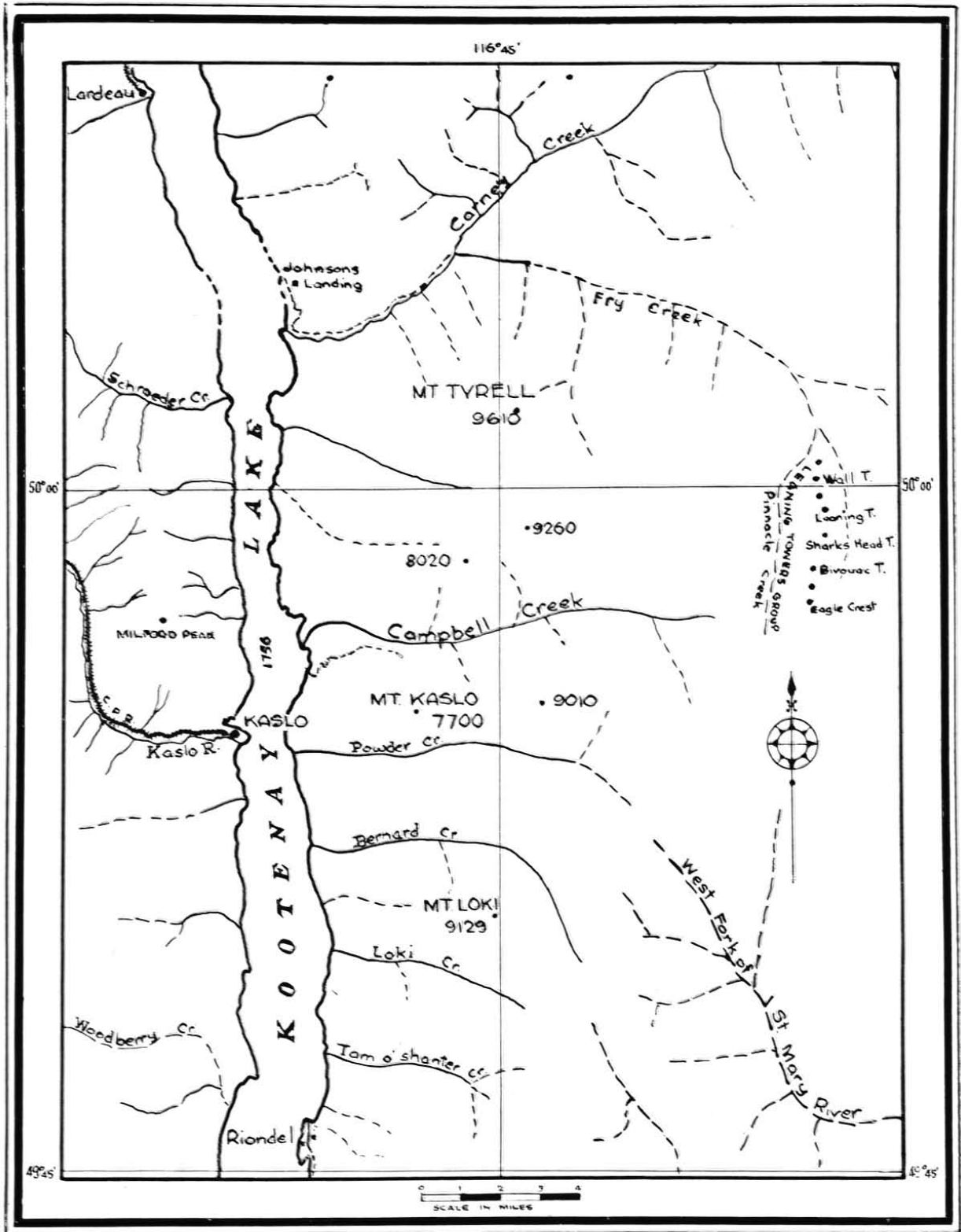
Having decided on the approach, the important matter of the personnel was easily arranged. Roger Neave, who had made his first trip to the mountains in 1929 with the writer and who had observed the tip of one of the towers from Mt. Toby, was eager to come to grips with the peaks; Grahame Cairns, whom we had the pleasure of introducing to mountaineering in 1931, was equally anxious and Burton Blanchard, as yet a stranger to the mountains, but whose sturdy physique and amiable disposition seemed likely to prove a useful acquisition to the party, was induced to join the expedition. All were engineering students of the University of Manitoba. A fourth, A. A. McCoubrey, Jr., who was to join the party at a later date and bring in fresh supplies, was no stranger to back-packing.

It was proposed to do some preliminary work around Kaslo in May with a view to confirming the selection of Campbell creek as the route and also do some back-packing of supplies. It was my intention to follow early in June when we would attempt to penetrate to the towers. It may seem odd, to those accustomed to climbing in July and August, to choose June for the attack. I reasoned, however, that there was more likelihood of snow being on the lower reaches of the towers in June than later and that we might find access to the peaks facilitated by using snow couloirs where possible. This assumption, like that of the route chosen, proved sound and worked very much to our advantage.

Cairns, Blanchard and Neave arrived in Kaslo on May 12 and on May 14 climbed Mt. Buchanan. This is a wooded ridge three miles northwest of Kaslo. It should be borne in mind that the elevation of Kootenay lake is 1756 feet and that, therefore, a peak such as this, in the neighborhood of 7000 feet in altitude, represents a fairly long climb. They left at 8.30 a.m. and climbing in deep snow reached the summit at 1.15 p.m. Visibility was not good but sufficiently good enough to repay them for the climb.

#### MILFORD PEAK (Altitude 7500 feet)

On May 15, camp was moved up the Sandon road to Tenmile creek and a preliminary attempt made on Milford Peak, eight miles north of Kaslo. The party, climbing in sleet through slushy snow, cached the instruments on a subsidiary summit and decided to return on account of poor visibility.



Sketch Map Showing Approach To Leaning Towers Group.



Northerly End Of Leaning Towers Group.

Left to right: Wall Tower, Leaning Tower. The sharp point on extreme right is a shoulder of Leaning Tower.

The following morning, a start was made for the peak at 8.15 a.m. and the summit reached at 2.15. Weather was unsettled and it snowed at intervals.<sup>2</sup> “Vast quantities of snow covered the slopes. I have never seen so much snow before. It was a wonderful sight to see the clouds coming straight at one or passing far below. The roar of avalanches could be heard on every side . . .” The return was started at 4.30 and camp reached at 6.30 p.m.

Returning to Kaslo the party crossed the lake to the mouth of Campbell creek next evening. “Pitched the tent and made camp in a wonderful place on the shore . . . sat around the camp fire. Would not trade places with the Prince of Wales and am afraid I will wake up and find that I have been dreaming.”

Next morning was spent in back-packing to the base camp at the “workings” of the Leviathan mine, two and a half miles distant and a thousand feet above the lake. “The name of the mine is Leviathan but it is sadly misnamed as it is only a hole in the ground with half a cabin.”

#### UNNAMED PEAK (Altitude 8020 feet. First ascent)

On the 22nd, camp (c. 3800 ft.) was made about five miles from the lake at the base of the unnamed peak (8020) north of Campbell creek and which may be well seen from Kaslo. Leaving camp at 6.15 a.m. the following morning, six and a quarter hours of steady climbing brought the party to the corniced summit. Flurries of rain and snow throughout the climb and a cold southwest wind on the summit made the climb a cheerless one. The descent occupied three hours and a very wet trio dined in their underwear while trying to dry their outer garments.

Next afternoon after a three and a half hour jaunt the party arrived at the base camp at the mine where they rested until the 28th. On the previous afternoon the fourth member of the party, Alex. McCoubrey, arrived with supplies.

#### MOUNT KASLO (Altitude 7700 feet)

May 28 saw the quartette en route for Mt. Kaslo at 6.30 a.m. This peak, conspicuous from Kaslo, rises 6000 feet above Kootenay lake and is a favorite climb of Kaslo mountaineers. The climb is not exacting and the views superb. “We reached the summit at 11.30 a.m. and had our first view of the full wall of the Pinnacles. They are a wonderful sight . . . great leaning towers . . .” Three hours of descent brought a tired quartette back to camp.

A day of rest followed and on the 20th back-packing of supplies was started up the creek, the party reaching by easy stages the snow line near the head of the creek on June 6. Despite the toil of back-packing there had been compensations. “The scenery was beautiful beyond imagination; the climax of the gradually growing splendor of the scene was reached when we came to a waterfall. It was virtually a giant’s staircase, with the water boiling down giant steps in the solid rock. To add to the beauty of the scene the sides of the stream were thickly grown with cedars and spruce.”

On the morning of the 7th, Roger and Burton climbed a ridge north of camp (near the head of the creek) with the hope of getting a closer view of the towers. “We walked side by side up the snow-slope so that we should see the towers at the same time—if we were to see them . . . We looked over the top and the sight held us spellbound, for there was the whole line of the towers right in front of us. It was what we had hoped for but did not really expect. It was a wonderful sight to see them towering above us; great bare spikes of rock which all appear to lean one way.” On this occasion the notes of the party show that they were unable to unravel the geography of the

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<sup>2</sup> The quotations that follow are from B. Blanchard’s diary to which I am indebted for the information covering the expedition’s activity before my arrival.

position of the towers correctly but this was to be expected. A blizzard of snow enveloped them when on the summit and it was impossible to see more than a hundred feet. The descent was made in driving rain and snow.

A day of rest followed and on the morning of the 9th the party started back to Kootenay lake through four inches of fresh snow. "I have always longed to see the evergreen woods in winter dress. It was wonderful travelling . . . the soft snow deadened all sounds . . . the whole woods were absolutely silent except for the roar of an occasional avalanche on the opposite side of the valley." Thoroughly soaked to the skin the party pushed on rapidly and reached the old mine by evening.

On June 10, I arrived at Kaslo, collected supplies and crossed the lake in a rowboat with outboard motor. I found the rest of the party waiting for me on the shore and after duly admiring the luxuriant growth of whiskers on all members, went up to the mine cabin. That evening a huge feast was spread on the table and, despite the fact that I was accustomed to Roger's capacity for stowing away enormous quantities of provender, I was amazed at the fashion in which the food disappeared and I retired, as the Major would say, "defeated."

One of the disadvantages of sending out an advance party is that it has an opportunity of rounding out into perfect physical form with shoulders hardened to backpacking while the late-comer steps from his office, so to speak, and like the gentleman who descended the Pillar Rock in two seconds, finds "the going very hard." Theoretically of course, the advance party does all the back-packing in advance so that when I surveyed my load next morning, hoping to find therein only a toothbrush and some sugar pastilles, I was dismayed to find instead such foreign substances as large tins of jam, corned beef, etc., the whole aggregating some forty pounds. It is true that the other members of the party had loads running up to sixty-five pounds but that did not lessen my dismay.

As one grows older, this business of back-packing in the western ranges assumes an altogether disproportionate size in relation to the objectives of the trip. On this occasion the situation was not quite so bad as one evening five years previously, when, at a spot not remote from where we stood, Ferris Neave and I tottered off the midnight boat at Argenta, hopefully set the wharf scale at fifty pounds, tossed our packs, one at a time, on the scale platform and jumped back as the weigh beam crashed upwards. With bulging eyes we adjusted the beam until it came to rest at seventy-two pounds. I have always longed to meet the he-man of the Pre-Cambrian area (whose prowess my young geological friends are never tired of relating) who nonchalantly tosses a 120-pound pack on his shoulders and strides lightly over rocky portages. In fact, I would be prepared to squander a large portion of my monthly stipend to get him with a seventy-pound pack in a Selkirk windfall, preferably in Hamill creek, watch him fall off a giant cedar into the tangle fifteen feet below and punctuate his cries for help by relating "I remember when we were back-packing in the Purcells" . . . But I digress, although I am sure that those familiar with the subject will be sympathetic.

The end of the mining trail high up on the valley side was reached all too soon on the morning of the 11th, and we plunged downwards to the creek some 700 feet below, not, however, before examining with interest a junco's nest near the end of the trail. The nest had had young in it when seen a few days previously but they had vanished when we re-examined it. A rough trail had been blazed by the boys down to the creek but, as we progressed up the creek, the "trail" became somewhat sketchy. We camped about five o'clock on a divide between Campbell creek and a clear stream.

Next day we progressed leisurely through a cedar forest along the stream. Game signs (bear and goat) were plentiful. An old blaze with the inscription—



“June the 25th, 1889. Notice—we the undersigned claim by right of discovery.

Smith  
Hogan  
Jr-dle”

written in pencil, was still legible and added interest to the day’s journey. We camped early, opposite peak 9010 which lies on the south side of the valley.

By the afternoon of the next day (June 13) we reached the desolate-looking last camp site of the advance party and found it still hemmed in by snow patches. Henceforth we should break new ground and as we crawled into our sleeping-bags the spirits of the party were keyed up in anticipation of what the morrow would bring forth.

An early start was essential next morning as we would be travelling on snow to the head of the valley. The sun was shining brilliantly when we got underway and after a few tentative experiments with snowshoes which ended by the shoes being hurled into the bush, all went well. The scenery was reminiscent of the little Yoho in winter and was enjoyed by the party. At 1.10 p.m. we stood on the pass (c. 6600) at the head of the valley and found ourselves looking into a deep valley running at right angles to Campbell creek. This valley ended in a cirque a short distance south from where we stood. Above this was a second cirque topped by peaks of steep outline. The far side of the valley was formed by the black-looking wall of the leaning towers. Our pass faced the south end of the range and the far sky line was dominated by the jagged outline of peak after peak. The highest peaks of the range were obviously a few miles farther north at the north end of the range.

A glance was sufficient to show that we had chosen exactly the right valley to reach our objective. Any parallel valley farther south would have been cut off from the range by the sharp-outlined peaks, while the creek valleys farther north did not penetrate more than halfway from the lake to the valley at our feet.

We descended cautiously down huge, steep, wet granite slabs to the valley floor below. Travelling was difficult in the valley which is floored with great granite rock falls. The snow crust would bear for a few steps and then one would drop through to his chin. Crossing the stream we made camp in a miserable rock pile in which a few alders endeavored to wrest a living.

We had not troubled to put up the tent but a thunderstorm after midnight wakened us and sent us scurrying about in an effort to erect the tent. Bags were thrown in and an attempt made to sleep the rest of the night. Next afternoon two of us went up to near tree line with a light load of food to establish a bivouac camp from which to attack the southerly peaks.

#### EAGLE CREST (c. 9300. First ascent)

On the morning of June 16 the entire party left our uncomfortable base camp (c. 5900) in the valley en route for the most southerly (and least impressive) peak of the range. This appeared to be a feasible climb for a party of five and promised to offer a good view-point from which to look over the surrounding country. Away at 6.10 a.m., we took light packs to be left at the bivouac site which was reached at 7.50. There was an unfamiliar look about the trees as we climbed upward and it was some little time before we realized that it was due to the fact that the larches were without leaves, being still in their winter dress. Steep snow-slopes were plastered across the face of the peak but the snow was in good condition and provided excellent going. Easy snow-slopes led to the final rocks from which we watched a ptarmigan scurrying for cover to evade the attack of an eagle. The last hundred feet of rock work provided some good scrambling. We were on the summit by 1.00 p.m. where we found it difficult to recognize anything we knew. On the one hand the towers

cut off the view of the peaks in the north, while on the other hand it was difficult to realize how far south we were. The plane table soon set us light and the near presence of the St. Mary tributaries furnished a pleasant surprise. The peaks to the southwest looked exceedingly interesting. We left the summit at 3 p.m. and Grahame, Roger and I reached our bivouac rock at 5.35, Burt. and Alex. going down to the base camp in the valley bottom.

On the snow-covered hill-side the only possible camping places were on top of the enormous, granite boulders which littered the valley below the peaks. A flat boulder some thirty feet square, was chosen for the camp fire, while in another boulder a horizontal cleft in the rock furnished an admirable cave for sleeping quarters. There was just room for three to lie side by side. I passed a restless night. Forgetful of the power of the sun on the June snows, we had climbed with open shirt fronts and I now paid the penalty in the form of enormous water blisters on my chest.

#### BIVOUAC TOWER (c. 9500 feet. First ascent)

Next morning snow flurries prevented an early start and it was 8.10 a.m. before we got away, bound for the highest of the southern group of towers. Good time was made up the snow-covered alplands to the base of a long, steep, snow couloir on the northwest side of our peak. This was selected as the point of attack and we roped up at 10.15. We kept to the left edge (looking up) almost entirely, using rock holds where possible. When a few hundred feet below the top of the couloir, we made the mistake of crossing it and taking to the steep, exposed, granite slabs. It was cold and windy with intermittent snow flurries, and according to Grahame “handholds were purely imaginary and footholds didn’t exist at times”. It was slow work but we eventually got to the corniced ridge a short distance north of the summit, which was reached at 2.15. The visibility was now excellent and we could see a great distance to the south, while on the east the Rockies loomed up impressively. To the north and the west the view was even better and as is usual in such cases much speculation was indulged in as to the geography of the picture before our eyes. It was too cold to stay long and we left at 2.50. Avoiding the steep slabs of our upward journey, we descended the broken rock above the snow couloir, roping off about 150 feet to speed our progress. The snow in the couloir had been exceedingly hard in the morning but was now of the right consistency and we made rapid time downwards. We unroped at 5.30, reaching the bivouac twenty minutes later, and after a short stay went down to our base camp which was reached shortly after 7 p.m.

The ascent of a peak by means of a very long and exceedingly steep snow couloir was a new experience to both Roger and Grahame, and I had enjoyed their pleasure in the day’s expedition.

As it was obvious that the highest peaks of the range could not be reached from our base we moved camp next day some four miles down the valley. There was a fair amount of bush-whacking and boulder-slogging, for the floor of the valley was composed of granite rock falls. We found a reasonably good camp site beside a little lake and near the foot of a gully leading to the great cirque which lies at the base of the highest peaks.

The night was very cold and next morning (June 19) we found the edges of the little lake frozen, an augury, we hoped, of fine climbing weather. All five of us went up the gully, finding it packed with avalanche snow and furnishing a good highway. At the top we dropped our load of food and tent, and while Grahame and Alex. went back, the rest of us continued on into the cirque. We spent the rest of the day in brilliant sunshine, rambling around the cirque and admiring the gorgeous alpine garden there. Indian paint-brush, violets, daisies, buttercups, heather and a host of other flowers flourished in great profusion. It was a grand spot and when we hoisted the little silk tent in a grove of spruce trees a little distance below, we felt that life could not offer much more.

LEANING TOWER (c. 10,000 feet. First ascent)

Next morning we were away at 6.30 a.m. to tackle the highest of the towers. A few minutes from our bivouac took us through the timber and, bearing to our left, we rapidly mounted the lower snow-slopes of the cirque. We made for the usual ribbon of snow that lies between each of these peaks in June, in this case to the north of our objective and separating it from another fine peak further north. The snow was hard and after putting on the rope at 10.15, we reached the col between the two peaks just before eleven o'clock. The two towers on our left and the Sharks Head tower across the cirque on our right, had looked quite impressive as we climbed upward.

The view from the col showed a very steep snow-slope running downward on the eastern side of the range, to a little glacier with a tiny lake on it. The fresh, right lateral moraine of the glacier indicated plainly that retreat of the glacier had been rapid in recent years.

Changing to rubber shoes we left the col at 11.40 and enjoyed good climbing to the summit which was reached at 12.55. One bit of the climb was up a steep slab about fifty feet long with a three-foot wall to our left and the handholds in a minute crack under the bottom edge of the wall. The day was sunny and the views magnificent. All our old friends in the north were visible while we noted some good peaks to the south. The Lardeau country on the northwest looked interesting. It was now possible to correlate the position of the range with the known country. On the east side of the towers flowed a little brook which had its source in a fine group of small glaciers about the middle of the range.

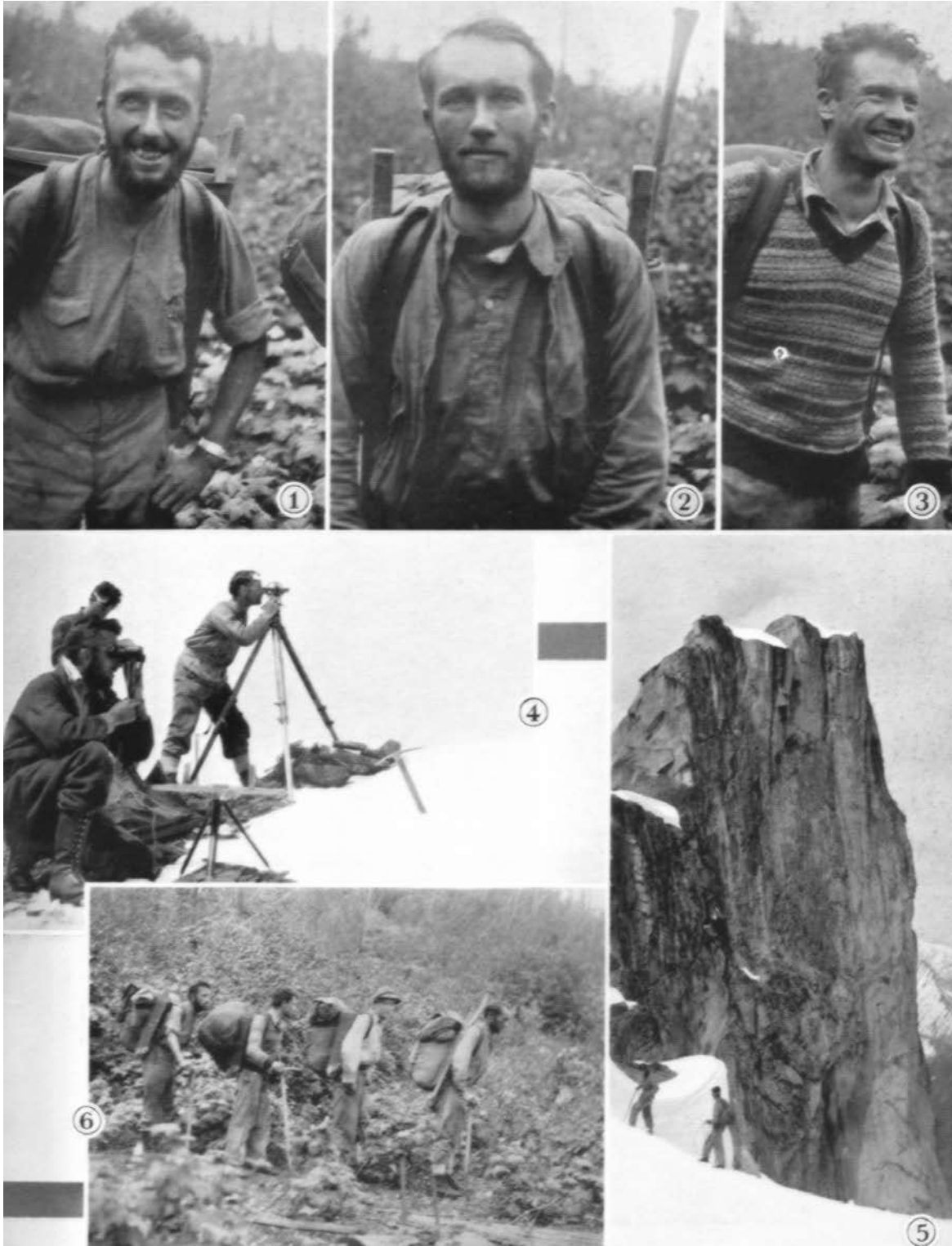
We left the summit at 3.00 p.m., Burt leading the way down. I fear that we had much fun at his expense as he found it somewhat bewildering to find the route down the slabs to the col. However, his unfailing good nature was proof against our jeers and it was a hilarious party that reached the col at 4.45. The rope was taken off at 5.25 and, somewhat weary, we reached the bivouac at 6.15. As the next day (June 21) was Roger's birthday we resolved to go down to the base and spend the day in feasting.

Awakened next morning early by the noise of a rock slide, we lounged about all morning and at noon partook of the birthday feast. As usual, I was hopelessly outclassed in the gastronomical performance that followed. In the afternoon, Burt., Roger and I left for our bivouac above, to climb the second peak north of Leaning tower.

WALL TOWER (c. 9800 feet. First ascent)

Up at 5.30 a.m. (June 22) we did not leave until 7 o'clock. Short snow-slopes led to the snow couloir between our peak and the unclimbed tower on our right. The couloir was surmounted and the col reached at 10.45. In a cold wind we tackled some difficult slabs with the usual friction holds and awkward spots. We again found it necessary in places to use tiny finger holds in the bedding planes of the granite slabs. We topped a minor summit above the col, descended slightly, then ascended some big slabs that were difficult. Once on top of the slabs we came to a fairly level arête with a terrific drop on both sides. The arête narrowed and had to be taken à cheval. In one spot a "window" in the arête, below our feet made it possible to look downward some three thousand feet. Facing us was the summit tower, the way seemingly blocked by a huge monolith of granite. This was turned by a traverse to the right and a broken chimney about seventy feet high, one wall of which was the monolith, proved the key to the summit which we reached at 1.45 p.m.

We left the summit at 2.30, regaining the col at 5.05 and took off the rope at the bottom of the couloir at 6.30. It had been a glorious day, beautiful weather, a first-rate climb, and a perfect



(1) R. Grahame Cairns. (2) Roger Neave. (3) Burton Blanchard

(4) On The Summit Of Milford Peak.

(5) The Col Between Leaning Tower And Peak (Shown) North Of Same.

(6) Leaving The Mine Cabin For Campbell Creek.



(1) Head Of Pinnacle Creek From The Towers.

Campbell Creek pass and head of Campbell Creek shown on middle right.

(2) Near Campbell Creek Pass, Looking East.

(3) Sharks Head Tower.

(4) Bivouac Rock.

(5) *A Cheval* On Sharks Head. Leaning Tower In Background.

party. Our base camp was reached at 7.45 p.m. and the supporting party had, as usual, a hot meal ready and lent a patient ear to our tale.

Next morning we returned to our original base camp up the valley. With light packs it was less of a struggle and an accommodating bear who had preceded us had indicated a good route. His footprints were nearly ten inches across. Arriving at our old site in mid-afternoon, Grahame, Alex. and Roger went up to the bivouac above to attempt the Sharks Head tower on the morrow.

#### SHARKS HEAD TOWER (c. 9800 feet. First ascent)

<sup>3</sup>Without a doubt last night was the most uncomfortable I have spent on the whole trip. In the first place we were so crowded that I, being the middle, couldn't move hand or foot. Secondly, wet, cold feet and a cold stony bed to put them in, were helpful in keeping me awake till daylight". The party left at 7.00 a.m. and arrived, over easy snow-slopes, at the base of the peak at 9.00 a.m. Roping up they made good time up the snow couloir, changed to rubber shoes at 9.45 and left the ice-axes behind. A rock climb brought them to the col on the summit arête at 10.30 and the first and highest summit was reached over easy rocks at 11.15. "A short distance across an intervening saddle we could see the second, more fascinating summit, a sheer pyramid of rock, the top of which must be reached by straddling up a sharp edge which drops away in a most spectacular manner for 3000 feet to the glacier below. The actual summit when reached was not large enough for three of us at once so I remained perched on the edge while we were there." Cairns were built on both summits, it being necessary to pack rocks in a rucksack to the second summit to build the cairn. The return was started at 1.40 p.m. and the base of the snow couloir reached at 3.50. After a wet tramp through the snow the party reached the bivouac rock in an hour. Judging by the comments I have read in various diaries this bivouac was not a popular place. Grahame refers to it as "the most miserable place in the Purcells", while Burt., in writing of the site, says "just room enough for three and if you forget and try to stand up you knock your brains out on the roof."

As we had some provisions left we decided to try one more climb before leaving. Accordingly, the peak south of Bivouac tower was chosen and Burt and I left the base on the evening of June 24. Arriving at the bivouac we heard the tale of the successful climb and then Alex and Grahame returned to the base.

Rising at 4.30 a.m. we were away to an early start. The peaks were partly in cloud and the weather unsettled, but we agreed to make the effort. Two hours brought us to the foot of the snow couloir between Bivouac tower and our peak. This proved to be exceedingly steep and the snow had melted in places leaving smooth, water-worn rock. The snow was in bad condition and inclined to avalanche. Some of the snow pitches were vertical and called for a good deal of careful and delicate work. The rock pitches in the couloir were very wet, in fact most of them had miniature waterfalls running down their faces. We made very slow but steady progress up the couloir for nearly four hours, passing nasty-looking overhanging rocks in the snow.

The weather changed for the worse. It became very cold, and rain and snow alternated. We were near the col at the head of the couloir when we took shelter behind a few rocks and tried to warm our half-frozen hands and feet while hanging on to the rock wall. The storm persisted and we decided to return. It was a ticklish business. Wet, avalanchy snow, wet rocks, and stiff, half-frozen limbs all contributed to our slow downward progress. We struggled for four hours in that infernal couloir. The constant plunging of the ice-axes, for hour after hour, into the snow up to their heads to anchor us, left two of us with a species of tennis-elbow for weeks afterwards.

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3 From Grahame Cairns' diary.

We reached the base camp at 6.30 p.m. in a pouring thunderstorm, shivering and wet to the skin. Not much in the way of dry clothing was available, so we undressed and got into our sleeping-bags, while the others dished out supper. The rain cleared later and the two boys started the tedious job of drying out our belongings.

“Midnight found us still going strong. At 1.50 a.m. the first bird chirped to us in the approaching dawn—I don’t know his remark but guess it would translate in part, ‘You’re all wet yet!’ for we still had plenty to do. The millions of stars faded out and a rosy glow touched the sky and fluffy clouds. At 4.00 a.m. Burt. came out and an hour later we started breakfast”. (R.G.C.)

Leaving our last camp in Pinnacle creek valley early, while the snow in the valley floor was still crusted, we made good time, reaching Campbell creek pass at 10.00 a.m. Turning for a last look at the towers we found them partly in cloud, and powdered with yesterday’s new snow. A farewell wave of the hand and we plunged downward to our food cache at the foot of the pass. Halting for a mid-day meal there, the cache of food was opened and vanished at an alarming rate. In a somewhat “logy” condition the party were able to stagger down the valley some two hours later and reached a former camp site at eight o’clock.

