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1953

HEADQUARTERS
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VOLUME XXXVI

THE

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SPECIAL NOTE FOR THE CAJ DIGITAL EDITION

An oversized fold-out photographic page entitled "Panorama Vom Hauptgipfel Des Mount Logan (6050 m)" was included in the hardcopy version of the 1953 *Canadian Alpine Journal*. It is not included in this digital version due to size resrictions.