During the ascent of Campbell creek some weeks previously and during the present descent Roger had busied himself collecting specimens of *Bombus* for his brother. On sighting a bee the procedure was to hurl the pack off and dash madly in pursuit, handkerchief in hand.

A back-packer of even the dullest mentality could not fail to perceive that such a search meant packs off and a rest. Accordingly it was amazing to note the fervor with which members scanned the woods for specimens. I had long been accustomed to natural history enthusiasts but never before had known such a rabid thirst for entomological knowledge. Naturally, I could not let my associates down and speedily joined the ranks of searchers. My own specialty, alas, gave little excuse for loitering, as the geology was painfully simple and showed little variety. Indeed, I became so expert (when the necessity arose) at painting glowing pictures of specimens “just around the bush” that Roger became suspicious, and regarded me with a cold eye when I became too enthusiastic. Nevertheless I have become a firm advocate of having at least two entomologists on every back-packing expedition!

Away next morning at a late hour we came to “the old, familiar, much used ‘trail’ with its now well-known landmarks—the Big Slide, Bloody Alley, the Ram Pasture, the Gorge, The Goldfish Pool, Riverside Drive, Maryland Bridge, The Log Jam, and Baldy Camp at last”. (R.G.C.)

June 28 saw our last day on the trail and leaving Baldy Camp at 7.15 a.m. we reached the mine cabin at 10.20 after an absence of seventeen days. The trip was over.

Time passes quickly—all too quickly. It seems incredible that twenty-six years have passed since I first came to know the delectable Purcells. In this mad world of hustle, in the frenzy of “doing” things day by day, there is little time for contemplative thought. And as one struggles later to record impressions, hating the *furor scribendi*, fretting and anathematizing the friends who insist upon the written record, there comes a time in the evening when the pen drops from one’s fingers and the luxury of dreaming is eagerly indulged in. Slowly, in the mind’s eye, the panorama unrolls, valley after valley passing before one—Beaver, Duncan, Horsethief, Hamill, Farnham, Toby, Jumbo, Campbell—magic names all, names that have the power of awakening memories of sunshine and rain and snow, of struggles through tangled alders and windfall. And inseparable from the picture are the companions with whom one learned “To love the game above the prize”—the true philosophy of mountaineering.

## WEST OF KLINAKLINI RIVER

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BY W. A. D. MUNDAY

For eight years my wife and I had dreamed of visiting the great Klinaklini glacier which we had first sighted in 1927 while looking for a route to Mt. Waddington from Knight inlet. Our 1935 party included Philip H. G. Brock and James Varley.

We travelled from Vancouver to Knight inlet in a gas-boat built at home, 600 feet above sea level. Coast dwellers called it a windy summer—afloat, we have not experienced anything else. “I felt I was in an aquarium,” said Pip Brock when west wind and a tide-rip piled green water over the cabin in Johnstone strait.

At the head of Knight inlet Mr. and Mrs. J. R. Stanton gave us a grand welcome, and Stanton offered to take us in his river-boat as far as practicable up the Klinaklini river. We valued this greatly as little or no trail existed along the river, and he gave us much useful information.

We started up-river about noon, July 29. The swift Klinaklini river (always Kleenikleen in common usage) has many tortuous channels undermining low banks carrying the usual luxuriant forest growth. Log jams and snags were plentiful, while brush and “sweepers” on the banks hampered lining the boat where deep water prevented poling. Consequently the first five miles took nearly a day and a half of risk to our outfit (perhaps some to ourselves) in spite of Stanton’s wonderful skill.

When he left us on July 31 at the “First Cabin” he shot down to the river mouth in about twenty minutes! But Stanton, with the help of a neighbor, Fred Shute, by herculean efforts was back the same evening with terrible news, received by radio, that Pip’s father had been killed in an aeroplane accident and Mrs. Brock injured. Pip went down river early next day with Stanton and Shute; a snag gouged half through the bottom of the boat for a length of six or seven feet. By the effort of Stanton and others he reached Vancouver in time for the double funeral—for his mother succumbed to injuries.

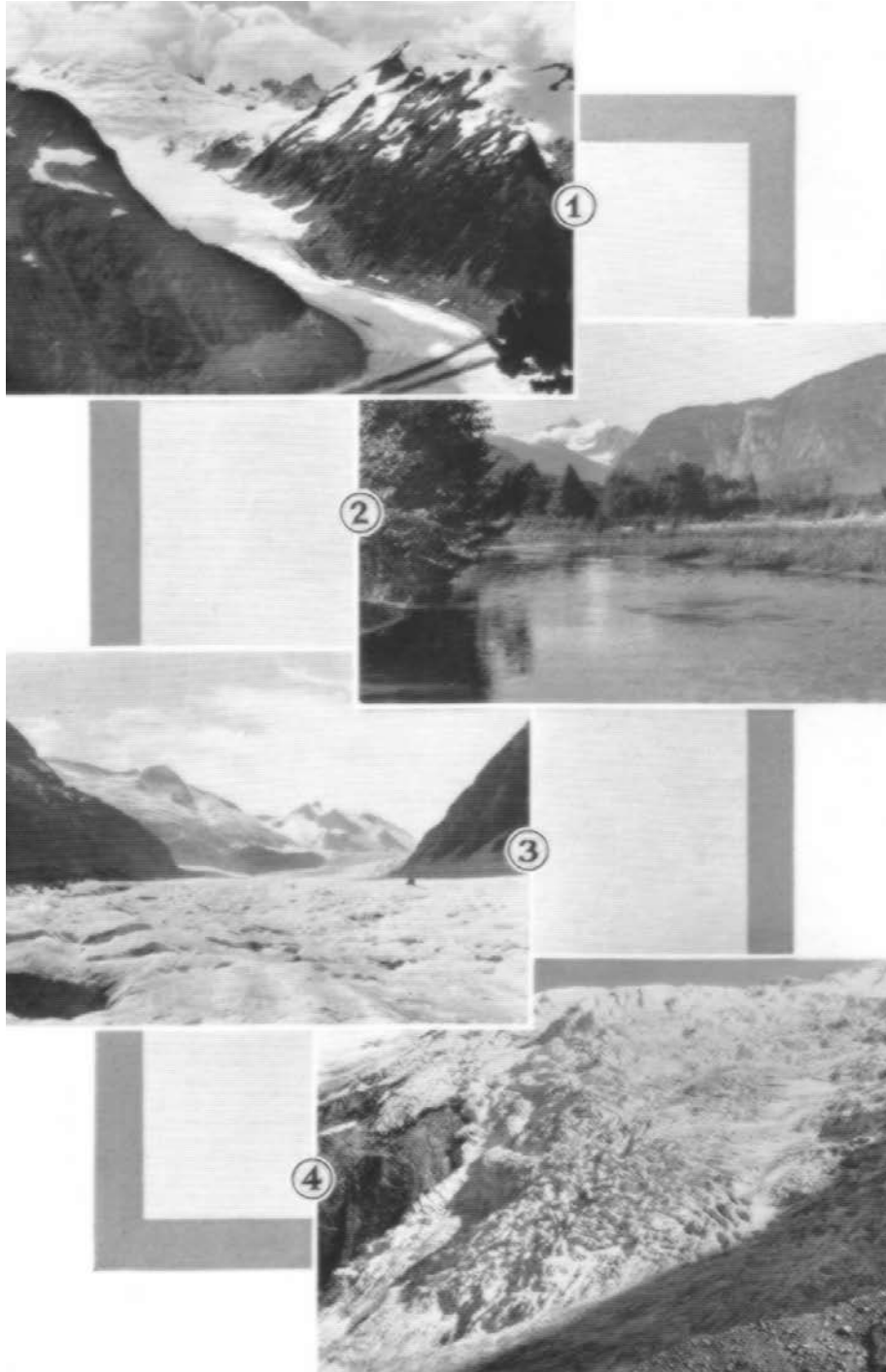
But we three up the river did not learn this additional sorrow for three weeks. Without enthusiasm we finally decided to sort over our stores into two loads apiece and continue up the valley. We found a good deal of work would be needed to re-establish even a rough trail.

If exceptional hordes of mosquitoes and flies be thought hardly worth recording, at least the plague of wasps demands mention. (We heard that some coast logging camps shut down on account of wasps.) Bears relish the hatching wasps, and had raided most of the nests; we suffered proof of the evil effect of such ravaging on the temper of the wasps, but could merely surmise the effect on the tempers of the numerous grizzlies, as we succeeded in not meeting them. But in view of what a pair of grizzlies regard as a playful cuffing match, perhaps they might find wasp venom as mild as face cream.

Needless to say, we lost much time through unfamiliarity with the valley. Klinaklini glacier is about sixteen miles by a direct course from the river mouth; our course was much longer.

The lower Klinaklini valley has been sculptured on a grand scale, the visible flanking peaks rising 8000-9000 feet above the river which flows fifteen miles through a delta, young geologically, having been deposited since the close of the last Ice Age. Structurally, the main valley is occupied by the glacier which comes down to about 500 feet above sea level. An impressive feature of approach to the glacier is the rock “threshold” at the valley mouth, it being formed by two overlapping spurs, the upper one a lava bluff about 400 feet high, half blocking the valley. The huge glacial river surged along the sheer wall.





(1) Across Tumult Glacier Showing Second Branch. *Photo Mrs. Don Munday*  
Rock peaks in centre are beyond next valley.

(2) Looking Up West Branch Of Klinaklini Valley. *Photo Don Munday*

(3) Tumult Glacier. *Photo Mrs. Don Munday*  
At foot of 1500-foot icefall the third tributary comes in from left.

(4) Icefall Of Third Branch Of Tumult Glacier. *Photo Mrs. Don Munday*

A little over half a mile from the ice we camped in the lee of a granitic “island” in the boulder waste. The broad snout, gently sloping and thinly sprinkled with moraine, was imposing mainly for its size, appearing nearly a mile wide. Sudden misgiving smote us when we strolled up to inspect the glacier. From a cleft in the rocky valley wall roared a powerful torrent just in front of the ice and uniting with the glacier river. Tumult creek we called this barrier. Because bridging material must be brought a great distance, we spent a day exploring this side valley, and reached its glacier, at an elevation of 1800 feet, without sighting a place we might bridge or ford the creek.

It was a wild gorge, scarred where the last winter’s avalanches had stripped roots and soil from mountain sides. The steep tongue of Tumult glacier lured us to seek out the character of its upper valley which turned nearly at right angles (N.W.).

An hour’s climb brought Mt. Bell’s grand pyramid into view behind us, then Waddington, distant about twenty-five miles. Several miles ahead Tumult glacier again swerved enticingly out of sight beyond a 1500-foot ice-fall after receiving from southward three fine valley glaciers; the shining snowcaps, the height and severity of the rock ramparts leading up to them, made a scene of great grandeur.

With such a consolation prize as Tumult glacier offered us it seemed churlish stubbornness to go back to camp resolved to test at morning low water the possibility of fording the most spread-out channels to the Klinaklini snout. In two channels, not much more than knee-deep, we could barely stand against the current. The third, on close approach, proved to be over 200 feet wide, part of it much deeper and swifter than the others. Being thus definitely debarred passage, we took our packs up into Tumult valley after some axe work to clear a route up the troublesome rock step at its mouth.

In brilliant weather next morning, August 12, we went up Tumult glacier and found the ice-fall very complicated. Emerging at last at the right margin after little forward advance for considerable time and axe work, we found the seracs rotted alarmingly by spray blown from a lofty waterfall from a nunatak.

After this enforced and overlong exercise in ice-craft we outflanked the rest of the mile-long ice-fall and reached the rim of the glacier’s final basin, with a broad snow pass seemingly about two miles ahead, and the fourth tributary glacier cascading from between two massive, ice-hung mountains. By contrast the unbroken northerly wall displayed almost no permanent snowfields, evidently discharging avalanches directly to Tumult glacier. We judged the glacier to be about eight miles long, while the branch glaciers appeared over two miles each.

Snow line on the glacier at this time was only 5500 feet. Time did not permit trying to reach the pass to see unknown valleys beyond. Perhaps we under-estimated the area of this upper basin, as combining with the last branch, it supplies almost all the ice of the trunk glacier.

On our return trip the heather, flowers and tree clumps on the south side of the nunatak made a delightful interlude before a scramble down the gullied face of an immense, subsiding moraine. A black, stream-bored shaft in the glacier margin directly below us might as well have been as bottomless as it looked. This brought us down on the third branch below its ice-fall, now grand in evening light in its stumbling descent which crowded part of its ice over a cliff dark with spray from many waterfalls. Naturally thrilled by a day amid such splendor, we hurried back to camp just before dark with high hope for the morrow, but an exceptional gale raged along the coast and blew furiously down our valley, accompanied by rain squalls (snow on the peaks).

Two hostile days unexpectedly brought a clear morning on the 15th. An hour up Tumult glacier we turned northward up the only considerable slope of timber not ravaged by winter avalanches.

Higher up came low walls to be surmounted by the trailing tentacles of grotesque trunkless trees—if the theory of evolution be sound, we here concluded we had “evoluted” too far.

From a tiny glacier boasting one visible crevasse we hurried breathlessly to the sky line, knowing that beyond spread the mighty Klinaklini glacier—but possibly all in cloud now; behind us rolled mountainous vapors with dazzling edges; east of the Klinaklini river a snowstorm had extended from Mt. Waddington north and south towards the margins of the Coast mountains. We had been denied footing on the Klinaklini glacier: were we to be denied even sight of its far reaches?

But of all the scene it alone shone in perfect clarity, a scene to shine in memory among the great ones of all our climbing days. The stupendous glacier stretched away below us for perhaps thirty miles to a broad snow pass connecting possibly with the huge Talchako glacier<sup>1</sup> at the head of the Talchako branch of Bella Coola river. But the two main branches curved away out of sight westward towards splendid peaks on the horizon. Where the three main branches unite below timber line the glacier appeared between three and four miles broad.

Even with such a scene, the Coast mountains maximum glaciation, claiming first interest, the Tumult glacier summits behind us were well worth attention. Higher bold rock peaks beyond the next parallel valley looked somewhat like the distinctive rock of Mt. Waddington.

Our eminence was about 7200 feet, being 4000 above Tumult glacier, and 6500 above Klinaklini glacier towards which the northern slopes sent glaciers down three or four thousand feet. Summits a thousand feet higher rose from our ridge to the northwest.

Descending by a fairly straightforward course, we soon entered the belt of slide alder, and conifers copying their growth, in the avalanche tracks. Footing was generally quite invisible. Varley observed that the mosquitoes were left “with a surprised look on their faces” as we dropped out of sight in tangles too thick for them to follow. Towards the bottom we lost contact with the ground altogether, simply sliding down fir branches thirty or forty feet long, and as much as ten feet out from the cliffs, with our eventual landing places more a matter of hope than faith. Through luxurious, grizzly-trampled flower gardens we finally regained Tumult glacier, and so to camp near dusk.

We had hoped to force a course along the opposite wall of Tumult gorge to Klinaklini glacier, or climb some of the Tumult peaks, but weather, never very settled throughout the trip, again went sour. Grub was getting low, too, so we went down to the main valley on the 17th, and reached the first cabin on the 19th.

Below this the river flats have much swamp and windfall. To make our progress worse, the writer had long been limping on both feet owing to aggravation of what had been thought merely minor strains before starting up the river. He probably only got out on his own feet because Mrs. Munday assumed far beyond her share of the stuff to be packed out. On the 21st we located our dinghy which Stanton had carefully cached for us. Then it rained again.

J. T. Underhill crossed the Klinaklini snout in 1927 with a survey party (Tumult glacier then ran under the ice which has melted far back since then). About the same time C. N. Pretty and his brother made a brief energetic trip up to the first branch glacier where they climbed an 8000-foot summit. Two trappers reputedly went up the glacier some distance before this. Evidently existence of the glacier was known to white men as far back as the 60’s.

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1 First known visit by H. S. Hall, Jr., 1934.

## SIERRA CLIMBERS ON WADDINGTON

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BY DON. M. WOODS

Since the discovery of Mt. Waddington from Vancouver Island in 1925 by Don and Phyllis Munday, this peak has become of foremost rank for mountaineers of both Canada and the United States. Seven climbers from the Sierra Club of California, augmented by an eighth from the Harvard Mountaineering Club, decided to make an attempt on this stronghold during July, 1935.

Preparations began in Oakland in December. Food lists were prepared and rechecked many times by Brower and Leonard. Duralumin tent poles to fit over the points of ice-axes were devised and made by Robinson, in addition to the duralumin snowshoes and tent-pegs. There was correspondence with and advice from Henry S. Hall, Jr., Roger Neave, Eric Brooks, Don Munday, and Colonel W. W. Foster. Our dried fruit, consisting of prunes, apricots, peaches, apples, raisins, and dates, was purchased in California, as were twenty-five pounds of dried whole milk, packed in five-pound tins. But the bulk of our quarter ton of food was purchased in Vancouver.

Upon our arrival in Vancouver we were most graciously received by Roy Howard, President of the British Columbia Mountaineering Club, who invited us to make full use of his garage as a repacking base. Under the direction of Clifford Fripp, we made our purchases of food and last-minute equipment in such a surprisingly short time that our plane departure at 3 p.m. was only one hour late. We are much indebted to our northern friends for their untiring efforts in our behalf.

The boat journey from Vancouver to the mouth of the Franklin river near the head of Knight inlet requires two and one-half days. Since we had only twenty days at our disposal, we decided to travel this distance by seaplane, this journey requiring only two hours.

The three days required to travel with heavy packs from Knight inlet to Icefall Point were hard, tiring days.

Fortunately, we had splendid weather, the first storm descending after our three wee tents were pitched securely at the Point. Now came a four-day wait for two of us, while the other six returned to the inlet to relay the remainder of the equipment. Rain was the weather man's order for most of these four days.

With clearing skies at noon the day following the arrival of the relay party at Icefall Point, we pushed on to our glacier camp on the Dais glacier. With crevasses everywhere, it was difficult to locate a suitable camp spot. We pitched the four tents between two crevasses, one twenty feet away on one side, another thirty feet away on the other side. The second night a new crevasse opened up between our tents and the one twenty feet away. We calculated that the next one would open just under our tents. Much to our relief, this did not happen. Our water was obtained from a large crevasse about one hundred feet from the tents. Water in liquid form could be secured between 8 a.m. and 6 p.m.; at other times the pool was frozen.

While in this camp we experienced two snow storms and made three attempts to climb our objective peak. The first attempt was halted far short of the summit by a severe storm; the second was going nicely when icicles falling from the snow feathers of the summit cliffs made climbing too hazardous. We descended the steep snow of the couloir, roped down from the upper lip of the bergschrund, and assembled at our supplies for lunch. We estimated the sun temperature to be 120°.

At my suggestion, a crevasse twenty-five feet deep and filled with snow was found into which we roped, finding drips of water and welcome shade. Soon we had tea and Knorr's "dynamite" soup brewing. We had a fine lunch, rested about three hours until the sun's rays were

below our crevasse and it became quite chilly, then climbed out and returned to our glacier camp below. We enjoyed excellent glissading on our way down.

Because of the quantities of fresh snow on the southwest face of the rock tower, we now put all thoughts of more attempts on this face out of our minds. Just one chance remained, the possibility of reaching the rock tower from the northwest snow summit, which had been climbed twice previously. We now moved our camp to a snow platform 700 feet below the snow summit.

On our way to this camp one unfortunate experience caused us a loss of two hours. We were following the couloir used by Munday, Hall, and Hans Fuhrer in 1934. A false lead took us to the crest of the ridge much too soon, and we were forced to retrace our footsteps. In descending to the ice-fall we found the snow so soft that we occasionally sank in to our armpits. Leading, I came to a bergschrund, the upper lip appearing in the peculiar light reflected from the snow to be only ten feet above the lower lip. I thought it would be a simple jump, but was quite surprised when I remained in the air for some little time. However, I landed safely, and the others took the proper precaution to rope down.

We now began our ascent once more by the proper route and after a brief rest and food, strapped on our snowshoes and soon were in snow that was very soft. Without snowshoes we would have sunk in to our hips. After an hour of exhausting work, we reached the top of the ridge and stopped to cook lunch on the Primus stoves. The route up the ridge and across Angel glacier to the platform which we selected for our high camp was quite easy snow and ice work. Several large crevasses were encountered and passed without difficulty. Leaving three to establish camp, five of us went on to the snow summit. We left our camp at six and arrived at the summit at eight. Snowshoes were a necessity to a point within 100 feet of the summit. One would break trail until tired, move aside, and another would take his place. We worked our way around the last crevasse, which had a steep upper lip, by cutting huge steps in the icy snow that would accommodate our snowshoes. Removing the snow-shoes, we cut steps the remaining distance to the top. Here was one of the only two places on our entire trip where our crampons, which were below on the Dais glacier, would have been useful.

The view from the summit was both stupendous and appalling. The rock tower, only sixty feet higher than our snow summit, loomed up a thousand feet away and looked extremely difficult with its fresh ice and snow. Each valley radiating from our position was filled with clouds and fog.

Our stay was short as it was bitter cold at this late hour. We quickly descended to our camp and crawled into our sleeping bags to warm our cold feet. Leonard had food on the stoves, but the altitude delayed supper so that it was eleven before we had finished. As we settled down to try to sleep, a terrific wind began flapping the tents so that our rest was much broken.

At daylight the three who had not gone to the snow summit started for this 700 feet of climbing but soon returned because of the severity of the storm. We packed our equipment and left immediately. With much difficulty we retraced our former way and met the full fury of the blizzard when we reached the ridge. Our descent was made cautiously. Slowly we crept down the now icy snow-slope of the couloir, our tricouni nails scarcely biting their way into the snow where the day before we had been floundering in soft snow to our knees, even with our snowshoes. As we reached lower levels, the storm lessened. When we reached our Dais glacier camp all was calm and clear, with the storm raging on the heights. Our last night on the glacier was calm and peaceful.

Our return to Knight inlet was hurried and tiring. We descended the twenty-eight miles in two days, while it had taken us four days on the ascent. Our loads were about forty-five pounds. A short rest at Icefall Point gave us an opportunity to enjoy our first soap and water washing and first wood fire in eleven days.

When we finally arrived at the beach about 8 p.m. of the last day, we sank on the sand too tired to gather wood for a fire. We prepared our supper on three Primus stoves which were filled with kerosene. Our food supply had served us admirably, but we had run short on sugar, chocolate, and shelled nuts.

Our planes arrived on time Sunday morning, July 14, and we were soon back in Vancouver. We were a sorry looking, bewhiskered lot as we landed at the Sea Island airport. Four of us remained in Vancouver until the next night to enjoy a welcoming party given us by the B. C. Mountaineers at the home of Clifford Fripp. Our northern friends were certainly helpful and co-operative during our stay with them. We owe them a hearty vote of thanks. Monday morning we four went to visit Col. Foster, who is Chief Constable of Vancouver. The waterfront strike was then at its height. When I asked an assistant if we might speak to the Colonel, we were scrutinized very carefully and asked many questions as to the nature of our visit. When I mentioned the Mt. Waddington Expedition, his attitude toward us changed immediately, and we were soon enjoying a chat with the veteran of many first ascents.

And so another party has been repulsed by Mt. Waddington. Some day it will no doubt be climbed, but only by a strong party. Our party was said by the B. C. Mountaineers to be as well equipped, if not better equipped, than any party yet to attempt the peak. No doubt the greatest obstacle is weather, although the upper cliffs of the rock tower will present grave difficulties to the best climbers even in perfect weather. The party reaching the summit must be one well trained in rock climbing technique

## CAN MT. WADDINGTON BE CLIMBED?

BY RICHARD M. LEONARD<sup>1</sup>

The 1934 issue of the *American Alpine Journal* brought to certain members of the Sierra Club a realization that in the Coast mountains of British Columbia existed a peak that from the defenses it had been able to offer must now take rank as one of the major peaks of America. Newspaper stories indicated that further attempts upon the mountain were again meeting with failure.

We began to examine the literature of Mt. Waddington and soon had a bibliography covering eight typewritten pages. We made careful notes and found that some of the finest snow and ice climbers of America had attempted the peak and had successfully overcome the problems presented by the long glaciers, their ice-falls and crevasses, and the frequent storms that covered the region with new snow, ice and avalanches. They had twice ascended the northwest snow peak of Mt. Waddington, considered to be only sixty feet lower than the rock summit, and on practically all sides had been able to cross the bergschrunds guarding that summit, but had been unable to climb the forbiddingly difficult rock work of the final pinnacle.

Only two strong rock climbing parties had attempted the mountain. The first was turned back at the highest point ever reached on the peak by lack of facilities and time to continue the battle against the storm. The second was stopped prematurely, when it had only started, by the fatal accident to Alec Dalglish. Either of the parties with the luck which they deserved might have made the summit or have gained valuable information concerning the upper portion of the peak.

Since W. A. Don Munday and Henry S. Hall, Jr. had definitely renounced any intention of further attempts upon the mountain, feeling that it was “next to unclimb-able,” it appeared that there was an opportunity for trying new methods, both in technique and equipment. After careful planning our Sierra Club party reached Vancouver June 24, 1935, after a thirty-hour drive from San Francisco. With Bestor Robinson as leader, the other members were David R. Brower, Jules M. Eichorn, Richard M. Leonard, William F. Loomis (Harvard Mountaineering Club), Robert Ratcliff, Jack W. Riegelhuth and Don M. Woods. With the invaluable assistance of mountain climbers in Vancouver we were able to complete our purchases and leave that afternoon. By the use of two chartered sea-planes we were at the mouth of the Franklin river two hours later.

We had gone over equipment lists time and again to be sure that all necessary equipment was available and yet cut the weight down to the lowest possible figure consistent with safety. In spite of this, food and equipment for eight men for a twenty-one-day trip from tidewater weighed 860 pounds. Before leaving California we had decided as a matter of technique, to climb during the infrequent bits of good weather and relay supplies during the storms. Accordingly we made up packs of equipment and food for ten days, caching the remainder in two waterproof dunnage bags slung from trees out of the reach of bears. As we shouldered our packs, averaging seventy to seventy-five pounds, and broke our way through dense forest along the river, we came more and more to appreciate the remarkable woodsmanship that enabled Don and Phyllis Munday to blaze a passable route through the jungle. Camping the first night about a half mile below the Munday’s “last valley camp,” and the second night in beds of avalanche lilies on a bench near the junction of the Confederation glacier, we were established within a hundred yards of the Dalglish cairn on Icefall point the evening of June 27.

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<sup>1</sup> Chairman, Committee on Rock Climbing, Sierra Club.

A two-day storm broke that night driving us back to Knight inlet to relay the remainder of the food. We returned on the evening of July 1 just before a second storm commenced to lash our tents. The storm having cleared by noon the next day, we took full ten-day provisions and pushed on to a new camp site on the Dais glacier at 7500 feet near a spur of Mt. Waddington dividing the Dais and Regal glaciers. The mountain loomed magnificently above us. The full southwest face from the Buckler glacier to the Regal glacier rose 6000 feet above our little camp.

After the storm of the previous day at least one more clear day was really needed to clear the most dangerous avalanches from the surrounding peaks. However, with the experience we had already had with the frequency of bad weather in the Waddington region, and from the reports we had read of the experiences of other parties we felt that we must take advantage of every possible bit of clear weather, for reconnaissance, if for nothing else. The night was very cold and clear. We arose early and with nearly perfect snow conditions began the ascent of the Dais ice-fall. Nearly all members of the party had the full tricouni heel, with long tricouni edge-nails around the sole of the shoe. At this time and throughout the trip we found them almost indispensable. We, of course, had crampons with us, but found no need to use them at any time during this year's expedition. The tricouni heels and edge-nails would bite into the hard crust of the névé slopes or the naked ice of the lower glaciers on angles as high as fifty degrees without the necessity of kicking or cutting steps. Two of the members of the party tried a device that is worthy of being passed on to other climbers, although it was not entirely original. It consisted of a quarter-inch pad of rubber inside the nails of the tricouni heel. Under the most adverse snow conditions there was never any tendency for the snow to ball. Mountaineers are, of course, aware that one of the most dangerous features of the use of crampons or long tricouni nails is the tendency for snow to ball thus creating the unrealized hazard of a loss of gripping power.

Without the necessity of cutting steps we threaded our way through the crevasses of the 2500-foot ice-fall in little more than two hours. As we crossed the berg-schrund at about 11,500 feet a strong cold wind came up, driving thick clouds from the Pacific before it. Soon we were enveloped in a storm, which, because of lack of visibility and avalanche danger from the new snow, made climbing entirely too unsafe. We retreated to our tents on the Dais glacier.

The storm continued without abatement for the next fifty-four hours, covering our camp with two feet of fresh snow. Not long compared to the experiences of other parties in the region, but for the 4th of July, something new to Californians. One of Robinson's many contributions to the success of the expedition was that of duralumin half-inch tubes as extensions to the ice-axes, forming poles sufficiently long to support the tents. With eight-inch tent pegs cut from sheet duralumin, the tents held up very well during the storm. The need of using the ice-axes during climbing of course necessitated dropping the tents when away from camp. However, this should be a general policy of technique in any event so as to lessen the possibility of destruction of the camp through a sudden high wind. The extensions averaged only eighteen inches in length so that their lightness and compactness compared with usual tent poles was very valuable.

In this country as in any mountainous snow country, the day after a heavy storm was "avalanche day," trying the patience of mountaineers with inactivity as they realize the waste of precious days. However, roaring avalanches attested the good judgment of the party in remaining in camp or at least away from steep slopes. A portion of the group made good use of the beautiful weather by a trip to Icefall point to bring up the remainder of the provisions. The rest of the party spent the day with powerful glasses searching the entire southwest face of the mountain in a distant reconnaissance for the best possible route. In any view of the mountain from near Mt. Combatant



on the northeast, or from the Dais glacier on the southwest, a notch and spire on the southeast arête are very prominent. Our examination convinced us that the best route would apparently be about one-third the way up the couloir leading up the southwest face to that notch, thence to the right out of the couloir to a long series of ledges immediately under the summit cliffs of the southeast arête, along these ledges in a northeasterly upward direction, across the couloir again, and to a position directly in the centre of the southwest face of the rock tower, about 200 feet below the summit. The route that far, from telescopic examination seemed possible. However, the last pitch to the summit appeared to be of extreme difficulty. Whether it could be climbed or not would depend upon a much closer examination. We decided to attempt to avoid some of the objective dangers of the large couloir by choosing a minor couloir in the centre of the southwest face protected to a certain extent by a large buttress above. At the head of this couloir we planned to traverse the face to the larger couloir, up that a short distance, and then to climb to the ledges we had decided upon.

Having prepared our packs the night before, we left early the morning of July 7, for the twelfth attempt upon Mt. Waddington. A much softer crust delayed our progress somewhat so that we reached the plateau just below the bergschrund at about 8.30 a.m. There we found the new snow-fall of the last storm had not yet had time to consolidate. It was still perfect powder snow for skiing, but very trying to climbers. We knew, as on our last attempt, that the mountain really required at least one more day of hot weather to clear the new snow from the ledges. However, we could not wait. After crossing the bergschrund without difficulty, we climbed slowly and carefully up the couloir. Eichorn led the first rope, with Robinson and Leonard in the order named. Brower led the second rope consisting of Loomis and Riegelhuth, with Woods and Ratcliff on a third rope in support. Each of the parties was fully supplied with piton equipment sufficient to make the entire climb, and with food, primus stove, and zeltsack, prepared to spend a night on the face if necessary. It was planned that a little higher up the two major ropes should diverge on somewhat different routes but within supporting distance in case of necessity.

After about 300 feet of climbing the couloir steepened severely to an angle of nearly seventy degrees. Snow would not stick at such a high angle. However, ice was present instead. Driving a piton into the rock wall of the couloir, Eichorn was carefully belayed from below. Cutting hand and foot holds in the four-inch veneer of ice covering the rocks, he slowly advanced to the head of the couloir. Protected by another piton at this point, Robinson and Leonard, with Brower as the leader of the second rope, assembled on a narrow sloping ledge to discuss the route ahead. Although it appeared to be very difficult, it was agreed to continue in the hope of coming into easier territory higher up.

Eichorn having done his share, the lead was reversed. Traversing diagonally upward with ice-axe in one hand and piton hammer in the other, clearing the soft new snow from the narrow sloping ledges, the leader drove another piton to protect his advance. A little higher up he could not find a crack even large enough to admit the slender pitons so necessary for full safety in climbing of this character. He was then at an altitude of 12,100 feet, with over 1100 feet yet to climb and already 1 p.m.<sup>2</sup> The rock was very hard and extremely smooth. Due to the fact that all ledges sloped outwards, nailed shoes were very precarious. We had carried light-weight, rubber-soled climbing shoes in the hope that we might find weather good enough to permit us to use them. However, on that day, with new snow on every ledge, anything except nailed shoes was out of the

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2 All altitudes were determined by aneroid barometer supplemented by Munday's excellent map. We agree with the suggestions made by Munday and by Hall that Mt. Waddington must be considerably higher than 13,260 feet as set by distant triangulation.

question. We did not see a loose rock on the entire face, and practically none in the snow below. The angle of most of the ledges averaged about fifty degrees, breaking in small overhangs at angles of 140 degrees. Between these faces and ridges the couloirs were dangerously smooth, swept and polished by the avalanches brought down by the frequent storms. As the sun warmed the cliffs, huge icicles and ice-feathers fell from far above. One member of the party was always detailed to watch for them. At his warning cry, the others would shield their heads and cling close to the rocks, watching above, ready to dodge the ricocheting fragments. These became increasingly numerous until it became evident that the mountain could not be climbed by such a route so soon after a heavy storm. Accordingly, the word to retreat was given and we rapidly roped down to the safety of the snow plateau below the bergschrund. After lunch and rest we were soon back at our climbing camp on the Dais glacier.

That night another storm broke over our tiny camp. All the next day and the next night it snowed. The second morning dawned cold and clear. Snow banners 500 feet high were driven from the arêtes of Mount Waddington by a 60-mile-an-hour gale. In the early light of dawn it was a thrilling sight but a warning to the mountaineer. That day was “avalanche day” again. The time was utilized in preparing to move camp with three days’ supplies to as high a point as possible on the snow terrace of the northwest snow peak. The plan was to make a reconnaissance of the rock tower from the summit of the snow peak, and if the weather continued good, to attempt whatever route appeared feasible.

Early the morning of July 10 we started with forty-five-pound packs to follow the Munday-Hall route from the Dais glacier to Angel glacier and the snow terrace. At about 10 a.m. the crust, already weak, became so soft under the intense heat of the summer sun that it no longer bore our weight. Once through the surface crust, we sank to our hips in the softer snow below. Here Robinson’s duralumin snowshoes became indispensable. Only nine by sixteen inches, and weighing only one and a half pounds a pair, they were very easy to carry through the dense forest and over twenty-three miles of glacier before they were needed. They were inexpensive, each member of the expedition making his own from 5/8-inch strap duralumin with 3/16-inch leather lacing. The thongs were protected from the cutting of the tricouni nails by sheets of canvas or rubber inner-tubing lashed to the lacing. The rubber was much better than the canvas since it did not permit snow and ice to collect and ball. The snowshoes were easily tied on with crampon straps. Although of such small size, a 240-pound load of man and pack would sink only twelve inches in bottomless powder snow. More important for mountaineering, they could be used on very high angles. The couloir to the northwest arête of the mountain involved 1000 feet of climbing on snowshoes at an average angle of forty-three degrees, occasionally as high as seventy degrees over the lips of crevasses, and that with forty-five to sixty-pound loads.

Upon reaching the crest of the arête we had a thrilling 200-foot glissade on snowshoes through deep powder snow down onto the Angel glacier. Climbing slowly up towards the snow summit we chose a camp site on the terrace at an altitude of 12,550 feet, the highest camp ever placed on the mountain. Although it was 6 p.m. we felt it was essential to make our reconnaissance that evening in order to make an attack on the rock summit early the next morning. Three of the party established camp and prepared supper while Brower, Eichorn, Loomis, Robinson and Woods made the third ascent of the northwest snow summit of Mount Waddington.

Their view of the terrifyingly steep pinnacle of rock and ice was tremendously impressive and convinced them that the summit would be an even more difficult climb than photographs had indicated. Brower preferred the lower angle and more broken rockwork of the Secord-Neave route.



(1) Climbing On Snow Slopes. *Photo Richard M. Leonard*

(2) Mt. Waddington And The Dais Glacier Camp. *Photo Richard M. Leonard*

(3) Storm Clouds Over The Northwest Arete Of Mt. Waddington. *Photo Richard M. Leonard*

Robinson pointed out that such a route- on the northeast face was almost constantly ice-covered. Eichorn felt that there was a possibility of traversing the southwest face from the notch separating the rock tower from the snow summit. Such a traverse would join the route up the southwest face at the bench 200 feet below the summit. It was planned to attempt this traverse the next day.

At midnight a raging blizzard struck our little camp situated almost at the very summit of the Canadian Coast mountains. Although we had chosen a site partially protected from the gale, in the lee of the lip of a large crevasse, the wind shook the tents with dreadful fury. The fabric snapped like pistol shots so that sleep was difficult. When morning came, Leonard, Ratcliff, and Riegelhuth set out with compass bearings toward the snow summit. However, it soon became evident that the increasing depth of new snow was creating an avalanche hazard on the return route to the Dais glacier that might cut off our retreat until sunny weather could clear the avalanches. We therefore turned back without making the ascent, broke camp, and reached the safety of our Dais glacier camp late that afternoon. Our time was up. Two days later we reached Knight inlet. The planes met us exactly on schedule and two hours after their arrival we were in Vancouver.

“Can Mount Waddington be climbed?” That seems to be the question on the lips of most mountaineers. We found, as we had surmised, that although the glacial problems were on a magnificently grand scale, only care and a reasonable knowledge of ice technique were needed to overcome them. Frequent storms were weathered at several exposed locations. Food and fuel were adequate, and each item of equipment served its purpose satisfactorily and indispensably.

We had felt that rock climbing would be of great importance in the solution of the problem. We are still of that opinion. As a pure rock climb, shorn of its defenses of ice, snow, avalanches, and storm, Mount Waddington would still be a formidable opponent. However, we feel that given reasonable weather conditions it can be climbed. We have made much longer and far more difficult rock climbs in the Yosemite valley. It is the snow and ice on every ledge, the falling ice from far above, and the sudden storms that make Mount Waddington a problem that may only be solved in some season of extraordinarily long periods of clear weather. If an expert party of rock climbers with full piton equipment could ever find a day when the southwest face was free of ice they could climb rapidly up to the final summit pitch. There, at an altitude of over 13,000 feet, it is safe to assume they would still find Mount Waddington’s final defense, the ice-feathers, coating each pinnacle and every face of the summit arête, even the overhangs. The highest degree of care and skill would be required to devise a type of technique which would be effective and safe. Whether the ice-feathers can be passed, we cannot say. One can only know when one gets that far.

## THE DISASTER ON NANGA PARBAT 1934

BY J. W. A. HICKSON

The greatest disaster in the history of Himalayan mountaineering, if not in the history of mountaineering anywhere, took place in July 1934, on the third attempt to climb the tenth highest peak of our globe (8136 metres, 26,660 feet), and one of the most imposing of the Himalayan range. It was briefly referred to in the last issue of this Journal, Vol. xxii, p. 222, at the end of a review of Miss Knowlton's book, *The Naked Mountain*, which described the fortunes of the German-American expedition, organized by Herr Willy Merkl, who was also the leader of this ill-fated expedition from which he did not return. At the time of the writing of the review, the details were not definitely known. Soon afterwards it was learned that four Europeans had succumbed; three on the upper slopes of the mountain, together with six splendid porters, including several of the Mount Everest 'Tigers.'

The expedition, assisted for the most part by contributions from the Sports Clubs of the German State Railways, and aided further by scientific societies, and the German and Austrian Alpine Club, assumed a sort of national aspect. Organized by experienced Himalayan climbers and with German thoroughness, it set off with high hopes and justifiable enthusiasm, at the end of March and beginning of April 1934. The party consisted of ten climbers, German and Tyrolese, and three scientists. There were thus thirteen participants. They left in two groups, the second on Friday, April 13 from Venice, and on the steamer sat at table thirteen, and later the force was divided into thirteen sections. "If," remarks humorously Fritz Bechthold, the writer of the official account of the expedition, "superstition is that form of respect which recognizes chance as the ordering of higher powers, then we were not superstitious."<sup>1</sup>

It was a strong party that started from Srinagar, at the beginning of May to the base camp in the Rakiot valley, 100 miles distant. It included thirty-five of the best high-altitude Sherpa and Bhutia porters, among them Lewa, who ascended Kamet; Kitar, who was on the 1933 Everest expedition; Nima Dorje, who held the record of 8300 metres; Nima Thondup, who had participated in nine big Himalayan expeditions; Pasang and Kikuli. Hundreds of coolies were employed to carry the loads. In a little over four weeks after leaving Munich, the enormous party had reached the foot of Nanga Parbat in the Rakiot valley, where the peak towers 7000 metres above the bed of the Indus river. The official account pays a grateful tribute to the assistance afforded by British transport officers and Indian officials, declaring that notwithstanding all the careful preparations of Merkl and the cheerful co-operation of the participators, the march, which in itself was not easy and was made in bad weather, would not have gone so smoothly without the remarkable support of the former. Two English officers, Captain R. R. Frier of the former Nanga Parbat expedition and Captain A. N. Sangster, rendered very special services.

Bechthold's unpretentious book dedicated to the four Europeans and six porters who lost their lives, an amazing production for the price, and of which over 50,000 copies have been sold, is noticeably devoid of all introspective analysis. Those who wish to understand or discover the 'spirituality' of such expeditions and attempts must look elsewhere, in such a book as R. L. G. Irving's recent *Romance of Mountaineering*. Bechthold's account is a plain, but none-the-less

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<sup>1</sup> P. 28. *Deutsche am Nanga Parbat* by Fritz; Bechthold, 68 pages of text and 114 illustrations. Verlag F. Bruckmann A, G. Munich 1934. 3.50 R. Marks. Translated into English by H. E. G. Tyndale under the title, *Nanga Parbat Adventure*. John Murray, London, 1935, 10/6.

thrilling and fascinating and terrible story: unsurpassed, as it has been well said in the Alpine Journal, since Scott's immortal diary.

What was the aim of this undertaking? Primarily the conquest of an "Achttausender," that is, a peak 8000 metres high. The scientific results were secondary, even though they might be of value: the effects of high altitudes on mind and body had already been shown by the Everest expeditions: the mapping of the district could have been better effected from an airplane. The conquest of Nanga Parbat was for Merkl and his companions an ideal. Although greater altitudes had been reached, still no such peak of over 8000 metres had fallen. It was not for personal glory that the adventure was launched, but to bring honor to their country and to share this with others who were enthusiastic about the new Germany. It was, notwithstanding the national spirit that expresses itself in Bechthold's account, a real sporting enterprise. The men who took part in it wanted to measure themselves against something unusually formidable, and even appallingly difficult. Merkl was well aware of the severe demands which such an enterprise must make on the physical and moral capacities of a mountaineer. "The conquest of an 'Achttausender' " he wrote, "calls for other qualities than those needed for difficult Alpine ascents. It is not a matter of some momentary output of supreme will-power, but far more of steadfast endurance and unceasing vigilance. The decisive factor in the Himalaya is above all the co-operation of men like-minded, together with that community of activity which devotes itself not to personal ambition, but to the great task in hand."<sup>2</sup> Deeply and finely was the spirit of these words displayed by the members of the expedition. The pictures, which match in excellence any of the Mount Everest photographs, and which illustrate superbly the tremendous labyrinths of seracs and crevasses, the avalanching slopes and pendant icicles, impress one profoundly with the terrific difficulties and the fearlessness of those concerned in the adventure.

The base camp was made on May 15, at an altitude of 3850 metres; Camp I at approximately 4200 metres and Camp II at 5300 metres, near the same place as the camp of 1932. Here crevasses formed under the tents, and on one night tons of ice fell just in front of them. After establishing the third camp, the expedition experienced its first blow in the death of Alfred Drexel, of pneumonia, at the second camp, on June 8. The attack was resumed after his burial, its main starting point being Camp IV, 5900 metres (20,300 ft.), under the north face of the Rakiot Peak, 7062 metres. Above this camp the route, which is clearly indicated by pictures between pp. 40, 41, (of Bechthold's book) diverged from that followed in 1932, and instead of skirting, traversed over that peak. Between Camp V, 6600 metres and Camp VI which was placed at 6950 metres (22,800 ft.) beyond Rakiot Peak, and near Camp VII of the 1932 expedition, severe technical difficulties were experienced. Some 500 feet of rope had to be fixed on the steep ice wall of that Peak, in order to insure the safety of the climbers, and especially of the porters, on the way to Camp VI. At these altitudes the danger of frostbite can hardly be exaggerated, and around 6000 metres it was observed that in climbing, a regular movement was indispensable in order to avoid too frequent rests. It was more important to control one's lungs and one's breathing than the movement of one's limbs which depended largely on the former. It appears to this reader of the account that some of the Europeans did not acclimatize readily; or perhaps the climbing was too rushed at the higher camps.

Up to Camp VI things went well. The weather was fine and remained so up to Camp VII, and although the climbing had been unavoidably exhausting, yet all the seventeen men, on reaching Camp VI, were in good spirits and apparently well. On the day following the establishing

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2 Quoted from the preface of the English translation.

of this camp, three of the best porters announced themselves ill and asked to return. At Camp VII, 7200 metres (23,300 ft.) just below the Silver Saddle, things went less favorably. Several of the Europeans suffered from shortness of breath, and two more porters were ill. Bechthold “with a heavy heart,” and with instructions to bring up supplies to Camps VI and VII, “for the victorious summit party” had to descend with them and thus surrender all hope of reaching the top. The descent was dreadfully laborious and dangerous. Between Camps VI and IV, a heavy snowfall, a fact not realized by those higher up, had obliterated the traces of the route of ascent. The porters sat down again and again in the snow and could be moved only by rough words and strong treatment. Bechthold, who probably owes his life to having been sent down, was obliged to leave them near Camp IV, in order to make certain of reaching it. He was met by Bernard, the physician of the expedition and one of its outstanding members, and Müllritter. The porters came in later and collapsed on their arrival, and one of them was incapable for a couple of days.

Meanwhile the five Europeans and six porters made the final Camp VIII at 7600 metres (25,000 ft.). Two of the climbers, Aschenbrenner and Schneider, had pushed on to within 1000 feet of the summit, making 600 metres in three and a quarter hours. One of them wanted to make a dash for the lower northern summit; but for the other there was only one goal, the top. As the porters were unwilling to advance further, they had to return to 7600 metres. The weather had now changed and had become stormy; nevertheless the hopes of the Europeans, who were, according to calculations, within four to five hours of the summit, stood high. The increasing violence of the storm, the terrific wind, which blew fine snow through every weakness of their tents and overturned the tent in which Merkl, Wieland and Welzenbach were housed, did not impair their confidence. With unshakable optimism they believed that the weather would change, and looked forward to final success on the morrow. “The first night in this camp,” declares Aschenbrenner, “belongs to the worst of all my mountaineering experiences.” Still the climbers could not believe that there could be any other outcome than the attainment of their goal. The rucksacks containing only a flag, photographic apparatus and necessary food were made ready. But the forces of nature determined otherwise.

On July 7 the climbers were obliged to remain in their tents. It was hard to breathe outside. At 10 a.m. it was quite dark. The blizzard increased with incredible fury. Fortunately they were well provided with sleeping sacks, and with food for five days; but only the preparation of the simplest meal was possible, and only once during the day could a little snow be melted in order to relieve their parched throats. Next morning saw no improvement in the weather. An advance to the summit was obviously out of the question, and to remain longer in the tents was deemed intolerable. All were united in the bitter decision that they must get down to either Camp V or IV, as quickly as possible; since, unfortunately, neither Camp VII nor VI was equipped with food or sleeping sacks. Most of the food at Camp VIII appears to have been left there, probably because it was expected that one of the lower provisioned camps would be reached the same day.

The two Tyrolese, Aschenbrenner and Schneider, were ordered to precede the others, and to take with them three of the porters. It was not easy to rouse the latter out of their sleeping sacks. Merkl, Wieland and Welzenbach who was second in command, were ready to follow. According to Aschenbrenner’s account, all the party were “in guter Verfassung,” and no one complained of being in the least unwell.<sup>3</sup>

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3 The report of Kitar differs in regard to this point from Aschenbrenner’s and others’. He stated that Wieland was very ill on their departure and that a porter had died in camp during the night. The German account has been accepted by most authorities.



Nanga Parbat, N. Face (Greatly Foreshortened). *Photo U. Wieland, Courtesy A.J.*

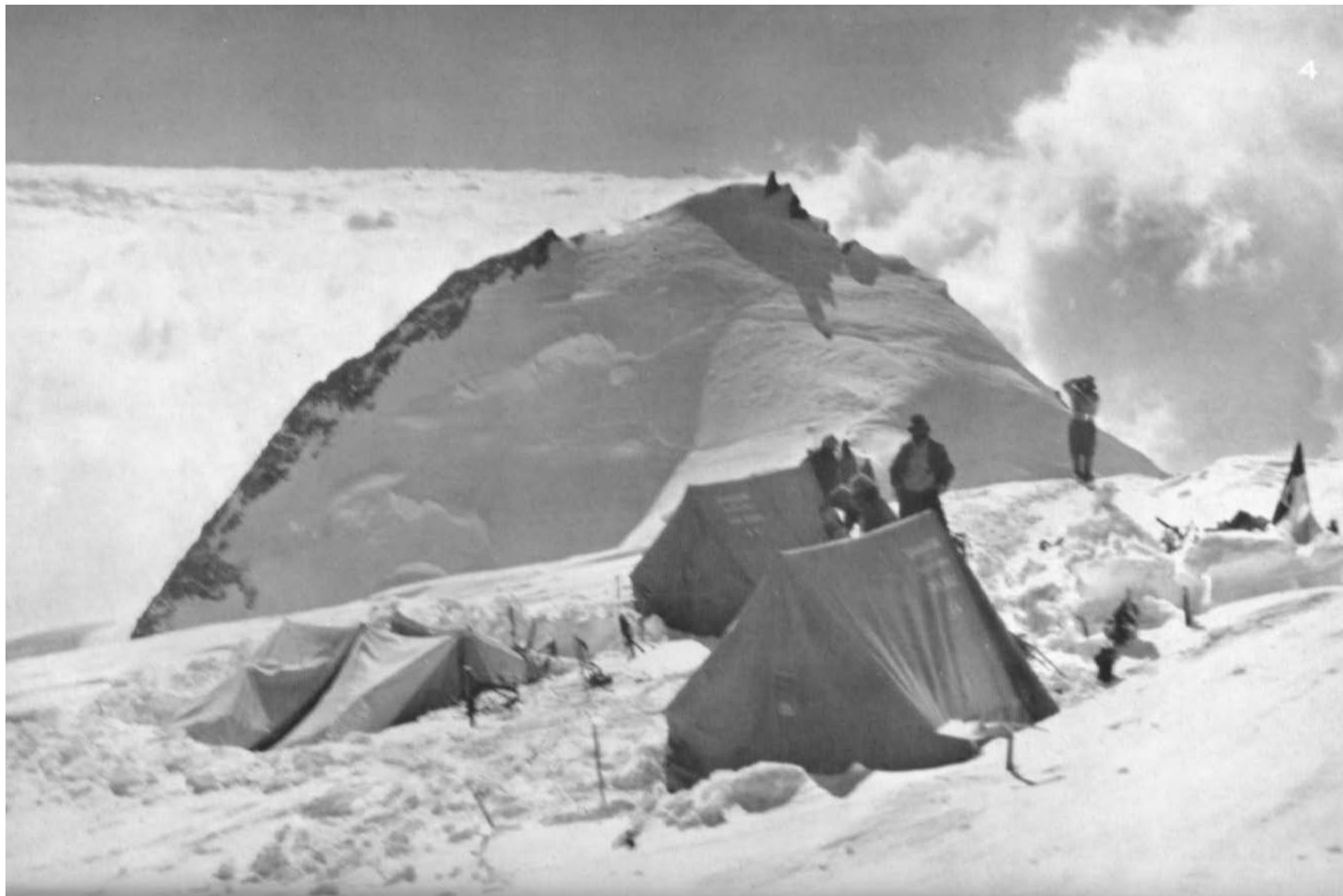




Hindu Kush With Rakhiot Glacier. *Photo E. Schneider, Courtesy A.J.*



*Silbersattel From Camp VI. Photo E. Schneider, Courtesy A.J.*



Rakhiot Peak And Camp VII. *Photo E. Schneider; Courtesy A.J.*

Two of the porters went badly; but the third, Pasang, was in his best form. The force of the wind was almost overwhelming: and they had not gone far before one of their two sleeping sacks was lifted off the back of the porter and blown away. This made it all the more imperative to reach Camp V or IV. In the blinding snow storm they could see only ten metres ahead, and went frequently astray. Near Camp VII the party unroped, according to Aschenbrenner, in order to lessen the fatigue of the porters, who were instructed to keep closely in the steps of the Europeans. Looking back during a temporary rift in the blizzard, the latter got a glimpse of the second party coming over the Silver Saddle. Although they lost sight of their own porters, they were not in the least anxious, for they expected them to be picked up en route. Fighting with an iron will against feelings of lassitude and against the stinging particles of snow, which seemed to burn their faces, they reached Camp V, where they strengthened themselves with food and felt able to proceed to Camp IV. There in the late afternoon they were met by Bechthold, Bernard and Müllritter, and immediately refreshed with warm drinks. Throughout the night they waited in vain, but without much anxiety, for their porters and the party led by Merkl. They expected that they had all reached Camp V and would appear on the morrow.

The blizzard continued next day and there was no sign of their comrades. A vain attempt was made by two of the climbers, without any porters, to reach Camp V; but they sank in the bottomless snow, almost to their necks. Suddenly, before noon, a parting of the clouds afforded them a sight of the upper ridge of the mountain, and, to their dismay, they saw a large party descending below the Silver Saddle. But why were they not further down? Detached from the party appeared a single moving black point, which settled into the snow. This, they learned later, was Wieland, who fell here utterly exhausted and died. The storm clouds then blotted out everything; but they had seen enough to realize that their comrades and the porters were fighting for their lives.

Some twenty inches of snow fell during the night of July 9-10, at Camp IV, and crushed in the sahibs' tent. Around mid-day they were cheered by the sight of seven or eight men descending on the ice wall of the Rakiot Peak. Tea and food were immediately prepared, and those in Camp IV went out to support them. They met four men, but their comrades were not among them: these were Pasang, Kitar, Merkl's first orderly; Da Tundu and Kikuli, Wieland's orderly. They needed not only nourishment, but medical attention. Kikuli fell exhausted before reaching the tents: the others were at their last strength. Pasang was snow-blind: all four were badly frozen. The sahibs and porters all united to restore circulation by gentle massage. Around midnight Kitar was so far restored as to give with the greatest difficulty an account of "the Golgotha of the descent."

According to him, it seems that shortly after leaving Camp VIII the sahibs declared that they must camp between there and Camp VII, because they could not go further. There being only one sleeping sack for them and two for the porters, Welzenbach slept in the snow. No food could be prepared. Merkl got one hand frozen; Wieland both, and Nima Nurbu died. Next day, Gay Lay, Angstering and Dakshi remained behind, while the others, with the exception of Wieland who was not seen again, pushed on to Camp VII. There being no sleeping sacks here and no rations, Merkl, who with Welzenbach remained in the camp, instructed them to make Camp VI; but snow up to their chests combined with the violence of the storm, forced them to spend another night in the open, in a snow cavity.

In their descent next day over the Rakiot Peak, they came up with Pasang, Nima Dorje and Pinzo Nurbu, who had lost connection with their sahibs and had wandered about in the storm. Nima Dorje succumbed in the ropes on this peak. They brought Pinzo Nurbu to Camp V, where he collapsed in front of the tent and died. There they waited for Da Tondup who, having detached

himself from the ropes joined them, and together they came down to Camp IV.

Hope was now almost given up that any of the others were alive. Nevertheless on July 12, a strong party consisting of Aschenbrenner, Bechthold, Schneider, Müllritter, and three porters, without packs, ascended to Camp V in six hours of tremendous struggle. They found Pinzo Nurbu near the camp and buried him: higher up they found two porters in the ropes on Rakiot Peak, and buried them. The storm then drove them back to Camp IV which was reached late the same day. This was regarded as the last stage of the tragedy, and they were prepared to evacuate Camp IV.

But they experienced the unexpected. On July 13, three persons were seen moving down from Camp VII, and between that Camp, and Camp VI, a man advanced and made signs, and when the wind swept down in their direction, a cry for help was wafted to them. A night of dreadful uncertainty was spent by the climbers. On the following day, a man was seen descending from Camp V, whom they went out to meet with tea and rum. It was Angstering, Merkl's second orderly, terribly frozen. With almost superhuman energy and amazing endurance, and having had nothing to eat since July 8, he had fought his way down. He brought no message from Merkl; only the report that the leader and Gay Lay were still alive in an ice cave.

His meagre account, obtained under constant pressure, boiled down to this: that he and Gay Lay, after the death of Dakshi on July 11, pushed on to Camp VII. Nearby they found Wieland dead: inside the tent, which was filled up with snow, were the sahibs, Merkl and Welzenbach who were without a sleeping sack. As there were no rations in the tent, Angstering suggested that he should descend as quickly as possible, but Merkl wished to remain until the men, who could be seen between Camps V and IV, would bring up food. During the night of July 13, Welzenbach succumbed. On the following day, Merkl, supported on two ice-axes, with the two porters attempted to reach Camp VI, but had to camp in the snow: sleeping with Gay Lay on a rubber mattress and with ordinary covering. Angstering had a covering but no ground sheet. On the morning of the 14th, he tried to communicate with Camp IV, but as no one was to be seen there, Merkl consented to his going down. When he left, both the leader, who was terribly frost-bitten, and Gay Lay were so weak that they were unable to move more than a few feet from the ice-hole.

What mental agony for his comrades to think of Merkl with the brave and faithful Gay Lay, waiting above until they could be reached with food and drink! On the morning of the 15th when the wind blew down from the ridge, a cry was distinctly heard, but there was no other sign of life. On the 15th and 16th, Schneider and Aschenbrenner fought their way up to Camp V, where fresh masses of snow repulsed any advance.

On July 17, Raechl and Misch, two of the scientists of the party, made a last attempt. Slowly and struggling fiercely in the continuing storm, they reached Camp V, whence they were able to advance until they came to the seracs between which several metres of powdered snow blocked the way. This was the end of an unusually well-planned adventure by brilliant mountaineers: miserably wrecked by those impersonal forces, that appear quite indifferent to human aims, of which the great German poet wrote:

Sie halten die Herrschaft  
In ewigen Handen,  
Und können sie brauchen  
Wie's ihnen gefällt.

In a tribute to Willy Merkl, Bechthold regards him, as have other competent judges, as one marked by nature for leadership, capable of inspiring confidence, and endowed with unusual

physical capacity to endure cold and fatigue. His exceptional powers in this respect had been proved by a sixty-hour exposure with his friend, Welzenbach on the Grands Charmoz. Here again they had shown themselves by his survival through seven days of inhuman conditions, and without food. He who, it is said, left nothing to chance,<sup>4</sup> was destined, remarks Bechthold, to experience the bitter grief of the failure of the adventure on which he had set his heart, and the death of his two mountaineering friends: in his last hours, only an ordinary covering protected him and his companion, Gay Lay, who displayed an unsurpassed loyalty. The cordial relationship between the Darjeeling porters and the Balti assistants, the spirit with which they met hardships and privation was probably largely due to the personality of the leader, and the character of his European comrades. The best of the Baltis made the difficult glacier route from the main camp to Camp IV, thirty to thirty-two times: a veritably tremendous achievement.

It will probably always remain a subject for speculation as to what caused the slow progress of Merkl and his party from the Silver Saddle on July 8. It has been surmised that this was necessitated by the condition of several of the porters, if not, of one of the Europeans. And it has been suggested that their weakness was due to lack of proper i.e., nourishing food. This seems improbable, since on July 7, there was sufficient food in Camp VIII for 4 days, for at least a dozen men; and five of the party had already left on the 8th for the lower camp. Moreover, Merkl knew well the kind of high-altitude rations that was required.

To us two things seem to be fairly clear:

- 1 That the climbing party was top-heavy, that is, too many persons were assembled at the last camp, with no support party between it and Camp V: and the fact,
- 2 that no sleeping sacks or food had been left at Camps VI or VII undoubtedly involved taking a chance both with regard to weather and the endurance of the climbers. Without food it was hardly possible to battle successfully for days against a blizzard. It seems that most of the food at Camp VIII was left there: probably because it was hoped to make another assault, and it was expected, as has been already remarked, that Camp V would be reached the same day, (July 8).

To the above there is to be added the surprise attack of weather, with a sudden onslaught of extreme cold. Too late perhaps did Merkl and his companions realize how much this change of weather meant. Only as Schneider and Aschenbrenner got lower down did they grasp what had been taking place for several days.

May a later German expedition to Nanga Parbat achieve success, without accident!

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4 Is this statement absolutely true of his last expedition?

## MOUNTAINEERING IN JAPAN

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### *A Review of the Literature of Japanese Mountaineering*

BY K. P. KIRKWOOD

The Japanese Empire is well-termed the Playground of the Far East. Every year more and more residents of the “Ports” of the China coast, and of the interior of China, come to Japan for a change of climate and the refreshment of beautiful altitudes in the mountain resorts. Every year more tourists from the west visit Japan and go off the beaten highway into the less familiar regions. Every year foreigners residing in Japan pursue uneven paths in the interior. Both Japanese and foreigners have in this vacation land, developed walking clubs, mountaineering groups, and an Alpine Club of Japan. It is natural therefore that a growing literature, in English as well as Japanese, should reflect this increasing interest.

Early travellers in the Japanese mountains, included the late Professor Basil Hall Chamberlain, who gave useful descriptions in his famous *Things Japanese* and in Murray's *Handbook of Japan*; Professor Gowland, who gave the name of the “Japanese Alps;” Sir Ernest Satow, Lord Curzon, Lord Bryce, Sir Cecil Spring-Rice among the early British diplomats; and that intrepid woman explorer, Mrs. Isabella Bird Bishop; and, describing particularly the Japanese Alps, the Reverend Walter Weston.

Soon after the turn of the century a group of active ramblers in Kobe commenced making weekly excursions in the adjacent mountains led by the indefatigable Mr. H. E. Daunt, author of *Climbing in Four Continents* and member of the Canadian Alpine Club, the Japan Alpine Club and the “Ancient Order of Mountain Goats;” and various members of this keen group extended their mountain trips far and wide. Mr. Oswald White and Mr. C. H. Archer of the British Consular Service in Japan and Mr. H. A. Macrae of the British Embassy in Tokyo were prominent climbers in those days and subsequently. For a score of years their journeyings were recorded in Mr. Daunt's annual production *Inaka; or Reminiscences of Rokkosan and Other Rocks*. These volumes are now rare and highly prized; and contained, besides much chaff and diversion, valuable notes on many new climbs and expeditions, with excellent photographic illustrations. The series extended from 1903 until about 1923.

In the *C.A.J.*, Vol. xxii, 1933, the present reviewer referred to the important work *Mountaineering and Exploration in the Japanese Alps*, (John Murray, London, 1896) by the Rev. Walter Weston, the pioneer alpinist in Japan. As a result of this work, the Japanese Alps became a Mecca for climbers, and inspired the Japanese Alpine Club, founded in 1906, and the whole sport of mountaineering in Japan.

Later in 1918 came Mr. Weston's second important book, *The Playground of the Far East*, (John Murray, London, 1918). This masterly book deals in detail with the history, legend and physical features of the great Sacred Mountain Fujiyama; with explorations in the Southern Alps; and by way of supplementary notes, with the Northern Alps described in his earlier volume. Mr. Weston was “not only the first foreign climber of the most prominent Japanese mountains, numbering at least fifteen, but he had trodden many a path on these mountains entirely unbeaten even by the native Japanese themselves.” His book, written in the refreshing style which is peculiarly characteristic of most mountain literature—perhaps the result of mountain heights, clear air and high views—is the second of the three most outstanding books on Japanese mountains.

The third book on the subject is Rev. W. H. Murray Walton's *Scrambles in Japan and Formosa*; (Edwin Arnold, London, 1934), which continues the excellent work of his predecessor. Mr. Walton commenced climbing in South Africa at the age of nine, later as a boy climbed Snowdon and other British mountains, and after coming to Japan in 1917, spent every available vacation in the mountains until his return to England in 1932. He learned to know the Japanese Alps thoroughly; made extensive exploration of the Chichibu mountains, and subsequently with Mr. K. A. C. Gross explored some of the main ranges of the Formosan mountains, bringing back new records of parts which no previous travellers had reached. Notable was his ascent of Mount Morrison or Niitaka (12,960 feet) and Mount Sylvia or Tsugitaka (12,897 feet), besides several other hitherto unclimbed peaks, or peaks previously unclimbed by foreigners. These first ascents perhaps form the most valuable part of the book, and were described in a paper read by Mr. Walton before the Royal Geographical Society in April, 1933; but the interest is shared with descriptions of lesser climbs where adventure or quaint discoveries of primitive folk-customs afford fascinating reading. Mr. Walton, who like Mr. Weston, knows the Japanese language thoroughly, does his mountaineering scientifically; and adds useful appendices on Japanese names, and on revised figures of Japanese mountain-heights. (He lists seven peaks in Formosa over 12,000 feet, and sixteen peaks in Japan proper over 10,000 feet). The present reviewer anteceding Mr. Walton in some minor Formosan "scrambles" and a companion in several of his Japanese "rambles," would wholeheartedly commend this volume not only to future climbers in Japan but to all who are interested in the literature of mountains in the less familiar regions of the world.

It is of great interest to note that the sport of climbing has now reached such a degree that during the summer of 1935, over 30,000 climbers used Kamikochi (where there is an hotel and several inns) as the base for visits in the Northern Alps; and that a regular guide service exists in that district as elsewhere. "The granting of licenses to guides is now in the hands of the police. A man has to serve many years of apprenticeship before he is given the coveted badge, which marks his entry into the rank of the guides. Apparently such promotion does not necessarily carry with it any corresponding rise in pay, as carriers and guides alike in the Northern Alps receive the same remuneration of two yen fifty (about seventy cents) a day, plus expenses.

The guides in the northern Alps, unlike their fellows in the south, show no great partiality for camping." (Walton, p. 210). On most of the peaks on well-established trails now are well-built huts, attended by resident caretakers during the summer season, and furnishing refreshments, and mattresses and blankets, and in some cases even warm baths. Japanese inns in the valleys are seldom more than a half-day's walking distance from the recondite mountain trails. Nevertheless camping out is popular. The Japanese Alpine Club, the Formosan Mountaineering Club, various local or college mountaineering and walking clubs, give evidence of the organized character of this sport at the present day. Consequently the pioneer English literature is now being rapidly supplemented by works and guide-books in Japanese prepared by competent devotees.





Mt. Fuji From Lake Motosu. *Photo Herbert C. Ponting. Copyright.*

## THE FIRST SKI ASCENT OF MT. BALFOUR

BY B. G. MOODIE

When the warm winds and ever increasing heat of the sun has softened the hard-packed trails, ski-ing, or rather winter ski-ing is over—and just when we were realizing to the full the joy of days on the slopes, in shirt sleeves, unhampered by heavy mitts and confining parkas. Thus, after the first week in April, under sunny skies it seemed hard to forget all about ski-ing for four long months, but with the big camps, Skoki, Sunshine, Assiniboine, even the convenient Mt. Norquay deserted, there seemed no place to go.

It remained for Victor Kutschera, the ever-resourceful Skoki guide and ski instructor, to solve the problem. Climbing in the summer rounds out Victor's existence nicely—except for the spring—too early to climb, too late to ski, until an experimental trip in 1934, in the Yoho, proved conclusively that spring and early summer ski-ing could be ideal.

During the winter the excellent facilities and accommodation offered by the camps leave nothing to be desired; well-guided trips from the snug cabins, runs that are fast becoming famous, powder snow and all the delights that have been so invitingly described by writers more worthy of the name. During the winter months a great deal of excellent ski-terrain is inaccessible, owing to the danger of huge snow slides sweeping unhindered down the narrow valleys, making their approach, before or during the spring slides, inadvisable.

Accordingly, on June 6, D. E. Batchelor and the writer, hard-working executives of the Calgary Ski Club, left behind all official worries and sought the delights of a trip where no sweet young thing would wail for assistance with a broken binding. We found Victor and Lloyd Harmon—who is definitely following his famous father's photographic footsteps—surveying a “mountainous” pile of food, which was stuffed, but with bitter protests, into our bulging Bergans.

Leaving Banff early, we had a very pleasant breakfast at Deer Lodge near Lake Louise, then the lovely drive in warm June sunshine to Wapta, where the car was left and packs shouldered—at least one of us thinking that collapse would come in the first hundred yards. However, the trail was excellent, the morning perfect, and Victor most encouraging. At the south end of Sherbrooke lake we encountered deep snow, soft and impossible to use skis on, entailing arduous wallowing for nearly two miles.

At the north end of the lake is an interesting example of avalanche blast, worthy of careful study. Here, on a knoll, trees over two feet in diameter are lying in a tangled mass, hurled flat by the tremendous air-pressure created by avalanches on a slope some distance to the east. After clambering over, under, and along this horizontal forest, skis were put on, and after some rather hair-raising crossings of Sherbrooke creek, swollen and important-sounding with melting snow, camp was made at timber line, near the north end of the valley.

Early Saturday morning a heavy rain set in, confining us to the meagre shelter of our open-air fly—which did not prove such a hardship as might be expected—office muscles did not react kindly to the treatment of the day before.

The next day, Sunday, was a little better, the rain ceasing long enough for a climb over the pass between Mt. Niles and the long ridge of Mt. Ogden, with the long run to the Daly glacier just above Takakkaw falls ample reward for the gradual climb from the valley. Returning over Niles pass visibility was poor, but nearing the top we were fortunate in getting a glimpse of Balfour, looking every bit of its 10,741 feet, even with the immense icefield formed by the convergence of

the Daly, Waputik and Bath glaciers as a foreground. Dark clouds swept across between us, but the magnificent run to the camp made even the rain of the day before a dim memory—we had circled Mt. Niles, probably for the first time on ski, we were in the mountains and life was exceedingly good. Three o'clock Monday morning, the last day for the climb, and a perfect downpour of rain—another day of sleeping and eating, and the decision to wait one more day and try it on Tuesday—at that it looked as though Wednesday's breakfast would be chiefly mountain air.

At two o'clock Tuesday morning, we poked cautious noses out of warm eiderdowns to see a clear sky, dark, dark blue over the dim silver of the peaks, stars gleaming and washed-looking. Vic. had the fire started, a tiny blue flame in the soft blackness. Snow frozen like concrete made walking much easier than ski-ing, and Niles pass was reached at 6.30. To the northeast Mt. Balfour was splendid, the early morning light casting long blue shadows and revealing every feature in stereoscopic detail.

Dropping down the north side of the pass, skis roaring over the very hard snow, we chose a route slightly to the eastwards of a direct line; no difficulty was encountered in making a fairly direct approach, as all but the widest crevasses were completely covered with good snow. Long gradual traverses took us up around the southwest shoulder of Lilliput mountain and to the glaciated southwest slope of Balfour, where we paused long enough to bury tomato juice and oranges in the snow and leave our rucksacks. Another hour of steady but shorter traverses brought us under the southwest arête, where a very steep snow-slope made it advisable to leave the ski and kick steps until the rocks were reached. The rope was put on at this point, as there was a great deal of fresh, loose snow, and a tremendous cornice overhanging the east face.

The summit was reached at eleven o'clock, fair time considering the very hot day, particularly felt crossing the icefields. No cairn was visible. Very few clouds were in the sky, a perfect June day with a view that was almost limitless. Peaks were identified—mostly speculated on until the usual happy bickering was heard. A sharp wind made the run down seem very inviting and put an end to arguments only half settled. Holds were rather slippery due to the wet snow, but once the snow-slope was reached we slammed our heels in and were soon rubbing down our climbing wax for the long steep run to the packs and lunch.

After a leisurely lunch, we began the indescribable run to the Waputik icefield—two inches of soft wet snow made high-speed “christies” absurdly easy, no rocks, no tricky wind-slab to watch for, a delightful series of “schusses” in Victor's curving, swooping tracks. It still being early, we explored the Daly ice-fall, with its striking séracs and blue-shadowed caverns and crevasses, our guide giving us a faultless exhibition of controlled running on the return. Crossing the icefield to Niles pass was uneventful, thanks to careful guiding which seemed uncanny—everything presented an unbroken and innocent appearance to our uninitiated eyes.

The satisfied pause on the summit of Niles pass really marked the end of the trip; below and to the west the Yoho valley, to our right Balfour—our first ski ascent—looking even grander in the late afternoon sunlight. Stirred from our smug thoughts by the long, subdued roll of a slide in the valley, we plunged into the valley with the anticipation of quantities of food.

The trip out was in the nature of an anti-climax, even with lightened packs. Rain, pauses while lean-looking grizzlies ambled to a safer distance, then the dry trail, avalanche lilies, and a glorious ski trip ends in the soft green of summer.



Mt. Balfour From Niles Pass



Icefall Of Mt. Daly (V. Kutschera In Foreground)



Looking Southwest From Lower Slopes Of Mt. Balfour. *Photo B.G. Moodie*

## HELVELLYN ON SKIS

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BY MAJOR HORACE WESTMORLAND

Almost as biting as the winds from the Helm of Crossfell were the remarks made to me as in January last I racked up my skis in snowy Quebec to take them to England. I had, however, vivid recollections of Cumbrian and Westmerian fells snowcapped, in the winter months, sometimes for weeks at a time, and with soft answers I turned away wrath and took my skis with me. They did not look quite appropriate as I carried them down the one street of a Sussex village in a soft drizzle of rain. However after ten days in the south I was able to go north and telegraphing my old friend A. W. Wakefield regarding conditions in Cumberland, I received the heartening reply “By all means bring your skis.”

Unfortunately when I arrived a thaw had set in and although the fells were clothed in white, down to approximately the 1500-foot contour, the snow was melting fast. Three days later the weather turned cold. By a coincidence, in the town of Penrith where I was staying, the only pair of skis other than my own, were in the house next door, and I was able to persuade their owner and designer—for he had made them himself—Morton Rigg, to give up a day for an expedition to the summit of Helvellyn. Helvellyn is a fine, imposing Lakeland fell of 3118 feet in altitude. It is the highest point of a ridge, precipitous to the east and steeply sloping to the west, which stretches six miles from Grisedale Tarn in the south over Dollywaggon Pike, Helvellyn, Helvellyn Low Man, the Raise, Stybarrow Dodd, Watson’s Dodd and Great Dodd, down to Matterdale Common in the north. The escarpment varies from the 400-foot Tarn Crag of Dollywaggon Pike and the 300-foot cliff on Helvellyn to the milder slopes of the family of Dodds. There is no timber on the fells of the Lake District other than the few plantations on some of the lower slopes.

We motored to the summit of Dunmail Raise (783 ft.) and shouldering our skis made our way up the steep gully of Raise Beck south of Willie Wife Moor, over rock and turf and patches of very hard, icy snow for a thousand feet to the level of Grisedale Tarn. Here we found a snow-filled water course which provided a ski-way across a quarter of a mile of snowless fell to the snow line.

To express myself in an Irishism the “snow” was “ice,” good going in climbing boots but bad going on skis or in unnailed ski boots. However during the night a flurry had laid down a sprinkling of snow giving a surface over the glaze of the ice which enabled us to climb on skis, and in my case to use sealskins, a welcome change from the shoulder load of skis, ski-sticks and rucksack. This useful but thin covering was rapidly being blown off by the strong “Helm” wind prevailing. My companion found his downhill design of ski rather heavy for the climb and these being wide, edging on a surface into which the ski could not bite, threw a great muscular strain on the legs. However he made up for this disadvantage and for his comparative lack of experience by youthful strength and cheerful endeavor and after about an hour and a half’s grind we reached the summit of Helvellyn. During the climb I skied over to the top of Dollywaggon Pike (2810 ft.) and peered over the snow cornice into the depths below Tarn Crag, in the gullies of which I have had three adventures: the first in 1898, the second in 1910, and the third in 1934, a big spread of years, and thereby hangs a tale.

The coldest wind in the Lake District is the east wind and frequently when it blows strong and hard a curious heavy bank of cloud settles on the summit of Crossfell in the Pennine Range and a second hangs on Swarth-fell overlooking the first reach of Ullswater. Above the 2000-foot level this wind was blowing at gale force, as it did all through the cold spell. Being in our faces it

made the climbing hard work and the summit a coldish place in which to lunch. A few yards below the summit cairn of Helvellyn, there is a stone shelter—two twenty-five-foot long, five-foot high stone walls intersecting each other and in the snow-filled lee of this we lunched. The views were splendid; alternately we were enveloped in cloud and in sunshine. The Cumbrian hills looked really Alpine, Scafell Pike, Great End and Great Gable were magnificent with their icy coats gleaming in the occasional sunshine, and in fact there was plenty of work for the ice-axe as three of us found and enjoyed a week later on Great Gable. I enjoyed the run down to Grisedale Tarn immensely— it was essentially ski-ing “under control.” There was no snow left on the ice by this time, but I had metal edges which made tail wagging on the hard surface delightfully easy. For a time I ran near the cornice, the surface was better there and it was most exhilarating to run with the cliffs a few yards on the left and the icy glistening surface sloping far down out of sight, because of its convex curve, on the right. On the steeper slopes it did not do to fall because once down there was little chance of checking the slide as Morton Rigg found, until he rammed the point of his ski-stick in the ice below him, and got the other end under his chin, taking off a good two inches of skin.

There was a good deal of rock out-cropping and some of the slopes were nearly thirty per cent. Unfortunately the conditions did not permit very satisfactory straight running; it was only when traversing that the skis found a grip on the ice.

Rarely have I enjoyed a ski run more. So many factors of enjoyment came into it: the Cumbrian fells after a long absence, a good companion, glorious views, cloud and sun, the delight of being on a ridge, the contrasts between ice-girt crags, sun-capped summits and soft green snowless valleys, the constant turn swing and check of Christianias amongst the projecting rocks, and the peaceful jog down the green slopes of Willie Wife Moor with the skis on one’s shoulder, to the waiting car and creature comforts below.

The climb was only 2335 feet to a summit only 3118 feet—the vertical interval of the ski run some 1400 feet— no great Alpine peak fell to our efforts but it was a grand day on the winter fells of my native English Lakeland.

## THE FIRST WINTER ASCENT OF MT. EDITH CAVELL

BY G. MORRIS TAYLOR

*With Photographs by the Author*

Like other climbers, Swiss guide Ernie Neiderer and I were anxious to make a first ascent of some major peak. However, since most readily accessible peaks in Jasper Park had already been climbed, we compromised on a first *Winter* ascent. For this purpose we chose Mt. Edith Cavell, and planned to use the Alpine Club Memorial hut in the Tonquin valley as our base camp.

Accordingly, one morning early in February 1934, when snow conditions looked favorable, we loaded our skis, packs and parkas in the back of the car and headed for Portal creek, "Gateway to the Tonquin valley." The light, deep snow impeded our progress so much that the first night we "Siwashed" at the head of Portal creek, having progressed only eight miles the first day. The next morning dawned clear and cold, thirty below zero in town from later reports, and colder at timber line where we were. On our arrival at Maccarib pass, the tempting treeless slopes and brilliant sunshine invited us to remain—Ernie to practice Telemarks and Christianias, and me to make use of my trusty Kodak. In the afternoon we pushed on to the Park Warden's cabin, four miles from Maccarib summit. On the third day we skied the remaining six miles to the Memorial hut at the head of Penstock creek. Having taken three easy days instead of one hard one for this trip, we felt ready and eager for our climb, and decided to start the next morning if the weather was favorable.

At five a.m. the sky was brilliantly starlit and we knew that this was our day. By six o'clock we were flying down the Penstock and Astoria rivers, making the seven miles to the mouth of Verdant creek in just an hour. Here our climbing began, following up Verdant creek between Throne and "Sorrow" mountains for about a mile. Then we cut upward through steep timbered slopes of Sorrow mountain. We found it heavy going through the light, soft snow, and we were relieved to reach timber line about ten o'clock. We had a little lunch here and a consultation. As far as we could see ahead the slopes were bare rock. To use skis was evidently impractical, but we were determined to climb Edith Cavell with skis, if not actually on skis. So here at timber line we left one pair and carried the other. From timber line to the Mt. Sorrow col we found the conditions not very different from those of a summer climb, just a bit colder (about eighty degrees), and more slippery, as our ski boots were without hob nails. We reached the Sorrow ridge about twelve-thirty, and stopped to take a few pictures and have a bit of lunch. Here the real climb began. The hours were going by, and we were a long way from the summit. A couple of times we nearly gave it up. But we were just fools enough to keep on, with the prospect ahead of a mighty cold night, and little assurance that we would get back to shelter before the next day.

As we approached the summit the rocks became frost-covered to a depth of six inches or so, and our slippery ski boots gave little traction. At last, at five o'clock, weary and cold, we came to the rock climb, three hundred feet below the summit. At this unpleasant place there is the choice of the side above the glacier, with two hundred feet of steps to cut in the packed snow, where a slip means a three thousand-foot sheer drop; or the choice of going right up the rocks, which is almost as bad. We chose the rocks, and Ernie unpacked the rope and started up. We then roped up the packs and skis. My turn came last, and without Ernie's assistance at the upper end I doubt if I could have made it. Three rope lengths and we were on the summit of Mt. Edith Cavell. It was five-thirty, and



View South From Maccarib Pass. *Photo G. Morris Taylor, Jasper*  
Mt. Edith Cavell In Centre Background.



The Memorial Hut. *Photo G. Morris Taylor, Jasper*



View Northwest From An Elevation Of About 10,000 Feet On The  
West Ridge Of Mt. Edith Cavell. *Photo G. Morris Taylor, Jasper*



the winter sun was just setting. We found the summit cold and forbidding and covered with a thick layer of frost, such as I have observed before at high elevations in winter. We had just time enough to snap a few pictures before the sun sank into a dense cloud bank on the western horizon. Then we deposited our record on the west ridge cairn. (We had prepared and placed it in a bottle the night before in anticipation of success). We didn't tarry long: it was too cold, twenty-five or thirty below, with a brisk breeze, and well we realized what was ahead of us in the way of returning.

We had planned on the moonlight, but it was starting to cloud up, so we high tailed for lower regions. We got down to the Sorrow col just at dark. Here, instead of climbing up again the hundred feet or so to get over to Sorrow mountain, we headed straight down the Cavell-Sorrow couloir, which was entirely filled with snow. We didn't dare to slide the three thousand feet down to timber line, as this was a perfect place for starting an avalanche. Also, from a previous summer climb, we remembered the waterfall at the bottom, a twenty-foot drop over a cliff. So we roped and lined down, I going first, Ernie anchoring behind. We never did find the waterfall. The glissade would have been a matter of minutes, the roping took two hours.

Now that we had reached timber line and had the worst of the descent behind us, the next task was to find my skis, which we had deposited in a snow bank nearly twelve hours earlier. We had descended about a mile south of the trail we had taken up. So we traversed around the shoulder of Sorrow, Ernie on skis, I on foot. During this time I got my shoes full of snow as I repeatedly broke through the crust and sank to my waist. This snow in my boots melted and later froze, a most uncomfortable condition. When we came to the approximate place where we had left the skis we searched for half an hour by the pale moonlight before we finally found them. Then came the timber run down to Verdant creek, which we found annoyingly difficult. Have you even tried a slalom through dense timber in the dark? I was all for Siwashing, but Ernie would have none of it.

Finally we reached the Astoria river bed, and had ahead of us the long trek back to the Alpine Club hut. The seven miles seemed like seventy to my weary bones. At one-thirty a.m. we welcomed the sight of the stone cabin we had left nineteen and a half hours before. We had made at least one record—the slowest climb of Mt. Edith Cavell in history. And what a time I had getting off my boots, frozen as they were to my socks!

## FREE LANCES

BY FERRIS NEAVE

It has been pointed out, I believe, that part of the pleasure of mountaineering lies in proceeding safely under an appearance of danger. Perhaps the same sentiment may be suspected in those who interest themselves in the larger stinging Hymenoptera popularly called bumble bees and yellow jackets. It is at least true that there is an element of sport and uncertainty in the capture of these freebooters which is not to be found in the accumulation of more sedentary and defenceless biota.

Tradition may associate the hum of bees with well-kept gardens and lush, low-lying meadows but in point of fact the large and vociferous bumbles at any rate have a good claim to the regard of mountaineers. Nowhere in North America are they to be found in greater variety than on the delectable alplands of the western mountains.

It is thought by some that the study of these and many other animals is retarded by a lack of popular names. Some entomologists, in an earnest attempt to carry their subject to the public, have gone to the trouble of inventing English names for the insects of which they write. I do not attempt to minimize the terrifying aspect of unfamiliar words whose alien characteristics are heavily emphasized by italics. At the same time there is discouragingly little evidence that the carefully thought out nick-names bestowed by these scientists are ever adopted by anyone else. Indeed it seems likely that anyone who tackles even in the most non-technical manner an unfamiliar group of insects will very soon find the etymology of their names to be the least of his worries. This being so, I shall refrain from such alluring syntheses as the “Blackbottomed Bumble Bee” and “Cresson’s Blonde” and will refer to them by such sober technicalities as *Bombus melanopygus* and *B. flavifrons*.

The bumble bees are a hardy lot. Not only do they flourish far up towards the snow line of our mountains, but they hum their way cheerfully through the short summers of Northern Siberia, Canada and Greenland. Many of the species have a very wide range, particularly those that live in high latitudes. Most of the Canadian representatives have very close relations in Europe and Siberia and a few are probably common to the Old and New World. Little enough is known of the local distribution of these bees and less of their lives and habits. The mountains of western Canada offer boundless scope for studies in the vertical distribution, general ecology and social organisation of these handsome bees.

My own fragmentary knowledge of these insects in the Rockies and Selkirks has been gained largely during the brief interludes that will creep so charmingly into the most single-minded pursuit of more strenuous pleasures. The patch of gaudy fireweed at the place where one’s pack-galled withers demand a moment’s relief, generally offers choice pickings. Still better is a bivouac near timber line. Here the bee-stalker can swing his hat and cork his bottle until

“—Evening has taken all the bees from the wild thyme  
And all the scent is shed away by the cold.”

In the valleys of the eastern slopes of the Rockies we find a bee having that well-known something or other which inevitably calls forth the remark: “I’ve seen your face before but I can’t remember your name.” It is black, with broad yellow bands and a dingy yellow tail and proves to be *Bombus terricola*. It can be observed by stopping off anywhere between Halifax and Jasper.

At the latter place we may find with it *B. occidentalis*—very similar but with more black, less yellow and a whiter tail. Whereas *terricola* peters out on these eastern slopes, *occidentalis* is just beginning. It seems to occur all over British Columbia and though perhaps more characteristic of low altitudes it reaches 8000 feet in the Purcells. Both these species are closely related to the Eurasian *B. terrestris*. Wherever *Bombus terricola* occurs we are apt to find a bumble bee colored rather like *occidentalis* but possessed of a deeper bass hum and a more stately flight.

In all probability the association is sinister, for *Psithyrus ashtoni* belongs to a genus of cuckoos which live in the nests of *Bombus* and betray their mode of life by the absence of “pollen-baskets” on their hind legs. Some species of *Psithyrus* kill the queen of the *Bombus* colony while others are merely non-paying guests.

*Bombus vagans*, a smallish black and yellow bumble, also penetrates some distance into the Rockies from the east (Banff, Jasper). *B. bifarius* on the other hand is common in both Rockies and Selkirks at all altitudes up to 8000 feet. It is a short-haired, black-tailed species, too variable in color to lend itself well to summary description.

In general as we pass to higher ground we note a preponderance of red-haired forms. This color often shades into bright yellow and gives a peculiar glowing effect to the abdomen. Not all such bees, however, are found at high altitudes. The form of *B. pleuralis* which has long been known as *B. flavifrons* occurs at sea level on the west coast, throughout much of the interior of British Columbia and in Purcell valleys (Campbell creek, Horsethief and Toby creeks) up to 6000 feet or more. I have never found it in the Rockies, though it is recorded from Alberta. It has a dark ashy thorax, lemon-yellow hair on either side of the waist-line and a bright red afterbody. A very close relative is *B. centralis*, whose thorax, however, is bright yellow with a black centre. My Rocky mountain specimens are all from between 4500 and 6000 feet—the Hudsonian Zone. Doubtless it occurs also in the Selkirks. Both *flavifrons* and *centralis* have a wide range in the north, being present in northern Manitoba as far east as Hudson bay.

Any open spaces above 4500 feet or thereabouts are sure to yield specimens of *B. melanopygus*. It shows a smoky thorax and a bright red abdomen, tipped with yellow and black. It is found as far north as Baffin land and as far south as Lake of the Woods but does not occur on the prairies. In general it stays on the cold side of the mean summer isotherm 60 °F. Towards timber line and above in the Rockies and Purcells I have sometimes captured a paler, longer-haired but exceedingly similar bee. It is *B. sylvicola*, which elsewhere inhabits the far north from Alaska to Labrador. *Sylvicola* and *melanopygus* are very closely related to *B. lapponicus*, which frequents the highlands of Scandinavia, the British Isles and other parts of Europe. Another Canadian species which is likely to be found anywhere above 4500 feet is *B. mixtus*. The abdomen of this bee is partly black and the red color is restricted to the last quarter. It has a transatlantic relative in *B. pratorum*, a common European species.

Accompanying one or more of these red-bodied species of *Bombus* is another *Psithyrus*—*P. fernaldae*. It is smaller than *ashtoni*. The male has the abdomen tipped with reddish hairs. The female appears short-bodied, her posterior extremity being curved under. *P. insularis* also reaches a considerable altitude. It is known from Banff, Jasper, Glacier and Kaslo. From the last-named locality *P. suckleyi* is also recorded.

I have two Rocky mountain specimens of *Bombus kirbyellus*, a long-haired bee of rather sombre tones and remarkably long cheeks, i.e. the part between the eye and the base of the mandible. One was taken at Jacques lake, Jasper, altitude 4700 feet, the other by Roger Neave at Molar creek, on the eve of the first ascent of Molar Tower. *B. kirbyellus* is a truly boreal insect and its known

range includes Labrador and Greenland. I have also captured it on the Nelson river in northern Manitoba.

It is altogether probable that anyone who is disposed to spend a few days conning the mountain heather or loitering (with intent to commit a felony) in the neighborhood of the spiraeas and purple daisies of the open alplands, could bring back still rarer trophies. *B. polaris* and *B. strenuus* are little-known species inhabiting the northern fringes of the continent. At least one of these species turned up in a random collection made one afternoon above timber line near Mt. Edith Cavell. Many such possibilities remain.

The social wasps form a group which, though smaller in number of species, presents interesting parallels with the bumble bees in matters of organisation, distribution and in the incipient parasitism of certain forms. As they require wood pulp to make their paper nests they cannot be expected to live permanently above timber line. With this limitation, however, they are widely distributed and several of the Canadian forms are considered to be con-specific with European species.

The genus *Vespula*, to which all our mountain social wasps belong, contains two rather distinct subgenera. In one of these the eye appears to touch the base of the mandible; in the other there is a wide intervening piece of cheek. Of the cheekless, we may pause to honor *V. vulgaris*, on whose empire the sun never sets. In the western hemisphere its general range covers most of Canada. Little is known, however, of its local distribution in the mountains. It is common in the Jasper district. *V. pensylvanica*, on the other hand, is so restricted in its distribution that it never gets within a thousand miles of the state which the innocent might suppose to be its headquarters. It is undoubtedly common in many parts of the mountains. It is recorded from Kaslo and I have specimens from the nearby Campbell creek (Purcell range) and from Jasper.

The North American wasp fauna includes several forms which differ from the foregoing in the slenderness of the first abdominal segment and in the black hair with which it is clothed. Most of these are very closely related to the European *V. rufa* and indeed are regarded as varieties of this species by our present leading authority, Bequaert, though often sufficiently distinct from it and from each other in their color patterns. In general they are black, with quite narrow yellow or white bands. *Atropilosa* is recorded from Kaslo and the somewhat darker form known as *sladeni* occurs both in the Purcells ("Pinnacles creek") and the Rockies (Molar creek), both records being due to Roger Neave. The related consobrina is a white-banded wasp, common all across Canada and specifically recorded from the Selkirks (Beavermouth and Kaslo) and from the Banff district. Attendant upon one or more of the foregoing is an exceedingly similar insect, *V. austriaca*, holarctic in range but everywhere rare, which follows the same mildly parasitic life as *Psithyrus* and, like the latter, produces no workers. It has been captured at Beavermouth, Kaslo, Field and Banff.

The hanging-nests which are seen so frequently on trees and buildings are the work of long-cheeked wasps. The dominion of *V. maculata*, the large "white-faced hornet," extends from Cape Race to Nootka sound but I do not remember having seen it at any great altitude. *V. arenaria* (it is a pity that the picturesque name "diabolica" has been scrapped) is another transcontinental species and the commonest of all the tree nesters. It is generally distributed below timber line. Its range overlaps that of the somewhat darker, more northerly species *V. norwegica*. The common American version of this holarctic wasp is known as "variety *norvegicoides*." It has been found wherever collectors have travelled in the Rockies and Selkirks. On the other hand, the closely related *marginata* has been regarded as an insect of the far north and doubt has been expressed concerning

its occurrence (in western America) south of the Yukon. Nevertheless I have a typical queen of this species captured at Hector glacier, Alta., July 9, 1933, altitude 7500 feet (R. Neave).

The long-cheeked wasps also include a cuckoo—a pale-banded wasp, *V. adulterina*. It operates at the expense of *V. arenaria* and probably other related species. It is well-known from the Selkirks (Downie creek; Big Bend country; Campbell creek and “Pinnacles creek”) and is equally at home in the more cosmopolitan atmosphere of Banff.

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## GLACIERS OF MT. WADDINGTON REGION

BY W. A. DON MUNDAY

Discovery in 1933 that Scimitar glacier had advanced within recent times prompted a re-examination of Franklin glacier and all glacial data in the region—evidence of retreat may be more apparent than of the advance preceding it. Much study has been given to glacial retreat in Canadian mountains, but comparatively little attention has been paid to graphic evidence of the well pronounced advance which occurred right across British Columbia and included the Rockies. Illecillewaet, Swiss, Asulkan and Geikie glaciers all have moraines recording both phases.

Mr. Howard Palmer recently wrote to me: “Advancing phases in volume are seen so rarely now-a-days that observers are not familiar with the action under such conditions.”

It is the marginal moraines which supply the typical evidence of increase in volume, and Scimitar glacier south of Pocket valley provided an ideal example. In one place (Photograph No. 1) a young moraine lake killed mature trees on what is believed to be an older moraine; the slowly rising ice built up the new moraine by plowing debris over the crest, showing a distinct “grading” of the fragments such as occurs in an artificial embankment of the same materials.

It is hard to estimate how high such a retaining wall may rise and yet continue to be an effective barrier. This Scimitar glacier moraine rises 250 feet above the floor of Pocket valley. Closer along the mountainside mature mountain hemlock and amabilis fir grow on a moraine which is only 100 feet high above Pocket valley. These trees probably reach at least 700 years in age.

“Marginal” moraine is used as distinct from any ice-borne lateral moraine. Near the snout of a receding glacier there may be no definite division, of course; but with the glaciers in the Mt. Waddington region the difficulty scarcely arises.

While it might be supposed that a growing glacier would proceed to re-occupy all its former bed like a rising river, numerous examples in this region exist of a rising moraine barrier walling the ice out of an embayment or shelf; at times this action simply results in formation of a V-shaped trough between the moraine and the mountainside—a commonplace feature in all the ranges. Doubtless a rapid increase in ice volume would override such a barrier.

The moraine lake at the margin of Dauntless and Franklin glaciers’ junction (see illustration facing p. 50, *C.A.J.*, 1931) shows old moraines over-ridden by new moraines 100 to 200 feet higher. At Icefall Point a pond lies behind a wall-like moraine of big rocks—smaller material probably having been lost in the ice-fall above. Both sides of Confederation glacier junction show the same thing. In 1927 we noted that the Splinter glacier torrent had not then filled the mouth of its steep ravine to the level of the youngest of the series of moraines built across its mouth by Franklin glacier. The same year a terrace of moraine-buried ice 200 feet above Franklin glacier represented remnants of the former junction of Yataghan glacier. The latter’s southerly moraine stood about 200 feet above older vegetation-covered marginal moraines (which themselves may record an earlier advance and recession). Marvel and Chasm glaciers’ moraines can likewise be correlated.

When Franklin glacier reached the maximum advance recorded by this series of moraines the ice stood about 900 feet above the valley floor at the present snout. The former snout attained that thickness in half a mile upstream, and that gradient seems to be maintained since first observed in 1927.

Measurement July 24, 1934, showed a shrinkage of 1545 feet of the western lobe since July, 1927. With red paint Mrs. Munday on the former date marked two rocks on their southern faces.

One, marked “Ice, 1927, A.C.C.,” shows in illustrations facing page 140, *C.A.J.*, 1931. Fires have been lighted under its shelving face. The second rock, marked “Ice, 1934, A.C.C.,” is a squarish banded rock about ten feet by four, close to the western moraine; from July 24 to Aug. 20 the ice shrunk back approximately eighteen feet. The annual shrinkage, averaging 220 feet, has been fairly steady for seven years, although thought to have been about 500 feet from 1932 to 1934.

One of the illustrations just mentioned (No. 20) will, however show that the main extension of the ice-front lay on the east of the river, out of reach for measurement. Information kindly supplied by Richard M. Leonard, of the Sierra Club, indicates that the main forefoot had then melted back almost even with section west of the river. My measurements therefore would show less than the average rate of recession of the ice-front as a whole.

Somewhat more than a mile below the snout the western lateral moraine sweeps down the steep mountainside to form a succession of ridged terminal moraines. Some of these seem to represent “push” moraines formed largely of water-worn rocks. The oldest moraine abuts mature forest. Tree growth on moraines obviously gives merely the minimum age. The two oldest trees (or largest), are midway among the moraines; one, a Douglas fir, possibly sixty to seventy years old; the other the only Alpine fir the writer has noted so near sea level, about 400 feet. Howard Palmer quotes F. K. Butters as giving ten years as the time for Englemann spruce to appear on moraines in the Selkirks. In the Coast range at low levels Sitka spruce pioneers on moraines. At the upper levels it is Alpine fir. The normal strong cold down-draught off Franklin glacier seems to retard growth. From this fairly modern series of moraines an old till sheet extends down the valley to within about two and a half miles of Knight inlet, and terminates in a steep scarp through which the river emerges in a canyon here about 150 feet deep. The surface is oxidized to a depth of about a foot, so this till presumably dates back to the close of the Ice Age in common with the till around Vancouver.

The top of this bench-land in Franklin valley preserves the shape of a lobe of ice; “kettles” of various shapes are numerous, from fifty feet to several hundred yards in length. The thickly wooded top has never been worked over by the river to any appreciable extent. This till sheet probably corresponds in age with one noted in the Homathko valley between Coola and Scar creeks.

There is often a tendency to assume that “slow but sure” grinding is the chief method of glacial erosion, but rock surfaces bared by Franklin glacier since 1927 lead to the conclusion that this polishing action occurs mainly as the glacier’s potency wanes. Rock edges had been chipped or blocks torn away so often that rounding and polishing was confined mostly to more resistant and massive formations.

Franklin glacier also illustrates how a great valley glacier, shrinking in volume towards its forefoot, loses erosive power through excessive deposition beneath it of its worn-out rock tools. The distinctive volcanic breccia received from Confederation glacier fails to reach the snout.

Franklin glacier is remarkable for the fine longitudinal ribbon structure of the ice—one may walk hundreds of feet along one band as along the edge of a board. Scimitar glacier, however, has a more or less diagonal banding, produced apparently by its serpentine course distorting the crescentic pattern below its two huge ice-falls and also that of Radiant glacier.

There appears to be at least one moraine lake along the southern lateral moraine of Tiedemann glacier. Photographs kindly supplied by Mr. Ferris Neave strongly suggest that its oscillations harmonize with the other important glaciers which have been observed in this region.

Cascade glacier thrust two marginal moraines nearly across the floor of Scar valley before retreating. Jambau glacier, farther upstream, in 1926, had thrown a moraine dam across Scar



Photo No. 1

Scimitar Glacier At 4500 Feet. *Photo Mrs. Don Munday*

Note dead tree about 60 feet high (against snow patch) on remnant of older moraine buried by present lateral moraine. The crest is ice thinly covered.





- (1) Jambeau Glacier, Whitemantle Range. *Photo Mrs. Don Munday*  
Morainal debris across valley head by last advance into Scar Creek Valley; glacier now receding.
- (2) Yataghan Glacier From Middle Of Franklin Glacier At 4000 Feet, 1927. *Photo Mrs. Don Munday*  
Terrace at foot of moraine then contained ice at least 200 feet deep, a remnant of confluence with Franklin glacier.  
Fringe of tree marks ancient moraine. Dotted line ice-front, 1930.
- (3) “A Hole Turned Inside Out.” *Photo Don Munday*  
A core of ice 25 feet high protected by sand originally deposited in a basin by water on Confederation glacier.
- (4) Moraine Of Scimitar Glacier Across Mouth Of Pocket Valley. *Photo Henry S. Hall Jr.*  
Ancient moraine at right slopes down into valley floor. New moraine is 250 feet high, 1933.

valley; drainage from the head of the valley had breached this dam, then passing under the ice. Neither glacier showed much recession.

An unusual feature of the right marginal moraine of Waddington glacier is described in *C.A.J.*, Vol. XVI, p. 139; in places the moraine crest forms the actual watershed along the top of the ridge separating the glacier from Scar valley. Fir and cedar up to eighteen inches in diameter clothe a lateral which in 1926 curved to the creek brink about 600 yards below the glacier snout. For nearly a mile from the snout the valley is divided lengthwise by a moraine 400 feet high (it stands in part at least on a rock rib); ice flows in the north valley, while comparatively young spruce occupy the south one and reach the southern crest of this moraine which swings across the head of the valley like a terminal moraine to divert the ice.

Here would seem to be proof of two advances of the glacier, the second and lessor one having taken place within the historical period if it be believed that spruce appear on moraines within a few years—observation so far in Franklin valley is inconclusive, but suggests a more lengthy time for growth.

Dr. George Hanson (“Pleistocene and Recent Glaciation,” *Trans. Roy. Soc. Can.* 1934, pp. 179-185), concludes that in Bear river valley at the head of Portland canal “the glaciers comparatively recently, perhaps 100 or 500 years ago, were larger than at present, indicating a colder interval.” This fits in very well with the writer’s conception of conditions in the Mt. Waddington region.

Hanson draws attention to U-shaped valleys which widen in cross section towards their heads, resulting from more prolonged glaciation because that is where glaciers persisted longest. I would regard it as typical of Coast range glaciers. It supplies the clue to the over-deepening which produces lakes so commonly at high levels in the range, and, as the relief of the Coast range rather obviously led to Pleistocene glaciation being of the valley type more dominantly than of the continental type, it likewise gives the key to similar over-deepening of the upper parts of fiords.

While the over-deepening of fiords seems remarkable when stated in terms of vertical depth—Carter instances 950 feet in two miles in Jervis inlet (*C.A.J.*, 1932, p. 150, “Vertical Extremes on the Coast of British Columbia”) yet in proportion to the length of the basins it is no more than in the high cirques which have a rock “thresh-hold” clearly attributable to glacial erosion.

Carter draws attention to fiords being much deeper than Georgia strait into which they open. In support of their glacial origin it ought to be considered, however, that the shoaling occurs in definite relation to where the lessening height of the mountain flanks allowed the ice to widen and lose its erosive power—5000 feet of ice would exert an erosive power of 130 tons per square foot, but these valley glaciers had from 1000 to 2000 feet more ice below present sea level.

Nearly all the glacial debris must have been carried out into Georgia strait. When recession set in, these long glaciers, having no gradient, must have almost stagnated while they melted away; finally the sea invaded these channels. The view still lingers that this is a “drowned” coast, although there is proof of Post-Glacial uplift of the whole coast of British Columbia since melting of the ice-sheet. Davis thinks “it savors of extreme conservatism any longer to deny the efficacy of glacial erosion” to produce rock-basin excavation below base level (*W. M. Davis, Scottish Geog. Mag.*, Feb. 1906).

Continental ice from the interior of British Columbia found its way to the sea through all important Coast range valleys, and innumerable U-shaped “through” valleys record where ice crossed divides between valleys. Thus at different elevations the ice sometimes moved in different directions to that at lower levels.

The Homathko valley was an important outlet for the ice-sheet. Opposite Mt. Waddington the Homathko and Klinaklini valleys represent vertical extremes of over 12,000 feet. In 1933 the Dalgleish-Carter party up Toba river noted a little-known U-shaped valley below timber line connecting with the Lillooet river region—in 1909 a prospector crossed the range by this route. Their photographs of the big glacier up a northern branch of Toba river suggest that its advance and recession conform with those of the Mt. Waddington district.

Mr. F. Napier Denison, superintendent of the Dominion Meteorological Service, British Columbia Division, informs me that in plotting the annual mean temperature curves for the coast, Vancouver among other stations shows a secular rise of three degrees from 1909 to 1934.

In 1849 the *Albion*, commanded by Capt. William Brothie of Victoria, made two trips to Knight inlet for ice for San Francisco. The belief now is that a small glacier then existed practically at sea level at “Glacier Bay” where avalanche snow often still nearly outlasts the summer.

If persistent shrinkage of Franklin glacier has robbed the surface of much of its chaotic grandeur, it has at least greatly smoothed the path of the mountain traveller. In 1934 only a few séracs remained to mark the first somewhat formidable ice-fall which in 1927 ruptured the whole width of the glacier about a mile from the forefoot.

Scimitar glacier, however, showed no evidence of extensive shrinkage. Altogether, it is of surpassing interest to the glacial student. About a hundred yards in front of the snout a push moraine about forty feet high had two or three dead trees at the foot of its steep front, evidence of a comparatively recent advance.

Where the unusually small right lateral moraine defines the furthest recent advance, there towers a rock nearly a hundred feet high and propped giddily on a somewhat pointed end; several lesser, but still huge, rocks had been thrust along ahead of it. All abutting angles were greatly fractured by pressure.

The striking feature of the glacier is the broad bands of moraine which wind down nearly its whole length, one appearing at the base of Waddington. For several miles above the snout tiny willows, grass and several species of flowers in bloom dotted the most central moraine.

In 1928 from Fury Gap we were much impressed by three long tapering hills of moraine-like material on Scimitar glacier. The longest, half a mile in length, seemed attributable to a landslide from Mt. Waddington. The other two originated somewhere in the cirque at the head of Radiant glacier. Several smaller hillocks marked other rock-falls.

We termed one exceptional moraine a “new” one—its first issuance to the surface was obscured by the big landslide, but it ended about two and a half miles from the glacier tongue in a quite definite “snout” amid fairly clear ice. This fact suggested some sudden erosional change such as exposure of a new zone of weakness in the rocks or breaking down of an inter-glacial barrier. Above Fury Gap parts of Franklin watershed are being captured by Scimitar glacier.

An appearance of much shrinkage of the ice is presented by the inner face of the right lateral moraine opposite the mouth of Pocket valley; here the glacier is flanked by a lofty moraine with well-established vegetation on its outer scarp. But this great ridge is derived almost wholly from a small glacier which quite recently ceased to be confluent with Radiant glacier. The moraine rests on glaciated slabs and a stream is cutting it away rapidly.

“The protective influence of debris in retarding recession is well known.” (Observations on the Toby Glacier, Purcell Range, A. A. McCoubrey, p. 162, *C.A.J.*, 1932). Still greater protection promotes advance, and this may have occurred to some degree. The loftiest peaks show glacial erosion at its most vigorous stage, with headwalls of cirques worn to pinnacles and thin ridges.

Southward from Pocket valley the marginal moraine of Scimitar glacier has increased too rapidly for any vegetation to win foothold. Willows and a few cottonwoods on the outer face at Pocket valley have risked destruction by debris pushed over the crest. At this time the ice stood only a few feet below the crest of the moraine in most places. Recession had not definitely set in this far from the snout.

Dorothy glacier, flowing toward Klinaklini canyon from Mt. Bell is heavily moraine-covered along the lower reaches. Distant views suggested that its recent terminal moraines ended sharply against mature forest, and that recession had been slow.

Coast range glaciers in general are in retreat.

A map of the Mt. Waddington area faces p. 52, *C.A.J.*, 1933; typical glaciation of the region is shown in various illustrations with articles in *C.A.J.*, from 1926 to 1933 inclusive, by Henry S. Hall, Jr., Ferris Neave and myself.

## CHECK-LIST OF THE MAMMALS AND SUMMER BIRDS OF YOHO PARK

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BY TITUS ULKE, PH.D.

The increasing demand for accurate information regarding the names of the various mammals and birds observed by alpinists and student tourists visiting our Canadian Rockies seems sufficient reason for the publication of the following two check-lists.

These lists, though checked from the personal observations of Supt. E. N. Russell and the warden staff, are not claimed to be exhaustive, but they do represent our approximate present knowledge of the names and abundance of the principal mammals and summer birds of the region studied. With their help one may draw conclusions as to the probability of any specimen seen being one named in the respective list.

Further intensive study may, of course, reveal the presence of some unobtrusive or rare species not catalogued at present as occurring in the Park.

The writer published a preliminary list of the 32 definitely known mammals of Yoho Park in the April (1923) number of *The Canadian Field Naturalist* (Vol. xxxvii 4). The present augmented list, kindly checked by A. H. Howell, of the U. S. National Museum, embraces 40 species, exclusive of at least 7, and possibly 10, other species not unlikely to be found in the Park.

### MAMMALS:

- 1 Mountain Goat (*Oreamnos montanus*). Numerous.
- 2 American Moose (*Alces americanus*). Numerous.
- 3 American Elk or Wapiti (*Cervus canadensis*). Occasional.
- 4 Woodland Cariboo (*Rangifer montanus*). Last seen in 1914.
- 5 Mule Deer (*Odocoileus hemionus*). Fairly numerous.
- 6 Northern Whitetail Deer (*Odocoileus virginianus macrourus*). Not plentiful, but increasing in numbers.
- 7 Richardson Pine Squirrel (*Sciurus hudsonicus richardsoni*). Numerous.
- 8 Northern Flying Squirrel (*Glaucomys sabrinus latipes*). Rather numerous.
- 9 Transient Northern Flying Squirrel (*Glaucomys sabrinus bullatus*). Very rare; one specimen was obtained by the writer and is now in the U. S. National Museum.
- 10 Yellow bellied Chipmunk (*Eutamias amoenus luteiventris*). Not rare near timber line. Note: The Forest Chipmunk and Little Mountain Chipmunk may also occur.
- 11 Mantled Ground Squirrel (*Gallospermophilus lateralis tescorum*). Generally distributed, but not common.
- 12 Columbian Ground Squirrel (*Citellus columbianus*). Numerous.
- 13 Hoary Marmot or Whistler (*Marmota caligata*). Common. Note: The Yellow-footed Marmot may also occur.
- 14 White-footed Mouse (*Peromyscus maniculatus borealis* ?). Apparently rare.
- 15 Bushy-tailed Wood Rat or Pack Rat (*Neotoma cinerea*). Not uncommon.
- 16 Chapman's Lemming Mouse (*Synaptomys borealis chapmani*). Its type locality is Glacier, in the Selkirk range, but it probably also occurs in Yoho Park.
- 17 Meadow Mouse (*Microtus sp.*). Fairly numerous. Several other species of true mice are regarded

No. 1



No. 2



No. 3



No. 4



No. 5



No. 6



Nos. (1) And (2) Hoary Marmot Or Whistler. *Photo D.J. Mcgeary*  
No. (3) Little Chief Hare Or Pika. No. (4) Red Squirrel. *Photo D.J. Mcgeary*  
Nos. (5) And (6) Parry Marmot Or Mountain Gopher. *Photo D.J. Mcgeary*

as likely to occur.

- 18 House Mouse (*Mus musculus*). Numerous about barns.
- 19 Rocky Mountain Jumping Mouse (*Zapus tenellus f*). Apparently rare.
- 20 Rocky Mountain Muskrat (*Ondatra zibethica osoyoensis*). Very rare.
- 21 Beaver (*Castor canadensis*). Not common, but increasing in numbers.
- 22 Yellow-haired Porcupine (*Erethizon epixanthum*). Abundant.
- 23 Pika or Rock Rabbit (*Ochotona princeps*). Frequent.
- 24 Snowshoe Rabbit (*Lepus americanus*). Plentiful.
- 25 Mountain Lion (*Pells concolor hipolestes*). Occasional.
- 26 Canada Lynx (*Lynx canadensis*). Not uncommon.
- 27 Prairie Wolf or Coyote (*Canis lestes ?*). Both the big northern brown coyote and the smaller lighter-colored kind are found, but are kept down as much as possible by the game wardens.
- 28 Western Timber or Grey Wolf (*Canis occidentalis*). Found further north and west and very rarely ranges into the Park.
- 29 Alaskan Spruce Red Fox (*Vulpes alascensis abietorum*). As its known range is in the interior of British Columbia, it should also occur in the Park, though not, as yet, actually seen.
- 30 Otter (*Lutra canadensis*). Formerly trapped in Yoho Park, but not seen recently.
- 31 Mink (*Mustela vison*). Not common.
- 32 Least Weasel (*Mustela sp.*). Occasional.
- 33 Long-tailed Weasel (*Mustela longicauda*). Not plentiful.
- 34 Western Canadian Skunk (*Mephitis hudsonica*). Very rare.
- 35 Marten or Sable (*Maries americana*). Fairly numerous.
- 36 Wolverine (*Gulo luscus*). Not common.
- 37 Black and Cinnamon Bear (*Euarctos americanus*). Abundant and increasing.
- 38 Grizzly Bear or Silver Tip (*Ursus horribilis*). Occasional.
- 39 Water Shrew (*Sorex balustris navigator*). Apparently not common. Note: The Dusky Shrew and the Masked Shrew may also occur,
- 40 Little Brown Bat (*Myotis lucifugus alascensis*). Very rare, apparently. Note: The Silver-haired and the Hoary Bat have been obtained in the Rocky Mountains Park, but not, as yet, in Yoho Park.

#### SUMMER BIRDS:

In The Canadian Field Naturalist, March, 1923, Vol. xxxvii 3, the writer published a list of 45 species of birds observed by him in July-August of 1922. My present revised and augmented list numbers the following 64 species, not counting about 24 others, including 8 kinds of ducks, which may be looked for in and about the lakes and rivers of Yoho Park during the spring, fall or winter season.

- 1 Western Grebe (*Aechmophorus occidentalis*). Very rare.
- 2 Herring Gull (*Larus argenlatus*). Very rare.
- 3 Red-breasted Merganser (*Mergus serrator*). Rare.
- 4 Western Harlequin Duck (*Histrionicus histrionicus pacificus*). Not common.
- 5 Great Blue Heron (*Ardea herodias*). One only.
- 6 Spotted Sandpiper (*Actitis macularia*). Rare.
- 7 Killdeer (*Oxyechus vocifems*). Uncommon.

- 8 Richardson's Grouse (*Dendragapus obscurus richardsoni*). Fairly common.
- 9 Southern White-tailed Ptarmigan (*Lagopus leucurus altipetens*). Common.
- 10 Willow Ptarmigan (*Lagopus lagopus*). Very rare.
- 11 Franklin Grouse (*Canackites Franklini*). Common.
- 12 Western Mourning Dove (*Zenaidura macroura marginella*). Very rare.
- 13 Peregrine Falcon or Duck liawk (*Falco peregrinus anatum*). Common.
- 14 Pigeon Hawk (*Falco columbarius*). Rare.
- 15 Northern Bald Eagle (*Haliaeetus leucocephalus*). Very rare.
- 16 Short-eared Owl (*Asia flammeus*). Occasional.
- 17 Belted Kingfisher (*Megaceryle alcyon*). Occasional.
- 18 Northern Pileated Woodpecker (*Phlaeotomus pileatus*).
- 19 Red-shafted Flicker (*Colaptes cafer collaris*). Occasional
- 20 Poor Will (*Phalaenoptilus nuttalli*). Rare.
- 21 Rufous Hummingbird (*Selasphorus rufus*). Fairly common.
- 22 Trail's Flycatcher (*Empidonax trailli*). Few.
- 23 Olive-sided Flycatcher (*Nuttallornis mesoleucus*).
- 24 Western Wood Pewee (*Myiochanes richardsoni*). Occasional.
- 25 Black-headed Jay (*Cyanocitta stelleri annectens*). Few.
- 26 Rocky Mountain Jay or Camp Robber (*Perisoreus canadensis*). Common.
- 27 Raven (*Corvus corax sinuatus*).
- 28 Western Crow (*Corvus brachyrhynchos hesperis*). Common.
- 29 Clarke Nutcracker (*Nucifraga columbiana*). Fairly common.
- 30 Cowbird (*Molothrus ater*). Fairly common.
- 31 Redwing (*Agelaius phoeniceus* subsp. 1). Rare.
- 32 Rocky Mountain Pine Grosbeak (*Pinicola enudeatar montana*). Common.
- 33 White-winged Crossbill (*Loxia leucoptera*). Very rare.
- 34 Gray-crowned Leucosticte (*Leucosticte tephrocotis*). Not rare.
- 35 Western Goldfinch (*Spinus psaltria*). Common.
- 36 Pine Siskin (*Spinus pinus*). Rare.
- 37 Tree Sparrow (*Spizella monticola*). Rare.
- 38 Western Chipping Sparrow (*Spizella passerina arizonae*). Rare.
- 39 White-crowned Sparrow (*Zonotrichia leucophrys*). Rare.
- 40 Junco or Snow Bird (*Junco oreganus* prob. *montanus*). Common.
- 41 Robson Song Sparrow (*Melospiza melodia inexpectata*). Rare.
- 42 Tree Swallow (*Iridoprocne bicolor*). Fairly common.
- 43 Violet-green Swallow (*Tachycineta thalassina*).
- 44 Bohemian Waxwing (*Bombycilia garrula*). Fairly common.
- 45 Western Warbling Vireo (*Vireo gilvus swainsoni*). Rare.
- 46 Yellow Warbler (*Dendroica aestiva*).
- 47 Pileolated Warbler (*Wilsonia pusilla pileolata*). Rare.
- 48 Audubon's Warbler (*Dendroica auduboni*).
- 49 Townsend's Warbler (*Dendroica townsendi*). One specimen only.
- 50 Western Yellow-throat (*Geothlypio trichas occidentalis*). Rare.
- 51 Pipit (*Anthus spinoletta rubescens*). Rare.
- 52 Water Ouzel (*Cinclus mexicanus unicolor*). Common.



- 53 Catbird (*Dumetella carolinensis*). Rare.
- 54 Western Winter Wren (*Nannus hiemalis pacificus*). Common.
- 55 Red-breasted Nuthatch (*Sitta canadensis*). Occasional.
- 56 Grinnell's Chickadee (*Penthestes gambeli grinetti*). Common.
- 57 Ruby-crowned Kinglet (*Corthylio calendula*). Rare.
- 58 Golden-crowned Kinglet (*Regulus satrapa*). Occasional.
- 59 Townsend's Solitaire (*Myadestes townsendi*). Rare.
- 60 Willow Thrush (*Hylocichla fuscescens salicicola*). Rare.
- 61 Audubon Hermit Thrush (*Hylocichla guttata auduboni*). Rare.
- 62 Western Robin (*Turdus migratorius propinquus*). Common.
- 63 Southern Varied Thrush (*Ixoreus naevius*). Rare.
- 64 Mountain Bluebird (*Sialia currucoides*). Common.

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In 1927 in the vicinity of Wapta lake No. 39 (White-crowned sparrow) appeared to be fairly common. No. 6 (Spotted Sandpiper) listed as rare, was found nesting at the same lake as was No. 31.

The thrushes (Nos. 60, 61 and 63) are all listed as rare. One of them (probably No. 60) appears to be fairly common within the Editor's experience. —Editor.

## FOOD FOR THOUGHT AND THOUGHT FOR FOOD

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### *Physiological Consideration of Mountain Food*

BY PAUL E. SPANGLUR, M.D.<sup>1</sup>

This paper is inspired by the wide variety and sometimes amusing and often inappropriate commissaries one encounters in mountaineering experiences. A large number of experienced mountain climbers have, as a result of experience, come to know that the sugars are the most appropriate foods for their mountaineering effort.

Mountaineering as we practice it in the Pacific Northwest is somewhat peculiar in that the climb is usually made in the course of a single day. Elsewhere, of course, the approach to the mountain may require several days, but the final assault of the mountain, at least in this country, is largely accomplished during the course of a single day. Thus our food requirements in this country are possibly different from those of more formidable climbs where several days may be required for an ascent. Our problem is to assault the mountain with a generous supply of stored energy, and to carry as little and as concentrated a supply of quickly available food as possible to replace adequately the energy lost through muscular effort.

Our body activity is made possible by the combustion of glycogen, which is stored in the tissues of the body and more especially in the muscles and the liver. The combustion of this glycogen in the presence of oxygen (carried to the muscle by the blood) produces lactic acid, carbon dioxide and water. These waste products are carried away by the blood, and eliminated by the lungs and kidneys. Every muscular effort is made possible only by the burning of part of its stored contents of glycogen. Repeated contraction of any muscle may use up the stored glycogen, and elimination of waste products may lag so that lactic acid accumulates in the tissues and this is the condition we all recognize as fatigue. Fatigue is but an expression of a depletion of the supply of stored glycogen of the body and the accumulation of lactic acid in the muscles due to the rapid use of this glycogen. Fatigue may be overcome by replenishing the supply of glycogen and giving the elimination time to catch up. How do these facts effect our choice of foods?

In the first place before starting on a mountain climb we must be sure that our muscles and liver have stored the maximum amount of glycogen. To accomplish this I think for the few days preceding the climb a well-balanced diet of simple foods with plenty of water is advisable. This diet should include approximately a gram and a half of protein per kilogram of body weight. The balance of the diet should be made up largely of carbohydrates, (i.e. fruits, vegetables, cereals, sugar, etc.) with whatever fats in the way of butter, cream, and the fat of meats, etc. is desired. Fat and greasy foods, fried foods, highly seasoned and spiced foods should be avoided as these are harder to handle; and every effort must be made to see that the digestive tract is not upset or overburdened during the preparation for the climb. For the last meal just prior to the climb my recommendation is for a large, well-balanced, easily digestible meal containing a large quantity of carbohydrates. This meal should be concluded at least four hours before the actual start of the ascent and if possible the intervening time should be spent in rest, allowing one's entire energy to be directed towards the digestion and assimilation of the meal.

The question arises, what are the effects of training for a mountain climb? This again involves the same principle of glycogen storage and metabolism, in other words the period of

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<sup>1</sup> Mazamas, Portland, Oregon.

active training does what we call develop and strengthen the muscles. This is in actuality nothing more than the training of the individual muscle cells singly and collectively to the more efficient storage and metabolism i.e. combustion of this glycogen. In other words the repeated demands on the muscles for the expenditure of energy actually result in increasing the capacity of that muscle for the storage of glycogen and the more efficient combustion thereof i.e. the muscles store more glycogen and the blood supply to and from the muscles is increased and as a consequence the carrying off of waste products goes on at a more rapid rate than it does in untrained muscles. This we recognize as getting in condition.

It will be noted in the above that a well-balanced diet containing carbohydrates, proteins and fats has been recommended for the period just preceding the mountain climb. The physiological food requirements on the mountain however are two, and only two: water and carbohydrates. There is no necessity for fats or proteins during a mountain climb. To be sure the fats and the proteins of the body will be broken down to a certain extent as a result of muscular effort connected with a climb, however, there is no necessity that these elements be replenished during the climb; but the loss of glycogen must be replenished in order for muscular effort to continue. Furthermore, the digestion of food requires an energy output just as truly as the actual climbing of the mountain. So the less digesting one asks his machine to do, the more energy he will have left for climbing. Now, fats and proteins will replace the depleted glycogen stores, but the energy requirement to accomplish this is much greater than that required in the digestion and assimilation of carbohydrate foods (i.e. sugar, cereals, vegetables, fruits, etc.). And of all the carbohydrates, the sugars are handled with the least expenditure of energy, and replace glycogen quickest of all foods.

All carbohydrates in the process of digestion are broken down into glucose before being absorbed from the intestinal tract. After glucose is absorbed into the blood stream it is carried to the various organs capable of energy storage where it is converted into glycogen and used or stored. Ordinary commercial glucose requires no digestion. After it is taken into the intestinal tract it is immediately absorbed as such, converted into glycogen and at once available for use or storage. The next easiest sugars to digest are the di-saccharides, of which the cheapest and most universally available source is ordinary cane sugar. This represents two molecules of glucose bound together. Its digestion therefore, requires only one very simple step (i.e. where it is converted into the mono-saccharide glucose), which is accomplished with very little expenditure of energy. So my number one recommendation for mountain food is plain lump sugar, carried in the pocket and consumed in the course of the climb, as the legs begin to drag, and the “all in” feeling creeps up on you. This simple expedient will do more to pep you up than any other single measure I am acquainted with.

Now I realize that lump sugar is not very tasty, and while nothing will do the required work better, some people will want a more palatable supply of sugar. For these I would say, “let your taste be your guide.” Fruit juices, fruit lozenges, hoarhound drops, life-savers, etc., all are good. I do not believe any food except the sugars, should be taken coincidentally with the muscular effort of climbing. None other is necessary. During a rest period, some more substantial, though easily digestible carbohydrate foods are permissible, and for the sake of variety and the “joy of eating” some leeway may be allowed, on the mountain after the maximum expenditure of energy, in the way of some of the protein and fat foods. Even then, however, it would be advisable to enjoy a definite rest period after the ingestion of these types of food which require more energy in their digestion. However, for a maximum efficiency on the climb I would eliminate all proteins and fats, and confine myself to carbohydrates, and these largely confined to simple sugars.

Probably he who takes nothing but the simple sugars and sparingly of water on the mountain will complete his climb in better condition than he who caters indiscriminately to the pangs of hunger.

## IN MEMORIAM

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HENRY BALDWIN DE VILLIERS SCHWAB

1887-1935

Shortly after completing his term as president of the American Alpine Club in January 1935, Henry B. de Villiers Schwab died at his home in Merrick, Long Island. He was only forty-eight years of age and the suddenness of his passing came as a shock to a wide circle of friends. His interest in climbing dated from schooldays in Switzerland. He returned often in succeeding years and the greater part of his mountaineering work was accomplished there (1903-1912 and 1920). He thus had the advantage of learning sound technique under the tutelage of competent Swiss guides. He was elected to the Alpine Club (London) in 1921.

But his interest extended beyond the Alps, and in 1922-3, in association with Henry S. Hall, Jr., and the late Allen Carpé, he organized the Mt. Clemenceau expeditions which resulted in the conquest of this majestic peak, southwest of Fortress lake. (C.A.J., Vol. xiii, pp. 79-92 and Vol. xiv, pp. 18-33). During a journey between Banff and Jasper in 1924 he made an attempt on Mt. Columbia but was frustrated by adverse conditions. He became a member of the Alpine Club of Canada in 1923.

His love of mountains was sincere and deep. To the cause of mountaineering he rendered devoted service, first by organizing an informal "Association of American Members of the Alpine Club" which flourished under his guidance as secretary for seven years; and second, by officiating as Secretary of the American Alpine Club (1926-1929), as councillor (1929-1932) and as president (1932-1935). He also did a great deal by lecturing with lantern slides to influence young college men to become climbers and by aiding in the formation of undergraduate clubs.

Graduating from Harvard in 1908, the next two years were spent in business in Germany, whence he returned to enter the wool department of Oelrichs and Co. in New York city. There he rose to a partnership in 1917. After attending the Plattsburg Training Camp in 1916, he enlisted in the New York State National Guard as a private, being mustered out as Captain in the 9th C.D.C. at the end of the war.

He possessed a winning and affable personality and a talent for organization and thoroughness in whatever he undertook. He was a conservative and able mountaineer. His delightful hospitality at his home in Merrick will long be remembered by friends who were privileged to visit there.

—H.P.



H.B. De Villiers Schwab.  
*Photo Courtesy Am. A.J.*

HENRY BUCKNALL MITCHELL

1857—1935

Mr. Henry B. Mitchell, a life member of the Alpine Club of Canada since 1911, and brother of our Honorary Secretary, S. H. Mitchell, died on September 25, 1935, in London. He had been lying gravely ill for a year without recovering consciousness, after being knocked down by a taxi while taking his usual evening walk. His many friends in Canada received the news of that accident and of the long, lingering death with very sincere regret.

Mr. Mitchell was born in Glasgow, December 26, 1857, and spent his early boyhood there. Indeed, a singularly long life of physical casualties began then, when he broke his leg, an accident of interest, as the successful setting of the bones was by a surgeon who became the famous Sir Joseph Lister. Some years ago, physicians in Winnipeg were interested to meet a patient of the great Lister, at a medical meeting. When his father died, the family removed to England, and Henry was sent to Uppingham, a noted school where he was educated under the famous Headmaster, Edward Thring, who had a keen understanding of and sympathy with boy nature. Mr. Mitchell sometimes spoke of Thring's firm management and of the school's respect for him.

On leaving school, Henry went to Spain and Algeria in the interests of business, but a severe attack of malaria drove him home, and he was advised to go and live in Canada. Coming out to a friend in Montreal, the boom of business in Winnipeg called him west. He was in the cricket eleven of those days which toured in Eastern Canada and in the United States, always victorious. With a cousin, Mr. Mitchell conducted a saw mill and flour mill at Shellmouth, Manitoba, which they moved to Millwood. In 1904 he sold the flour mill and moved the lumber mill to Selkirk.

It was in Selkirk that the accident occurred which cost him his right arm. Shooting a partridge, the gun exploded and fragments of the barrel went into the arm. A long illness followed with operation after operation until finally he went to England for the concluding and successful one.

Returning to Canada, Mr. Mitchell went to the Klondike but with no great success. After the Klondike he was for a good many years on the staff of the Canada Permanent Trust Company and travelled throughout the country valuing farms. His last few years in Winnipeg were with the Royal Trust Company, but he retired in 1932 and, with his younger daughter Barbara, went to live in England. The elder daughter, Dorothy, is an Anglican Missionary in Peiping. Both are members of our Alpine Club. There were two sons; the elder died while a student at St. John's, and the younger, a Captain and M.C. with bar, died of wounds at Cambrai in 1918. He had enlisted as a lad of eighteen. Mrs. Mitchell, a daughter of Larratt Smith, LL.B., Toronto, died in England in the last year of the War.

Mr. Mitchell was a Vice-President of the Alpine Club of Canada, 1920-22. With one arm, he could not do any very serious climbing, but he had an extraordinarily good sense of balance and managed more than one would imagine. He made some interesting climbs with A. L. Mumm, among them a traverse of the west ridge of Asulkan glacier between Mts. Leda and Rampart. But resolute blood ran in his veins. His paternal grandfather, once a Bailie of Glasgow, travelled at the great age of ninety, to Jerusalem, before there was a railway in Palestine.

Mr. Mitchell was a familiar figure on the streets of Winnipeg, walking briskly with a bag of books under his arm, which he would be carrying from the public library to take on his travels while valuing farms. In badly equipped hotels, he could go early to bed and read when the mercury fell below zero; and in bedside books of his choosing, he accomplished considerable profitable reading. He was keenly interested in all the wider movements of the world and never lost touch with national and international affairs. So voracious a reader and bookman was interested in most



Henry Bucknall Mitchell

realms of knowledge. His own library, constantly growing, was well chosen. His familiar friends and casual associates were of intellectual kinship whether of agreement in all opinions or no. But they were compatible in temperament and in mutual interest. Mr. Mitchell was outspoken to the point of bluntness, often with an engaging smile. He was a famous walker, never at an ambling pace but his sturdy legs would fairly swallow the ground. Upright and lovable, he has left none but pleasant memories.

—E.P.

When Mr. H. B. Mitchell joined the Alpine Club of Canada in 1911, the Club acquired a keen and loyal supporter. One of those quiet, strong men who do things, his ready wit and outstanding unselfishness soon won for him a deep affection in the hearts of all with whom he came in contact. At the camps it was his aim to look out for and help those who were new to the game, and to make them at home and happy. It was this trait of his character that made him so greatly liked.

Notwithstanding the fact that one arm was crippled, he was a good mountain climber and his level-headed judgment in an emergency had been proved. It is only within the past few months that a testimony of his efficiency was brought to the notice of the writer. He was returning with a party from the ascent of Mt. Temple from the Larch valley Camp in 1923, when a sudden electric snow-storm swept the heights and vision became obscured. A lady member of the party, one who has an outstanding record in the Club, declared to me that Mr. Mitchell's presence of mind and resourcefulness on this occasion, did much to prevent a catastrophe.

In life a strong imperialist and absolutely loyal to the traditions of his native land, he was likewise loyal to the aims and traditions of the Club. He looked upon it as an important national asset, representing our great mountain heritage in other alpine circles, and not merely a mountain climbing school, operating through its annual camps. His constructive idealism went far beyond that.

A keen lover of Nature and its outstanding representation in the mountain wilderness, the "Call of the Wild" was strong within him. Although circumstances of his later years had separated him from the activities he loved so well, he had not ceased to keep up his interest and membership. His name and personality will long remain in our memories as one of our best loved comrades of the Great Hills.

—A.O.W.

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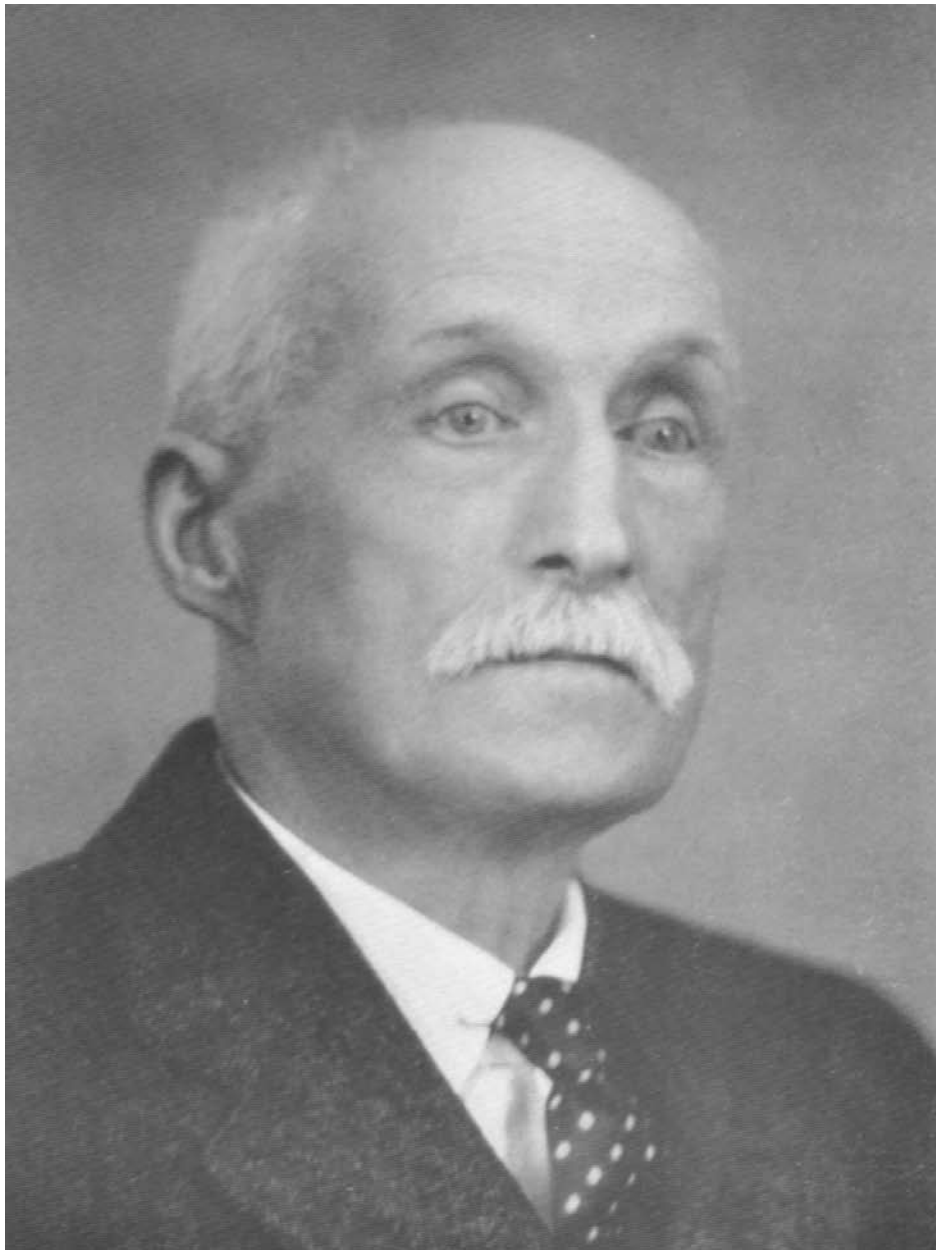
## FREDERICK WILLIAM GODSAL

1853—1935

From the Governor-Generalship of Lord Tweedsmuir to that of the Marquess of Lorne seems a voyage to another world. Into that Canadian World came F. W. Godsal. As a boy at Eton he had been one of the delegation to offer the school's wedding present to the Princess Louise and in 1882 he came to Ottawa as guest of the new rulers at Rideau Hall. Born September 6, 1853, he was the son of the late Phillip William Godsal of Iscoyd Park in Shropshire. He was educated at Eton, Christ Church and Oxford, where he was a distinguished rowing man.

Later, he tried coffee planting in Ceylon, but coffee was coming to its end in that country, and Canada opened its doors. It was the Marquess of Lorne who persuaded him to venture to the western foothills, which seemed to him a wonderful cattle country. On his return from his western journey, he was entertained at luncheon by the Manitoba Club of Winnipeg and told the members how greatly he had been struck by the mountain country, and that an Alpine Club should be formed. Probably few know that the Marquess of Lorne was the first to suggest the creation of an Alpine Club of Canada.





Frederick William Godsal

The Canadian Pacific Railway was not yet in being in the west and travel had to be made through the United States to Fort Benton and thence on horseback into the country that is now the Province of Alberta. Godsall stayed at Fort Macleod, where his lifelong friendship with Colonel Macleod and his family began, and took up land between the middle and south forks of the Old Man river, to which he gave the name of Cowley. He well remembered the first appearance of a lawyer in the western country, whom, on preferring some purely technical plea for his client, Colonel Macleod sternly rebuked: "Mr. . . . we are here for justice, not for law." In those days there was little cash in the country: what there was came from the United States. Canadian currency only came into use on the arrival of the railway.

As the country became more settled, Godsall acquired a 20,000-acre lease in the Pincher Creek district, fenced in 4000 acres and began to improve his stock. In 1883, he was largely instrumental in forming a stock association to guard the interests of the ranchers, which later became the Western Stock Association. He also introduced the Australian fence, now in general use. He was a Life member of the Canadian Forestry Association. "Russian poplars were among the trees I grew at my ranch in Alberta, but have our experimental farms introduced elms from Turkestan, where conditions are similar to the dry portions of our prairies? I grew elms from the Experimental Farm, but not Turkestan ones, I think," writes Mr. Godsall to the Forestry Magazine. He elsewhere writes: "Every tree and shrub was planted by my own hands." And again: "Professor Macoun (late Dominion Naturalist and Botanist) used to be one of my guests at the ranch in early days. Oh, how much suffering and loss would have been spared since, if attention had been given to his statement to me, that the small sage growing among the bunch grass on our prairies indicated that we were in the arid belt. 'It will only grow in an arid climate,' said Professor Macoun."

Some twenty years ago, he disposed of his holdings to the Doukhobor Colony and retired to Victoria, where he made his home. He often paid visits to the prairie and mountain country to see old friends and breathe the bracing air. He was an ardent lover of travel. When visiting New Zealand he made great friends with Sir James Hector, who was on his way to visit him at Cowley when recalled by the illness of his son.

He joined the Alpine Club of Canada in 1909 at its Annual Camp, held at Lake O'Hara, and always regretted he had not been an original member. He was a keen climber and a great lover of the mountains in all their aspects. One climb he liked to recall<sup>1</sup> from the Vermilion Pass Camp, in 1912, he set out to climb what is now known as Mt. Stanley (Mitchell), with J. D. Patterson, S. H. Mitchell and Godfried Feuz as guide. There was no difficulty and the party decided to traverse the mountain, returning by a long, rocky arête that looked interesting. Interesting it was. The rock was terribly rotten. Progress was necessarily of the slowest, and the glacier at the end was only reached in sufficient daylight to cross it in safety. Off the glacier the darkness was complete, the country was quite unknown and the party must stay where it was until dawn. Food had all been consumed, but there was plenty of water; far above tree line, there was no chance of a fire, but in summer dawn comes early in the mountains.

Godsall was particularly interested in the mountain areas of the Livingstone and High Rock ranges in Southern Alberta, in which he had frequently made explorations.

Crowsnest mountain and pass held his special interest, and he was acquainted with and would relate on request the local, but erroneous, tradition that was supposed to apply to the mountain.<sup>2</sup> James White, F.R.S.C., in his "Place names in the Southern Rockies" says: Crowsnest "does not commemorate the slaughter of Crow Indians by the Blackfeet when they got them in a

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1 See Vol. VII, p. 117.

2 See Vol. XII, p. 184.

corner or ‘nest,’ as set forth in local traditions, but merely the nesting of crows near the base of the peak. Name first appeared on the Palliser expedition map. In a map accompanying Palliser’s preliminary report (June 1859), it is named Lodge des Corbeaux.”

He had a most kind heart and it was told that in his younger bachelor days he used to give delightful children’s parties and in his later days was most unselfish in visiting and cheering up his sick friends. For many years he was a strict vegetarian, and attributed his excellent health to that rule of life and to the regular exercise he took in walking, an exercise for which he had a very great liking and continued almost to the end. He was a staunch churchman and enthusiastic about the British Israel movement. His ideals were high and he strove to carry them out. He will be greatly missed in the Annual Camps of the Club, of which he had so many happy memories.

He passed away peacefully at his home in Victoria on Sunday, October 13, 1935. The Club extends its sympathy to his widow, living in Victoria, and to his surviving brother, Major William C. Godsall of Haines Hall, Berkshire, England.

—S.H.M.—A.O.W.

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### ROBERT ALEXANDER GRAY

Robert Alexander Gray was one of those to whom in middle life the mountains first make an appeal. A mathematician of some distinction and a successful principal of one of the largest secondary schools in Ontario, he was a man who combined precision of thought with firmness of character. Yet there was a strain of romance in him, perhaps inherited through his Scots origin. In the words of the Psalter he could say, “Unto the hills around do I lift up my longing eyes.” Twenty-five years ago, thanks to the special arrangement which the Club then was able to make with the railways, Toronto was much nearer Banff than it now is. The Toronto section of the Alpine Club of Canada was a strong one, and its meetings frequent and lively. Mr. Gray became a member in 1912, I think it was, and his first climb was that on Vermilion creek. He graduated on Storm mountain, not by the shale grind which was the official route of unhappy memory, but by the fine ridge facing the railway with much good rock and some snow and just enough of difficulty and danger to give spice to the venture. From this time he took an active part in the Club, particularly in its local activities. He was the type of man—and their name should be legion in the Club—who love the mountains less for the challenge they make to athletic prowess than for the rest and inspiration they bring to the soul.

The last few years of his life were spent in retirement, except for his church and social connections and an honorable trust on the teachers’ Superannuation Commission. He never married. He died in Toronto on December 24, 1935.

—C.B.S.

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### MRS. WARD ESTEY

1908—1935

It is with deep regret that we record the death of Mrs. Ward Estey, the former Merle Rolston, who was accidentally killed with her husband, in Madras, India, on February 24, 1935, five months after marriage in Vancouver, B. C.

Mrs. Estey joined the Vancouver section of the Club in 1934 and was mainly interested in the ski-ing activities. She made many friends during the short time she was with us and is greatly missed by those members who knew her well.

—E.E.C.

ALFRED EDGAR ROOVERS

1911-1934

Alfred Roovers was killed in a fall from the cliff at Arden, N.Y., on Dec. 14, 1934. Thus ended tragically a brief but full climbing career. He was born in Brooklyn, N.Y., on April 2, 1911, and there he lived all his life. At the time of his death, he was just completing his studies at the School of Commerce of New York University. A member of the Adirondack Mountain Club, the American Alpine Club, and the Alpine Club of Canada, he took an enthusiastic interest in the activities of these organizations. He showed marked ability on both snow and rock, and with more experience would surely have developed into an exceptional climber.

Beginning in 1932, he had but three seasons of serious climbing. In this short period, however, he accomplished a large number of first class ascents. These included most of the major climbs around Zermatt, and several in the Oberland, likewise all the best ascents in the Tetons. In 1933 he was a member of Henry S. Hall Jr's. party in the Coast range of British Columbia, when he was one of those who made the first ascent of Mt. Combatant; he had also traversed Mt. Rainier, and had made an attempt on Mt. Robson. In addition he was a frequent visitor in fall and spring to the Adirondacks, where he had climbed most of the principal summits, and walked far over the trails. When at home he spent his week-ends in the country, walking, or going on rock climbing trips with a few fellow-enthusiasts.

It was on such a week-end, though alone, that he met his death. No one who knew him can believe that he fell in attempting alone a difficult climb up a steep face—he was too sane and careful a climber ever to have thought of such a venture. The only explanation is, that he stumbled and fell while walking along the top. Quiet and unassuming, he had a sincerity and unaffectedness of character found only rarely. In the mountains he was an ideal companion—uncomplaining, cheerful, strong and always willing.

—D.B.

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MRS. C. J. B. HADOW

The Vancouver Island section reports with deep regret that Mrs. C. J. B. Hadow passed away in England on the 22nd of October, 1935. Mrs. Hadow was one of our early members and in addition to being a strong supporter of the local section she was one of our keenest and most successful photographers.

Just prior to her departure for England, six months before her death, she made a gift of money to the section, which enabled us to line the inside, paint and complete the Hut.

We were looking forward to her return to Victoria in November and the news of her death on the eve of her return journey leaves us with a sense of great loss. The section will remember Mrs. Hadow with affection and gratitude for her generous contributions to the hut at the Lake of the Seven Hills.

—F.G.P.M.

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GEORGE H. HUTTON

1869-1934

There passed away at his home in Santa Monica on April 16 1934, one who really appreciated and understood the aims and objects of the Alpine Club of Canada. George Hutton was born in

1869, in the village of Strathroy, Ontario, receiving his higher education at Hamlin University, Minnesota, and eventually became judge of the Supreme Court, Los Angeles.

His interest in nature found an outlet in his large ranch in the western United States; also tennis provided recreation.

His life was spent mostly in the United States, but the mountains of Canada ever drew him, and with Mrs. Hutton, he made almost yearly trips to Banff, and would have long continued doing so, but for the intervention of a severe rheumatic trouble which eventually brought about the end.

One of his most engrossing interests was that great water power project—"Boulder Dam", to the building of which, aside from his cares of office, he lent his talents and mature advice.

Perhaps his most outstanding characteristic was his modesty, and the Alpine Club of Canada loses in George Hutton a member, who while not taking an active part in its outdoor life in the Rockies of Canada, nevertheless took a deep interest in the true purposes of the Club.

He lies in the beautiful burial park at Royal Oak, near Victoria, B. C.

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## NEW ASCENTS AND VARIOUS EXPEDITIONS

### SOUTHERN ROCKIES<sup>1</sup>

#### Assiniboine Group

**Mt. Aye** (10,640). First ascent, August 5, 1934. Henry S. Crosby, *Rudolph Aemmer*. See A.A.J., Vol. ii, No. 3, p. 331, 1935.

**Mt. Byng** (9760). First ascent—from Marvel pass. Same party as above. 1934.

#### Ball Group

**Mt. Ball** (10,865). From the head of Haffner creek. August 10, 1935. S. R. Vallance, F. H. Le Couteur, L. Grassi. See *Gazette*, No. 27, May, 1936, p. 7.

#### Lake Louise Group

**Popes Peak** (10,376). First ascent by new route, July, 1926. Dr. Cora J. Best, Mrs. A. F. Shippam, *C. Häsler*. From Plain of Six Glaciers tea house, up the big draw to the black cliff band on left of Popes glacier. There is an 80-ft. crack which narrows to a chimney in the top part. Thence up easterly rock rib to summit of snow ridge—good climbing. Four and a half hours from tea house. This is the most direct route and has been used ever since. —C.H.

**Mt. Allen** (10,830). August, 1935. Miss Lillian Gest, Miss M. Schnellbacher, *C. Häsler*. From Fay hut to col between Nos. 5 and 6, then up east ridge—easy going to summit buttress; then c. 150 feet steep rock wall to summit ridge and top. About six hours. Descent over regular route.

**Glacier Peak** (10,831). August, 1935. Miss Lillian Gest, *C. Häsler*. From Abbot pass hut, down scree slope to glacier. Then up the ice to rock rib left of ice; up rib to end of same; then across ice to right and keeping up. Lots of step-cutting to summit ridge. About four hours from hut. Descent same way. This climb should be made early in the morning as there is danger of rocks falling in the afternoon.

#### Ottertail Group

**Unnamed Peak** (c. 9700) in Ice river valley (Martins valley). First ascent, August, 1935. Mr. Fraser, *Edward Feuz*.

#### Yoho-Waputik Group

**Unnamed Peak** (c. 9500?) at end of Sherbrooke lake valley, behind Mt. Ogden. First ascent, August, 1934. Mr. Fraser, *Edward Feuz*.

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<sup>1</sup> This section of the Journal is designed to present in brief form the new ascents and expeditions of interest each year. On account of the fact that it has not been possible to obtain data in all cases noted, certain omissions occur. The degree of completeness in future issues will depend upon the co-operation of members who are invited to contribute to this feature. Contributions should be sent in as early as possible, and not later than December 1 each year. (Editor).

THE ALPINE CLUB LIBRARY

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Miss E. H. Greer, Librarian

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Voyage de Saussure hors des Alpes; Charles Gos.....	Publishers
A Flora of Yoho Park, British Columbia; Titus Ulke.....	Author
Technik des Bergsteigens; Uto Section, S.A.C.....	Walter Bloch

A new exchange is *Alpina*, the official organ of the Club Alpino Espanol. This is a bright little Journal of forty pages in modernistic dress.

## REVIEWS

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### ROUND MYSTERY MOUNTAIN

by Sir Norman J. Watson and E. B. King, Longmans, Green, Co., Toronto, \$4.50.

This record of the Sir Norman Watson ski expedition in the Coast Range very successfully captures the rare and precious fellowship of trail and camp-fire, and the spirit of adventure which sees men through struggles with the unrelenting wilderness. A great deal of the book is in a light vein, but the informed reader will often smile at serious statements based on only a smattering knowledge of the matter in hand.

Nowhere does it show more than superficial acquaintance with the work of previous expeditions. As an example: it is stated that Don Munday was “often accompanied by his intrepid wife.” The obvious word was “always.” Dual authorship may account for much of this. Certainly, the parts of the expedition in which King took no share are as vaguely presented as might be expected from one dealing with unfamiliar terrain and events known at secondhand.

For the serious reader the book is marred, too, by statements accepted by the authors without much effort at verification, such as, “Bute Inlet ... is, it is said, 9,000 feet deep close to where Mt. Superb (*circa* 8,000 feet) rises steeply beside its shores.” Pete McCormick, their head packer is amusingly and frankly depicted. He and the other packers must have drawn the long bow with shameless joy for the benefit of Watson, King and Beauman. Tracks of a wolf said to be eleven feet long did rouse their doubts, but one knowing the valley wonders if ordinary log jams were convincingly represented as having been built by beavers (which have been trapped practically to extinction there long ago). In any event we are told, “the beavers had left their lodges and gone *fishing* in the lakes.” The italics are the reviewer’s. To the credit of one of the party it is stated that he wished he had learned more elementary natural history instead of wasting time playing bridge.

Many discrepancies exist with regard to heights and distances in text and maps—Franklin glacier is given a length of twenty-three miles in one place and “not far short of 30” in another. A sketch map shows Parallel glacier united to Scimitar glacier although a mile apart.

As the authors fail to present the work of the expedition in a clear relation to that of parties preceding them, some attempt to do this would seem desirable.

In 1931 Henry S. Hall, Jr., invited Sir Norman J. Watson to join him in a short trip to study the northerly approaches to Mt. Waddington which Hall hoped to climb later. Watson’s version of this trip definitely infers they travelled through unmapped, unexplored country in the Coast Range, while Hall (*C.A.J.*, 1932, p. 97) indicates he identified points from a map (doubtless the 1925 Canadian Geological Survey sheet).

Undoubtedly this trip gave Watson the enterprising idea of crossing the range on ski, but the uninformed reader is left with the impression that Watson at this time got all the topographical knowledge needed to plan his expedition. While the book contains acknowledgment in vague, general terms for information from Hall, there is no indication that the ski trip was only made possible by the information acquired by Hall in 1932 and 1933, and the trail he opened below Twist Lake. Altogether, the statement that Hall “forestalled” Watson up Scimitar glacier is not the happiest choice of words.

Within five or six miles of the Interior Plateau the Coast range here attains heights of 9000



feet; from thereon mountains from that height up to 10,000 feet or more flank the Homathko river. However, these were arbitrarily rated as foothills by the ski party, and “the ski traverse of the Coast range” was to begin 60 miles (by their reckoning) down the river.

In Vancouver the leader had expressed confidence that Pete could get horses as far up Scimitar valley as with Hall’s party the previous summer! Probably only the finest winter, followed by the finest spring ever officially recorded in British Columbia, enabled them to get horses to the mouth of the valley. With near-dismay they found that snow made the second growth timber and windfalls impassable for horses and nearly so for men.

They had a heavy outfit. Pluckily they set to work to backpack to a base camp six miles up Scimitar valley. King was the real hero; snatched from sedentary life in London to be transport officer, he became back-packer-in-chief without the ski-mountaineering thrills which compensated Watson, Beauman, and the guide, Camille Couttet.

Crossing of the range had been planned without any member of the party having so much as seen, until they reached Vancouver, a photograph of the one critical link, the northerly face of Fury Gap. Their first sight of it in reality sent them searching for less repellent passes, although those who had already familiarized themselves with the region declared such did not exist.

In this vain search they ascended Parallel glacier nearly to its head. Then incomprehensibly they sought a route by a pass north of Cornelia glacier from Pocket valley. (See map, p. 52, *C.A.J.*, 1933). Next they went part way up Cataract glacier; the text becomes ambiguous and might wrongly suggest they crossed the pass at its head; they mistook the peaks here for Mt. Dentiform and others flanking Tiedemann glacier, not discovering that Tellot glacier intervenes. Incidentally Tellot glacier offers one of the great ski runs of Canada, at least 8000 feet in perhaps no more than eight miles. (But Waddington glacier falls 10,000 feet in 11 miles from Mt. Munday).

The expedition members could depend on Pete and his three men for only limited help in back-packing. Two men had to go back to Tatla lake for more supplies, Pete generally stayed in camp as cook, and one or more men had to go across the river frequently to watch the horses. Of Watson’s companions only Clifford White of Banff, and Couttet were inured to carrying heavy loads. Two spells of unfavorable weather totalled a week. White unfortunately strained a leg and could not cross Fury Gap, the ascent being made by Watson, Beauman and Couttet twenty-five days after reaching the mouth of Scimitar valley about seventeen miles distant.

Illustrations are numerous in the book, but do not bear out the rash conclusion that “The photographs taken by the Mundays during the summer, though magnificent in themselves, naturally did not present a faithful picture of the scene (Mt. Waddington) as we saw it in the spring.” The whole upper Franklin area is so permanently snowy that the ski party’s pictures differ only in minor degrees from summer views, and Waddington can appear more wintry in summer than they saw it.

Sticky snow on upper Franklin glacier made their ski less use than snowshoes, the eight miles to Icefall Point taking about six hours. They carried a week’s food, a tent and a heavy axe, but no sleeping bags. Fear of accident loomed large at all times.

Good ski-ing delighted them next morning on the lower glacier nearly to the snowless valley. Mere sight of the woods convinced Watson they must abandon their ski, but they retained the rope in case “they had to bridge the canyon.” The same unfamiliarity with written records of previous parties led them to toil in the dark up a mountain side at Dutchman Head on the supposition that the trail (which they had rarely found or followed) crossed to the Klinaklini valley instead of going on to Franklin river mouth. They met fir logs “15 to 20 feet in diameter”—“circumference” would be better, but perhaps they felt that big!

“The Waddington *massif* had been traversed, and on ski,” they claimed (p. 237). If a party crossed Mitre pass and called it a traverse of Mt. Lefroy massif, they would invite the query, “Why make such a claim?” Fury Gap is shown in C.A.J., 1928, p. 4. Perhaps for benefit of possible future skiers it should be recorded that Watson’s imagined alternative route down Confederation glacier is not desirable; the intervening divide was explored on ski. (C.A.J., 1932, p. 133). Study of non-stereoscopic aerial photographs of the Franklin region cannot safely be set against actual travel of the terrain.

The authors state they do not remember crossing any bridges during their railway journey across Canada: therefore the bridges must have been very high! Unfortunately this typifies many of their observations and the reader, unfamiliar with the prior explorations of the Hall and Munday parties, might assume that the Watson party had made a substantial contribution to the geographical knowledge of the region, instead of merely giving it wide publicity. The suitability of the district for ski-ing had been proven already by three ski expeditions. It is instructive to compare the Watson party’s methods with those by which well-planned trips of hundreds of miles have been made in the Canadian Rockies by suitably organized and equipped ski parties.

—W.A.D.M.

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## HANDBOOK OF TRAVEL

prepared for Harvard Travellers’ Club, published by Oxford University Press, London, and Harvard University Press, Cambridge, Mass., U.S.A.; 510 pages.

While at first glance this very compact book might seem of value only to those planning long and elaborate expeditions to the less accessible parts of the globe, closer study shows much reliable information of real worth to any person off the better established routes of travel, including, for instance, the automobile owner who is off surfaced roads. Contributors have been selected for personal knowledge of their subjects—perhaps an adequate review would require the opinion of an equal number of experts. Back-packing to aeroplane travel is covered.

In the mountain climbing section one is surprised that the middleman’s noose is the only knot mentioned, even being recommended for use “to tie in both end men.” For forty years this knot has been known to have the deadly possibility of acting as a slip knot under certain conditions. It is readily demonstrated that a moderate pull, depending on the relation of the two halves of the knot, will reduce this to a single slip knot when used for an end-man. Incidentally, why is this knot never taught in its simplest form—an overhand slip knot on a bight, with a second one on the running line? This way, if need be, it is readily tied with one hand.

The photographic section is particularly helpful. But why is it so hard to coax or bully mountaineers into improving their photographs by so simple a thing as a ray filter? Verichrome and Plenachrome films are recommended, but British films are not mentioned.

“No one young enough to travel afoot is too old to learn to ski,” is courageous doctrine, but if space permitted one might point out that it is not wholly consistent with the declaration that the Arlberg technique is “undeniably” the best; besides, it has been denied most successfully in publications listed for reference in the Handbook itself; (see “On Choice of a Turn,” by Vivian Caulfield and Arnold Lunn, *British Ski Year Book*, 1932, or the *Complete Ski-Runner*, by Arnold Lunn). How to plan a long ski trip, such as several in recent years in the Canadian Rockies, is not dealt with.

Perhaps modern treatment of frostbite might well have been couched in more emphatic language to help break down the popular notions on the subject.

As for snow-blindness, the present reviewer has found no mountaineering text-book yet giving consideration to the applicability of modern optometric research on development of conscious adjustment of unaided eyesight to the most intense light in nature —under proper training it is evidently possible to look directly at the sun without discomfort or ill effect! It is worthy of study, since the eyes need little protection at ordinary mountain altitudes from the invisible light rays, and “snow-blindness” in fog is scarcely due to the actual amount of light at all, being produced by eye strain which may be consciously combated.

The comprehensive medical information makes this a good book to have on hand when out of reach of a doctor.

—W.A.D.M.

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### MEN AGAINST THE CLOUDS,

by Richard L. Burdsall and Arthur B. Emmons, 3rd; with contributions by Terris Moore and Jack Theodore Young; xiii + 292 pages, with 65 illustrations and maps and diagrams. Harper and Brothers, New York, 1935, \$3.50.

This is a story of a daring high-mountain adventure by four young Americans, who mapped a little-known region of innermost Asia, “between the great red basin of Szechwan and the high Tibetan grasslands,” climbed the second highest peak of the world yet ascended, and secured many rare and valuable specimens of big game. From the time of Marco Polo a range of gigantic snow-clad peaks had attracted attention in this district, but had remained shrouded in mystery. Its culmination, Minya Konka, or “White Ice Mountain of Minyag,” had been estimated as high as 30,000 feet. No serious effort had been made to conquer it before this expedition in 1932. These youthful explorers, three of whom were experienced mountaineers, performed this hazardous feat, and by careful barometrical measurements, placed the height of the mountain at 24,891 feet.

Passing over the difficulties encountered in reaching the neighborhood of the range, preparations for climbing the mountain were carried out efficiently, and at relatively small cost, compared with some Himalayan expeditions. A month was spent in exploring the wild jungle-filled valleys and glaciers. The work of reconnaissance seems to have been admirably done. The plan of attacking the mountain from the south had to be abandoned in favor of the uncertain and forbidding-looking northwest ridge. The climbing party consisted only of four, “a woefully small number to tackle an unknown 25,000 foot giant with the necessary string of high-altitude camps and communications and support required for a conservative estimate on such a peak.” Little confidence was placed in the local porters. A base camp was established at 14,400 feet; and Camp I at 18,000. The last Camp IV was placed at 22,000; and to this the loads were carried up by the climbers. The food supplies appear to have been inadequate.

One of the best of the alpinists, Emmons, was not able to take part in the final assault, owing to a severe injury to his left hand at Camp IV. It was now the end of October, the weather threatened to become stormy, and it was felt that the attempt to reach the summit must be made without delay; consequently, on the 28th, Burdsall and Moore, who were the only available men, made a vigorous push and reached the top at 2.40 p.m. after nine hours strenuous climbing, an account of which is given by Moore in Chap. xiii. On the way back to the base camp, Emmons had a dreadful experience with frost-bitten feet, which might have proved fatal, and from which he

had not wholly recovered two years later. His feet had probably been attacked some days before he became aware of their condition.

*Men Against the Clouds* is enriched by valuable appendices, which include hunting notes by Young, who was with Theodore and Kermit Roosevelt on their Asiatic expedition, details of the survey by Burdsall, and mountaineering notes by Emmons, with an interesting note on frostbite and its treatment.

—J.W.A.H.

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## MOUNTAINEERING

edited by Sydney Spencer; contributions by twenty-two authorities. The Lonsdale Library; Vol. xviii, 306 pages, 130 illustrations, 9 maps, glossary and index. London, Seeley, Service and Co., 1934, 21/-.

To this compendium of mountaineering in its various phases, and in different quarters of the globe, by leading experts and exponents of mountain craft, a review of any ordinary length cannot possibly do justice. The volume takes on the character of an encyclopedia of mountaineering, and this makes it difficult to select any one portion of it for special notice. Consequently, we shall content ourselves with simply calling attention to its main topics and mentioning the names of some of the contributors.

The table of contents includes the following subjects: Early Mountaineering, General Principles, Equipment, Rock Climbing, Snow and Ice Craft, Reconnoitering, Winter Mountaineering, First Aid, Photography, British Mountaineering, The Alps, The Dolomites, Europe, Africa, The Himalaya (six chapters), New Zealand, North America, Arctic Mountaineering, South America, Japan. The longest chapter deals with the mountains of Europe, by Dr. Rickmer Rickmers, the second longest, with those of North America by Dr. J. M. Thorington. The fundamental maxims of mountaineering are discussed, the chief mountains of the earth are catalogued, and practical information is given about them in a most succinct manner.

In the first chapter by T. Graham Brown, there is a good analysis of the attractions of mountain climbing, and in an important chapter by G. W. Young, there is laid down this “only one principle of mountaineering,” or as we should prefer to designate it, *aim*: “that we should secure on any given day the highest form of mountain adventure consistent with our sense of proportion. All else is more a matter of practice than of principle.” The clause which we have underlined is shown to be all distinguishing between a mountaineer and an acrobat or engineer “armed with the instruments of road-breaking.” The chapter on Equipment and Snow and Ice Craft by C. F. Meade, and on Rock Climbing by E. R. Blanchet impress one as being particularly valuable. The illustrations are admirable, and in many instances most instructive. So are the blue maps. Altogether, notwithstanding some minor points to which criticism could be directed, the volume is of high standard and unusual excellence, and superior to the similar volume in the Badminton Library. It goes without saying that it should be included in the library of every mountaineering club. It represents a combination of experience to which the thoughtful mountaineer will frequently turn with deep interest and profit.

—J.W.A.H.

## THE ROMANCE OF MOUNTAINEERING

by R. L. G. Irving; 320 pp. with 41 collotype reproductions, and maps and diagrams. J. M. Dent & Sons, Ltd., London, 1935; 18/-.

This superbly illustrated book “attempts,” according to its author, “to take a view of the whole life story of the winning of mountains by men, with its emotions as well as its deeds.” It aims at reviewing the sport from its beginnings to the present day, in order to characterize its essential values and separate them from what is meretricious, and to restate its fundamental maxims according to the sentiments, and in the language, of today.

The qualifications of the writer are, in the first place, a deep background of personal experience, extensive knowledge, a rich vocabulary, facility of expression, and a vigorous style.

The wide field of Alpinism is arranged under three heads. Part I deals with what is termed the Classical Age. Its historic climbs are illuminatingly described and discussed in the light of the author’s knowledge of the routes. What is fundamental to the sport is brought out in the descriptions. Part II entitled “Signs of Maturity,” describes “The Extension of the Playground,” and discusses “Mechanization and the Cult of Danger,” “The Highest Mountains of the World” and “Nationality in Mountaineering.” Part III entitled “Perpetual Youth,” discusses, among other topics, “Methods of Approach,” “Mountaineering out of Season” and “Solitary Mountaineering.” In it a more personal note is struck; hints are thrown out to future climbers; and the idealism in mountaineering is emphasized.

Throughout this stimulating and inspiring volume, Mr. Irving keeps before the reader “the great truth that the physical struggle and contemplative aim are parts of one indivisible whole” of experience, or, at least, ought to be. Although many of the sources from which he draws his material are familiar; yet there is imparted to them a fresh vitality, arising from his treatment of the mutual relationship of man and mountain in the light of the question: How, in what spirit, do men approach mountains? Thus in re-telling the stories of the conquest of Mt. Blanc and the Matterhorn, sufficient detail, expounded with admirable lucidity, is interwoven with the dramatic interest. The repetition of what is well known, serves mainly as a means of bringing out what is most significant, or of permanent value, in the story. It is not so much the deplorable jealousies which arose out of the first ascent of the Swiss Monarch that interest Mr. Irving, as Saussure’s “divine curiosity” and his bestowal of a new spiritual value on mountaineering. And in a tribute paid to this scientist he declares: “The greatest service that man can render to any human activity is to give it a new value that was unrecognized before.”

After a discussion of the extension of the playground far beyond the Swiss Alps, and of the dropping of the old leading-strings with the beginning of guideless climbing, one of the most important chapters of the book is reached: “Mechanization and the Cult of Danger.” Not unsympathetic to the younger generation of climbers, who dispute many of the maxims of their elders, Mr. Irving observes with repugnance the continued introduction of piton and Karabiner, which is connected with ideas of sport unfamiliar to the British race. He quotes a definition of sport which he regards as reflecting a mechanized view of life that has been adopted by certain European nations: “Sport is any activity which manifests itself by measuring force against resistance, and the motives of which are personal distinction.” The craze for hammering one’s way through, regardless of material obstacles, is to be deplored, since it represents a gospel of force based on purely material standards. After reading his illustrations of some of the latest feats of climbing of

the steeplejack school, one feels sympathetic to his words which condemn “the utter recklessness that sacrifices all regard for safety to the satisfaction of personal achievement,” and those who deny any aim in mountaineering beyond or beside the assertion of self.

In Chapter IX Himalayan exploration is vividly described, and the question of ‘public’ expeditions discussed. Dislike is expressed for the training and selection of men to achieve certain objectives. It is too much like arranging a gallery of spectators for the climbers. Mr. Irving’s distaste for these subsidized expeditions has perhaps been increased by the human losses involved, including, in particular, the personal loss of Mallory, whom he introduced to mountaineering.

The chapter dealing with “Nationality in Mountaineering” is the least happy in the volume. Its omission would not have impaired the quality of Mr. Irving’s notable contribution to the literature of this sport. Mountaineering, he maintains, is the least national of all sports. In its appreciation, “what matters is not single individual performances, or records, but the proportion of its members in any large community, who have felt in themselves the delight in intelligent effort that sport affords, who have assimilated the spirit of fair play which finds no value in victory by unsporting methods, and who see in the ultimate purpose pursued something that cannot be measured by any numerical standard.” Judged by these standards, he places his own countrymen in the first place. Non-British readers will probably smile when they read: “We can take no personal credit for this sportsmanlike attitude: it is bred in us like our love of animals.” Mr. Irving admits that, “the contribution of German and Austrian climbers in the development of mountaineering, in anything measured by quantitative standards, is enormous, perhaps greater than that of all other nations put together.” The tone of national self-assurance and superiority (pp. 196-197) strikes one as a bit insular: it is likely to produce the appearance of more than a ‘quiet’ arrogance. The strictures passed on Americans, not only for their lack of appreciation of mountaineering and their failure to produce great mountaineers— although a tribute is paid to a few, and notably to John Muir—and their low rating in the world of contemplative thought (pp. 218-219), will cause some Americans to wonder how much Mr. Irving knows. Not only are such pronouncements in poor taste, but they indicate a tendency to generalize, which is quite unscientific. It is more pleasant to read the well-deserved tribute paid to the Swiss guides for their display of “the cardinal virtues in mountaineering,” and to note the eloquent plea against competitive rivalry, and against using the glorious peaks as a means of sowing discord, envy, or jealousy between man and man.

In the four closing chapters, brought together under the title “Perpetual Youth,” the author gives fascinating glimpses of his own experiences. The controversial questions which have been previously discussed, sink rather into the background. The method of approach to the mountains becomes all-important. The chapters on “Solitary Climbing” and “Solvitur in Excelsis” take on a philosophical aspect. While solitary climbing is regarded by the writer as one of the best tonics for man, he does not conceal its drawbacks, its strain, and its dangerous tendency to always try to achieve something more. On the intellectual side, it seems to afford a sort of revelation of reality. In a description of a solitary descent by himself, he saw the mountain as “a symbol of the unity of outlook, to which all men, however great their divergence, must gradually draw together.”

For Mr. Irving, the physical struggle with the forces of nature, and man’s spirit of contemplation can never be far apart. This point of view runs through his book and finds a concentrated expression in the fine passage, in “Mountaineering out of Season,” in which he refers to a day alone in April on the Cima Tosa: “It is at the close of such a day that the climber may be rewarded with one of those enchanted hours when he realizes the consummation of all his hopes and the mountain’s acceptance of his love; when the flood of golden light that comes out of the

west enriches the fields in which he has toiled with a wealth too great for him to comprehend. And although the commonplace comes back, and the futilities of modern life close over our heads like grey clouds, so that we no longer see the sunshine of life undimmed as in that hour, we know it was no vain illusion we pursued, but a fruitful blessing that will one day fall on us again.”

—J.W.A.H.

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### A FLORA OF YOHO PARK, BRITISH COLUMBIA,

by Titus Ulke, B.S. Contributions from the Biological Laboratory of the Catholic University of America. No. 14 published by the Catholic University of America, 1934, 9x6 inches, pp. 89, maps and illustrations.

Dr. Ulke's dissertation for the degree of Doctor of Philosophy is a most useful contribution to the rather scanty botanical literature of the Rockies. It contains a brief review of previous literature, a note on the location of Yoho Park, two pages on early and recent botanical exploration and a very brief statement of geological features and soil conditions. An artificial key to the flora covers 44 pages, the actual catalogue of the flora of the Park following and occupying some thirty pages, 565 items being listed.

The work bears evidence of hasty proof reading. The names Summit lake and Yoho lake are used interchangeably, sometimes on the same page. Some species from regions remote from Yoho Park (pp. 58, 59, 61, 67, 75) are included. There is a brief bibliography, followed by three maps in half tone. The maps are of little value and the book would have been rendered more useful by the inclusion of a good line cut map. Seven pages of illustrations are included, none of the four scenic illustrations included being from Yoho Park.

Despite these minor defects, the book is exceedingly interesting and Dr. Ulke is to be heartily congratulated on his contribution to the botanical literature of the Rockies.

—A.A.McC.

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### CLIMBING DAYS

by Dorothy Pilley (Mrs. I. A. Richards). Harcourt, Brace and Company, New York, G. Bell & Sons, 1935, xiii + 352 pages, 69 plates, \$4.00, 16/-.

In the preface the author explains her reasons for writing her book. "I began to write this book in China," she says, "being homesick for the European hills. It was a substitute for climbs in Britain and the Alps."

It was in Wales that her initiation in climbing took place, and after her first ascent of Tryfan, she had "the knowledge that mountain madness had her forever in its grasp—I learnt in the Welsh hills to test myself against some external standard, when to trust myself, with caution, and when not, and to meditate upon matters not merely personal."

There are many detailed descriptions of her climbs in the Lake District. In this chapter the author pays tribute to Miss Pat Kelly, who, feeling the need of a club to train women in leadership, organized in 1921, the Pinnacle Club. Miss Kelly, an excellent rock climber, was killed the following year on Tryfan.

The party with whom Mrs. Richards made a trip to Skye learned there not to trust a compass or the weather.

The major portion of the book is an account of ascents in the Alps. Interspersed between these chapters are the stories of three Easter trips, one to Corsica, and two to the Pyrenees.

A guide, who considered the mountains unclimbable at that time of the year, and substituted ski-ing lessons, nearly ruined the first trip to the Pyrenees. After several uncomfortable days, the party decided to climb Pic de la Grande. On the appearance of the rope, the guide declared that if it were used he would not be responsible for the party, and that the use of it accounted for the fatal accidents in the Alps! They used the rope! Also vividly described is a journey from Gavarnie over Col de Boucharou to Torla, led by a seventy-two year old guide, Francois Bernard Sallea, and the return in a blizzard. During the second trip, Pic du Midi d'Ossau, the Matterhorn of the Pyrenees, was climbed.

Too numerous to relate are the ascents in the Alps during the seasons 1920 to 1924. Although some lesser climbs were guideless, it was with Joseph Georges le Skieur of Arolla that the majority of difficult climbs were made, such as the Jungfrau, the traverse of the Wellenkuppe Ober-Gabelhorn Arbengrat, Tour St. Pierre and the north ridge of the Grivola.

Mrs. Richards remarks on the higher standard of guideless climbing by women since 1921 and gives as one of the examples, "the traverses of the Monch (Miriam O'Brien, Micheline Morin), 1931."

Only briefly in passing does the author mention what she calls her wander years, 1925 to 1927. It is a medley, a hurried trip to Mürren and to the High Tatra, the Alpine Club of Canada Camp at Lake O'Hara, a summer at Glacier Park, U.S.A., ascent of Mount Baker, the Orient, and lastly the journey from Darjeeling to Kangchenjunga. It seems a pity that so little space has been given to this section of the book.

For many seasons it was the dream of the author and her husband to make the first ascent of the north ridge of the Dent Blanche, but always weather conditions were unfavorable. A party had descended by this ridge, but considered the ascent impossible. In 1925 a stone hut was built by Mr. Richards and Joseph at the Col de la Dent Blanche, (11,628 feet), but it was not until 1928, after a most strenuous, exciting climb, guided by Joseph and accompanied by his brother, that their hope was realized.

To those familiar with the mountains mentioned, the book should give the added pleasure of reviving memories of their own experiences, to other climbers a kindred feeling in love of the mountains. The lively style of the book, the delightful descriptions, humor, and beautiful photographs, commend it to the ordinary reader.

—C.M.A.

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## SNOW STRUCTURE AND SKI FIELDS

by Gerald Seligman; published by MacMillan & Co., London; 539 pages, 370 illustrations and diagrams, 25/-.

"Snowcraft Made Easy" should be the sub-title of this, the most notable contribution to technical aspects of mountaineering since G. W. Young's "Mountain Craft" appeared. The Alpine Club in 1934 recognized the value of Mr. Seligman's snow researches by electing him under the rule which admits contribution to science as a qualification. The Ski Club of Great Britain awarded him the Perry Medal.

"The amateur mountain-goer," states the author, "has to assimilate his knowledge of snow during brief holidays at wide intervals and of ten during conditions unfavorable for observation." This book is an attempt to describe and explain the prime causes of snow phenomena so that the reader will be able to understand them when he meets them ... in a manner hither-to impossible for him."



Gathering all available observations and conclusions of other snowcraftsmen, Mr. Seligman has carried his own investigations far beyond them by progressive microscopic studies of structural changes of flakes and grains of snow. Nevertheless, it is essentially a volume for the practical man; one to own, not to borrow or lend.

Clarity of meaning is assured by the 370 photographs, photomicrographs and diagrams. The book obviously contains the finest collection of illustrations of snow formations ever published for such a purpose.

While such a book naturally has more value to the ski-mountaineer, it should not be necessary to remind ski-less mountaineers that typical winter snow conditions are simply a question of altitude in summer. Mr. Seligman's "inspection mill" in the snow is a highly useful improvement on the ordinary thrust of an ice-axe to reveal underlying snow structure.

Arnold Lunn, in *Alpine Ski-ing*, in 1921 wrote "what still remains the only book in any language which makes an inventory of all the snow conditions to be found." Mr. Seligman now explains how these conditions are produced. It still remains true that mountaineering textbooks must turn to ski-mountaineers for authoritative information on snowcraft.

—W.A.D.M.

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## ALPINISMO

by R. Chabod and G. Gervasutti. Manuals of the Italian Alpine Club, II. Published by the Headquarters of the Italian Alpine Club, Rome, 1935.

This most excellent little volume gives a thorough and very modern treatment of the three fundamentals of mountaineering; equipment, rock climbing technique, and ice climbing technique. It is well illustrated with more than a hundred clear drawings which are more instructive—for most of us—than the Italian text in explaining up-to-date manoeuvres dealing with ropes and rocks, crampons and ice.

Of recent years there have been a series of volumes put out by most of the great European Alpine Clubs covering the art of mountaineering in all its branches. They usually include much information on the sciences allied to mountaineering—photography, botany, etc. and much geographic knowledge. This volume omits those subjects entirely, since they are covered by other publications of the Italian Alpine Club. It omits, also, all mention of ski-ing and winter mountaineering, for the same reason. Its field is limited strictly to the "minimum technique that is indispensable to alpine climbers on rock and ice," and this field it covers very thoroughly, from the first fundamentals that the beginner must know to the most recent inventions in new tricks for special difficulties.

—Miriam E. Underhill.

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## THE SPIRIT OF THE HILLS

by F. S. Smythe; pp. xiv, 308 and illustrations. Hodder & Stoughton, London, 1935. Price 20/-.

"Many, no doubt, will think what sorry gush these rhapsodies of the amateur mountaineer are; mere lover's rant. And yet every true lover has got hold of something of which he who has never had it can scarcely guess the worth. No lover has ever yet got it across the footlights to him who was never in love . . . But all you can do is to wait and watch the divine spark falling on somebody, just

here and there, by some sort of chance, far beyond your control, and not falling on others.”

These words of frustration came from C. E. Montague, a writer who was also a mountaineer. As we take up Mr. Smythe’s new book we wonder what measure of success will be achieved by a mountaineer turned writer in his attempt “to express, through the medium of the written word, the meaning of the hills and the reasons that inspire men to climb them.”

For this purpose Mr. Smythe has given us his views, faiths and feelings in twenty-three short essays, bearing such titles as “Childhood,” “Dawn,” “Music,” “Flowers,” “Ugliness,” “Friendship,” “Death,” “The Spiritual,” to touch our memories and provoke our arguments. The book is a gathering up of the things which are omitted from most climbers’ reports because they do not relate to topographical detail, because they are not the product of a specific climb or because the recorders lack the ability or courage to discuss them. Mr. Smythe has the courage to expose his feelings and he deserves well of us for so doing. The breadth and sincerity of his love of mountains, as distinct from his love for climbing, is very evident throughout the book. Whether he will get it across the footlights is not a matter which a fellow mountaineer, however humble, can decide. We are completely convinced of his sincerity in declaiming against time-records and peak-bagging—in other words he is not an immature mountaineer. We agree entirely with his attitude towards war and towards nationalism in climbing. Many of his descriptions are very readable. The photographs are fully up to the high standard which we now expect from Mr. Smythe and nearly all of them possess the charm which is always called “atmosphere.”

All this is surely enough to make the book worthwhile. Beyond this point the author is not quite so satisfactory. One or two small slips, such as “pealing” for “peeling” on p. 95 and the use of “than” for “as” on p. 215 are of course merely oversights. The chapter on “Humour,” however valid its conclusions, does not make the most effective use of the delightful incidents which it records and is to our mind not untouched by the heavy hand which the author ascribes to the Victorians. As regards any real analysis of his feelings or any depth of reasoning, Mr. Smythe gives us very little satisfaction—indeed he seems to think that any attempt to explain anything would diminish his ability to enjoy mountains. We do not believe this would be the case any more than we believe that Mr. Smythe’s enjoyment of the physical side of climbing has been diminished through his increasing proficiency in the craft.

*The Spirit of the Hills* can perhaps be best regarded as a stepping stone towards a book which has yet to be written. Of the three Mr. Smythes which it presents to us, we would rank in ascending order of merit the philosopher, the writer, the mountaineer. No doubt this is as they would wish it.

—F.N.

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### TECHNIK DES BERGSTEIGENS

Published by the Uto section of the Swiss Alpine Club, Zurich (1929), 95 pp. 2.50 Swiss francs.

This little primer on mountaineering issues from the same group which put out the *Ratgeber für Bergsteiger* some years ago. It is however not a revised and condensed edition of that book but an independent work. Some of the material is said to come from Christian Klucker and Colonel George Bilgeri (famous guide and ski teacher, respectively), which perhaps accounts for the marked superiority of certain sections over others.

The chapter on rock climbing is of little account. The subject proper is dismissed after a couple of pages of generalities, the rest of the chapter being devoted to the use of the rope. In the

matter of knots the methods given are not the latest and best, while in that of belays far too little attention is paid to the points of characteristic difficulty and danger. There is lacking that note of concrete, considered experience to which we are accustomed in English books.

With the chapters on snow-and ice-climbing and alpine ski-ing it is a different story. Although the treatment is still far too brief to give anything like an adequate theoretical education in these subjects, it contains in each instance a number of remarks of unique importance which any mountaineer who learns from books at all ought not to miss. This is especially true of the chapter on alpine ski-ing. For these passages alone the little book is decidedly worth a perusal.

—ROBERT L. M. UNDERHILL.

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### WHERE THE CLOUDS CAN GO

by Conrad Kain. Edited, with additional chapters, by J. Monroe Thorington. American Alpine Club, 140 East 46th Street, New York, xxi + 456 pages, 29 illustrations. Price \$3.00.

*Where The Clouds Can Go*, entitled “The Autobiography of Conrad Kain”, is a most remarkable story of a most remarkable man, a mountain guide, who carried on his professional work amidst many of the high mountain ranges of the world.

Dr. Thorington deserves great praise for the lucid and interesting manner in which he has pieced together, into a harmonious whole, the mass of material at his disposal. This material consists of a journal written by Conrad up to the end of his first year in Canada, frequent memoranda on scraps of paper, spasmodic articles and private letters to relations and friends in Austria and other parts of the world. There are numerous testimonies of his worth by his patrons and friends of high standing in alpine circles, among whom may be mentioned: Dr. Erich Pistor of Vienna and Albert Gerngross, with whom he climbed in Corsica; Capt. J. P. Farrar, Dr. T. G. Longstaff and A. L. Mumm of The Alpine Club; Samuel Turner and Arthur Harper in New Zealand; and in the Canadian Rockies, W. W. Foster, Albert MacCarthy, Monroe Thorington and others.

The volume comprises Books One and Two, divided into thirty-three chapters, which in turn are subdivided into sections, each with a suitable heading; an arrangement that makes it easy to read, as it can be taken up and put down at any time without losing the connection. It has 456 pages<sup>1</sup> and if somewhat extended and subject to repetition, the fault, if it be a fault, may well be ascribed to the mass of available material and the great admiration and devoted friendship of the editor, who climbed with Conrad for some seven seasons and looked upon him as his guide, philosopher and friend. There are twenty-nine illustrations, of which ten or more are solo pictures

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<sup>1</sup> In the course of reading the book the following errata were noted: P. 208—The Alpine Club of Canada’s headquarters is at Banff, not Calgary. P. 212—Mr. Val Fynn was not an Englishman. His father was Irish; his mother half Russian, half French. P. 213—The Alpine Club of Canada was founded 1906, not 1908. P. 230—Miss Hatch of Lethbridge lost her life on Mt. Avalanche in 1908, not 1906. P. 232—Charles Logan was older than Conrad, a halfbreed, who knew all about Indians. P. 240—Mr. McKay referred to was R. D. McCaw, one of Mr. Wheeler’s assistant surveyors. Bringman mentioned should read Brinkman. He was an old survey hand and knew all about camp cooking. As rendered it is a typical Conrad tale. P. 281—The writer was at the camp fire at Moose City at the time related. This is the first he has heard of Conrad’s clothes being stolen off his back. It was the cook who was sitting on the stove—a folding camp stove. It was stolen and put up at a poker game the following night. P. 289—Mt. Chown was named by the Rev. G. B. Kinney after Dr. Chown, head of the Methodist Church in Canada. P. 309—Should read Grand Fork of the Fraser (later Robson River), not Grand Forks. P. 311—W. W. Foster was Deputy Minister, not Minister of Public Works. P. 314—Wonder Lake should read Lake Gloria.

—A.O.W.

of Conrad at various stages of his career. The volume is well indexed and to those who have known him, whether on mountain climbs or other phases of his varied wanderings, and to all lovers of Nature in the mountain wilderness, is fascinating and instructive reading.

Book One describes his boyhood and his early ambitions, which may be summed up in the words “to travel”, and well he filled his aspirations. He came of very poor peasant origin and was born at the village of Nasswald not far from Vienna. He worked at work offered at small remuneration; anything he could get. His intense love of Nature in all its phases, as presented in high mountain regions, was the outstanding feature of his character and satisfying this craving made him a crack mountain climber, and in due course he became a licensed guide. In addition to the mountains of his home he guided in the Tyrol, the Dolomites and in Corsica; in the Swiss, French and Italian Alps; and climbed Mont Blanc, the Aiguille de Grepon, the Matterhorn, Monte Rosa, Meije and many other famous peaks before the present day mechanical contrivances opened them up to all comers.

As a climbing guide he was much sought after. His professional skill, his keen sense of humor, dry and caustic, and sometimes a little bitter, due likely to the limitations and class distinctions of his early environment, and his wonderful repertoire of anecdote made him a delightful and much appreciated companion. Conrad was a born raconteur and his vivid imagination and power of mimicry either held his audience spell-bound or convulsed them with laughter. When the writer first heard his famous story of “The Million Guide”, given on page 427 under the caption of “The Millionaire Guide”, his mimicry and detail were so remarkable that the writer questioned: “Oh Conrad! They did not say all that?” His reply was typical: “Ah vell! You know, you must make it interesting”. His gift of recital never lost anything in the telling.

Book Two begins his travels abroad. The Canadian Rockies were opened up by the advent of the Canadian Pacific Railway through their midst. Realising their importance from a tourist point of view, the Company had imported and maintained a corps of professional Swiss Guides at their mountain hotels. A letter from Dr. Pistor of Vienna to the writer, then President of the Alpine Club of Canada, inquired whether a place could be found for Conrad with the Railway Company. It was not possible, as the Company were only employing guides from Interlaken. However, an opportunity offered for employment with the Club, then becoming systematized, and for a number of years Conrad worked at the Club’s annual camps. When its season was over the writer, who was engaged on photo-topographical surveys for the Dominion Government, mapping the mountain areas, was able to employ him until late in the fall of the year.

Conrad’s work embraced many phases: leading to mountain summits for photographic stations, packing up survey instruments, building reference cairns, cutting out trails to reach suitable points, and many other labors not strictly professional guiding. The work was largely exploratory, of a kind to suit him and was good pay. On page 243 Conrad writes: “Next day was pay-day for the Alpine Club and the Survey, and I received a large sum of money. I counted up the dollars in kroner: 2000 kroner! ‘Herrgott, that is something to spend, I must be getting rich!’ said I to myself, and went to the hotel, closing the doors and counting the money several times more. I played with the money by the hour. It occurred to me that, if I were back in Nasswald, I would feel just like a Rothschild! I stuck the money under my pillow and could not sleep for joy. I built huge castles in the air and asked myself questions as to what I should do with the money”.

Conrad was with the Alpine Club of Canada and with the survey parties for a number of seasons. When the season was over, he tried trapping, farming, carpentering and other pursuits, but always came back to his profession of guiding and the enjoyment of his dearly beloved Nature

in the Great Hills.

In 1911 he was with the Alpine Club of Canada's expedition to explore and map the Rainbow mountains, of which Mt. Robson is the dominating massif. (Chapter X). It was then he made his famous solitary climb of Mt. Whitehorn. Unfortunately for him, the expedition was for exploration and mapping purposes, and he did not have a chance to attempt Mt. Robson, as Robson weather, proverbially bad, was at its worst and all available fine weather was needed for photography. He then met Donald (Curly) Phillips, who catered for the transportation, etc. Phillips was brought up in the wilderness and absolutely at home with all kinds of rushing water. The following winter Conrad went trapping with him to the headwaters of the Athabaska river.

A party from the Smithsonian Institution collaborated with the Club's expedition and Conrad then met Ned Hollister, collector of mammals and entomological specimens. Hollister liked him well and took him to the Altai mountains of Siberia in 1912.

It was not until 1913, when at the Club's annual camp, that he had an opportunity to climb Mt. Robson. He then led Foster and MacCarthy to the summit, ascending from the Robson glacier by the eastern face and descending by the western face, thus making a traverse of the mountain. Technically this was the first ascent and traverse, in that they reached the highest point; but, in August, 1909, the Rev. G. B. Kinney and Donald Phillips made the ascent by the west face, above the great rock slide, and reached a point on the crest of the mountain that Kinney assumed to be the summit. It was storming and the upper part of the mountain was enveloped in dense cloud; later it developed that a final ice cone, some sixty feet higher than where they stood and not far away, which they could not see on account of the enveloping cloud belt, was the actual summit. Had the weather been as fine as when Conrad's party made the ascent from the east, there seems little doubt Kinney and Phillips would have made it. Such is the fortune of mountain climbing, and something very similar happened to the Parker-Browne expedition on Mt. McKinley, thereby robbing them of the first ascent when, but for storm conditions, it was within their reach. For an account of Kinney's and Phillips' climb see Canadian Alpine Journal, vol. ii, 2, p. 21 (1910), a thrilling tale well told. Curly Phillips was a superman. Robson was the first mountain he had climbed, all in a day's work, and he climbed it with the aid of a stout staff, cut in the bush before starting, which lie later presented to the writer.

The four climbs in the Canadian Rockies that appealed most to Conrad were: Mt. Robson and Mt. Louis in the Main range, Mt. Farnham, including the Farnham Tower, and Bugaboo Spire (No. 3) in the Purcells.

Three seasons were spent in the Southern Alps of New Zealand with the Hermitage as headquarters. The first, 1913-14, Conrad accompanied H. Otto Frind as private guide. They made a large number of ascents, some of them first ascents.

His second New Zealand season was in 1914-15. Again he made a number of first ascents with various parties.

His third season, 1915-16, he went out as a private guide. It was in this season that he made the second "Grand Traverse" of Mt. Cook with Mrs. J. Thomson, a lady 59 years old, and broke the previous record. The first traverse was made by Miss Freda Du Faur in 1913 under the guidance of Peter Graham and Darby Thomson. Kain made it alone with Mrs. Thomson. The climb was a risky one under any conditions, owing to avalanching, and Conrad was severely censured for undertaking it with a lady of such advanced years. There was at least one very narrow escape, as shown by the following paragraph on page 361: "Then we struck better ground where the going was good, but there was danger in sight. I had just finished explaining to Mrs. Thomson that this

was not a place to linger, when we heard reports of falling stones: ‘there she comes, follow quick!’ I shouted. We made a dash for an enormous ice block a few feet from us; it was a race with death. Fortunately our shelter withstood the impact of the avalanche and only fine snow rolled in on our feet and buried the rope”. The close call did not upset Mrs. Thomson’s nerves.

Shortly after this, he was officially informed that he would not be again allowed in the New Zealand Alps and, as the Great War was then in full blast, he was treated as an alien and deported to Canada, of which Dominion he had become a citizen. His explanation of the circumstances is given on page 363 and is, the writer believes, a true one. He climbed fifty-nine peaks in the Southern Alps, of which twenty-nine were first ascents.

The remaining portion of the volume consists of brief accounts of climbs in the Purcells, of Mt. Louis and Bugaboo Spire, the tragedy on Mt. Eon and expeditions with Dr. Thorington and others. A number of tales at the camp fire are recorded, notably his best: “The Millionaire Guide”; and the volume winds up with a full list of his very numerous ascents in the various mountain ranges where he had climbed. In all, Kain claims to have climbed more than 500 peaks, a truly wonderful record.

He married and settled down at Wilmer in the Windermere valley, B. C. He and his wife engaged in fur growing, mink, marten, fox, etc., in a small way. He acquired some pack-ponies and became an outfitter for climbing parties, acting as climbing guide for such parties only. His wife, for whom he had a deep affection, died some years before him and he was left a lonely man at his little home beneath the shadow of the Purcells.

As previously stated, it is a very remarkable story of a very remarkable man. Its versatility, its humor, its many experiences, its abundance of anecdote, not to mention its wealth of information, accurate from his point of view, all provide enjoyable reading. Kain, for all of his wise philosophies, his hard-earned worldly wisdom and shrewd judgment of his fellow men, often in his writings and talk appears childlike and simple, and some parts are filled with pathos due to a feeling of loneliness.

He was a delightful companion and all who were worthwhile and knew him well were his friends. Had he remained in the European Alps, he would doubtless have ranked high among the most famous of the climbing guides. His rule in life was to do “His Very Grand Duty”. If there be such a thing as a Guides’ Temple of Fame, there is little doubt he has a place there and that “high o’er his seat the form of Time is found with scythe reversed and both his pinions bound”. We are indebted to Dr. Thorington for a record that will serve to keep his memory with us for the balance of our lives.

—ARTHUR O. WHEELER.

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### AN ALPINE JOURNEY

by F. S. Smythe; 6 x 9½ inches, 351 pages, 48 plates and a map. Victor Gollancz, Ltd., London, 1934, 16/-.

Mr. Smythe’s name is one that is appearing with monotonous regularity in the publisher’s catalogues these days. In such cases the impecunious alpinist usually hesitates before dipping down into his pocket for sixteen shillings for “another” alpine book. The reviewer must confess to being prejudiced before reading this book. Surely a six weeks journey on skis “undertaken with the object of seeing as much as possible of Alpine Switzerland, its mountains, passes, alps, valleys, villages, towns and people, and of recapturing something of the charm of mountain travel so

delightfully described by the pioneers of Alpine mountaineering”, and undertaken alone, scarcely justified such a portly volume and—sixteen bob?

It is a tribute to Mr. Smythe to acknowledge that the reviewer’s prejudice vanished during the perusal of the early chapters of the book and he found it difficult to lay it down at times.

The illustrations are superb and to the amateur photographer, well worth the price of the book as object lessons in composition. Paper and type are satisfactory to the eye and nothing remains but to make a bow to Mr. Smythe for having contributed another interesting volume to the alpine bookshelf.

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### MOUNTAINEERING IN THE SIERRA NEVADA

by Clarence King; 8½ x 5½ inches, 320 pages, 8 full page illustrations. W. W. Norton & Co., New York, 1935, \$3.50. This is a very welcome reprint of a book first published in 1872.

On account of the difficulty of picking up a copy, few Canadian mountaineers, we imagine, possess it. Undoubtedly it is not known to the younger generation.

The scene is laid in the California of 1864 to 1873 where King worked for the State Geological Survey. The country, the people, and struggles with the peaks are described in vivid fashion.

This edition owes much to a very informing preface of twenty pages by Francis P. Farquhar, the editor, who has also contributed a most interesting set of bibliographical notes.

The reviewer’s copy of King’s book is the 1902 Scribner edition and it comes as something of a shock to learn from Mr. Farquhar’s introduction that in “Kaweah’s Run” “the fancy has been allowed untrammelled freedom”. To the youthful alpinist “The Newtys of Pike” and “Cut-off Copples” did not ring true but “Kaweah’s Run” was a chapter to turn to again and again, and we shall always have a grievance against Mt. Farquhar for dispelling the illusions of youth!

The book is beautifully produced, binding, type and paper being all that one could desire. It contrasts markedly in this respect with the recent deluge of alpine books from England, the majority of which are more expensive and poorly bound.

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### NANDA DEVI

by E. E. Shipton. 8 x 5½ inches, xvi and 310 pages, illustrations. Hodder & Stoughton, Limited, London, 1936, 15/-.

Nanda Devi, 25,645 feet high is in the Kaumaun Himalaya and is the highest peak in the Empire in purely British territory. It “stands within a vast crater-like ring, 70 miles in circumference, the average height of which is some 20,000 feet. On this ring are twelve measured peaks over 21,000 feet high, while there is no known depression less than 17,000 feet; except on the west where the Rishiganga river, rising at the foot of Nanda Devi and draining some 240 square miles of ice and snow, has in the process carved a stupendous gorge.”

Despite the fact that nine separate attempts had been made in the last fifty years no one had succeeded in setting foot upon the mountain and indeed the ring had only been crossed once. This crossing was made by our member, Dr. T. G. Longstaff, who has long been associated with the attempts on this mountain (1905, 1907, 1927) and it was during an expedition to the area that he made his famous ascent of Trisul (23,360).

The present book is one that will appeal to the hearts of Canadian mountaineers. Instead of employing the large caravans, sacred to the traditions of Everest, Nanga Parbat and Kanchenjunga expeditions, Shipton had the temerity to take but a single white companion, Tilman, and three native porters.

The story of their back-packing exploits, while overcoming tremendous physical obstacles, is one worth the telling. The expedition was only possible by reason of the perfect team-work of the five members of the party and one rejoices with them in their success in penetrating and exploring the “inner sanctuary”. It is, emphatically, a book to buy.

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## CLUB PROCEEDINGS AND CLUB NEWS

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### MAGOG LAKE CAMP

Assiniboine Provincial Park, B. C.

July 13th to August 4th

The Thirtieth Annual Camp was held on a timbered beach, on the west side of Magog lake, amid larches and balsam bordering a small stream from Sunburst lake.

The thirty-two mile trip was divided into two stages, a camp for the first night having been established on Brewster creek, above Fatigue creek. Here sufficient bell tents, as well as a drying tent, cook tent and dining fly were left to care for parties coming and going.

The second day's trip led by an easy grade over the summit of Brewster and Og passes, though many walkers took a short cut over the shoulder to the east of "Brewster Cr. W." from the summit of the pass which brought them directly to the small tarn on Og pass.

Our thanks are due to the Park authorities for many kindnesses including permission, to drive over the Healy creek fire trail for about two and a half miles from the gate on the Sundance canyon road, also for the loan of blankets which saved much packing for the fly camps at Mitchell creek and Aurora creek, as well as the fishing camp on Marvel lake.

Weather on the whole favoured us and much climbing was accomplished before it finally broke during the last week of camp. Trips were made to Mitchell creek camp below Ferro pass, to the many small and beautiful lakes around camp, to Cave mountain, to Marvel lake where excellent sport was had at the fishing camp and whence a welcome change of diet was provided by the kindness of Dr. J. Gunn and other fishermen. Picnics, botanical and sketching trips were undertaken in all directions and much useful material stored away for happy recollections later.

The excellent arrangements for packing supplies and dunnage, as well as the very splendid catering were in the capable hands of our old friend Ralph Rink, to whose able willingness the success of the camp is so largely due.

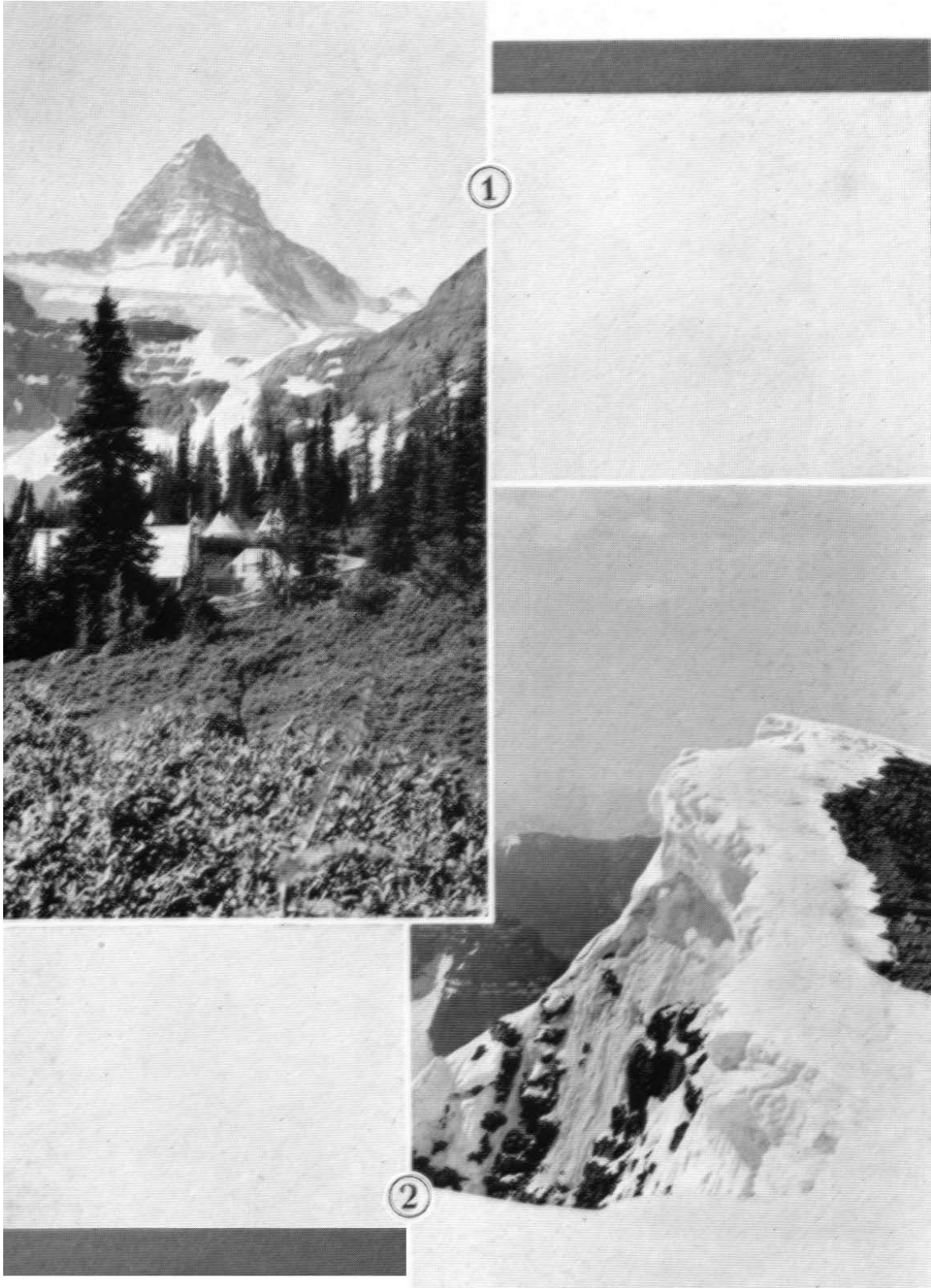
Climbing, under the supervision of the President and the Committee, was in the hands of our old friends Rudolph Aemmer and Ernst Feuz, who had been loaned to us once more by the kindness of the Canadian Pacific Railway, and those willing volunteers Drs. W. Cleveland, C. Beattie and R. Whitney, Capt. R. Gibson, and Messrs. R. Cuthbertson, E. Brooks and R. Hind. To them all our thanks for their strenuous efforts in satisfying an ambitious list of climbers and graduates.

Climbs made from Main camp:—Assiniboine, Cautley, Magog, Naiset, Sturdee, Terrapin, The Nub, Towers, Wedgwood, and Wonder.

From Mitchell creek camp:—The Marshal (1st ascent by N.W. ridge and W. face), Watson.

From Aurora creek:—Aye, Brusiloff, Eon, and "Sibbald" a first ascent of the spur S.E. of Aye.

The camp-fires, as usual under the chairmanship of Mr. A. O. Wheeler, provided items of amusement, instruction, and interest and the speakers included amongst others, Mr. Wheeler, Mr. Waterman, Mr. Erling Strom, Mr. F. H. Brigden, Capt. Gibson, Col. Foster, Prof. Binnie, Mr. Sibbald, Mr. Belmore Browne and Mr. E. Brooks.



(1) Mt. Assiniboine Camp. *Photo A.W. Kramer*

(2) The Summit Of Mt. Assiniboine. *Photo A.W. Kramer*



(1) Boulder Climbing Near Camp. *Photo A.W. Kramer*

(2) A Rest On Ascent Of Mt. Towers. *Photo A.W. Kramer*

(3) Dr. Helen Zillmer And Mr. Cuthbertson Climbing Naiset Peak. *Photo A.W. Kramer*

The following passed the test for Active membership:

**Mt. Magog:**

July 18—Miss H. Spalding, K. R. Balsley.

July 20—Misses G. Johnson, J. Spieden, E. Willcox, Messrs. E. C. Prest, A. T. Wiebrecht, A. F. Stevenson.

July 22—Mrs. C. Coleman, Messrs. B. Converse, G. Martin, S. Kyle, T. Weston.

July 23—Misses E. Arneson, E. Geddes, E. Kelly, D. Squire, Messrs. F. Maurice, E. Mills.

July 25—Misses M. Fawdry, E. Woolsey, Messrs. T. Woolsey, C. Gryte.

July 26—Miss H. Woolsey.

**The Marshal:**

July 18—C. J. Woodsworth.

**Mt. Assiniboine:**

July 22—E. Brough, S. Midgley.

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ANNUAL CAMP VISITORS

Visitors to the camp were drawn from:

CANADA

British Columbia—Armstrong, Monte Creek, Sidney, Vancouver, Victoria.

Alberta—Calgary, Edmonton, Lethbridge, Winterburn.

Saskatchewan—Regina, Saskatoon, Shaunavon.

Manitoba—Winnipeg.

Ontario—Hamilton, Ottawa, Toronto.

Quebec—Buckingham, Montreal.

EUROPE

England—London, Oxford.

UNITED STATES

California—Berkeley, Ojai, San Francisco.

Connecticut—Meriden, New Haven, Norwichtown.

D.C.—Washington.

Illinois—Chicago, Evanston.

Maryland—Silver Spring.

Massachusetts—Worcester.

Minnesota—Minneapolis.

Montana—Great Falls, Havre.

New Hampshire—Hanover.

New Jersey—East Orange, Summit.

New York—Brooklyn, Flushing, Long Island, Eye, New York, Yonkers.

Ohio—Cleveland.

Oregon—Portland.

Pennsylvania—Merion, Rosemont, Wynnewood.

Texas—Houston.

Wisconsin—Milwaukee.

Altogether 141 with the crew were placed under canvas, representatives attending from The Alpine Clubs of England, France, America and Switzerland; the Royal Geographical Society; the Appalachian Mountain Club; The Mazamas; the Sierra Club and the B. C. Mountaineers.

For the Minutes of the Annual Meeting see The Gazette, No. 26, October 1935.

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**Corrigenda to Volume xxii—1933.**

Page 134. Illustration opposite. Names from left to right should read ‘Y. Henderson, L. F. Frissell, G. H. Warrington, W. D. Wilcox.’

Page 153, for ‘Komanji Kanujo’ read ‘Kamonji Kamijo.’

Page 155, for ‘Canadian Church of English Missions’ read ‘Japan Mission of the Church of England in Canada.’

Page 201, first line, for ‘1918’ read ‘1913.’

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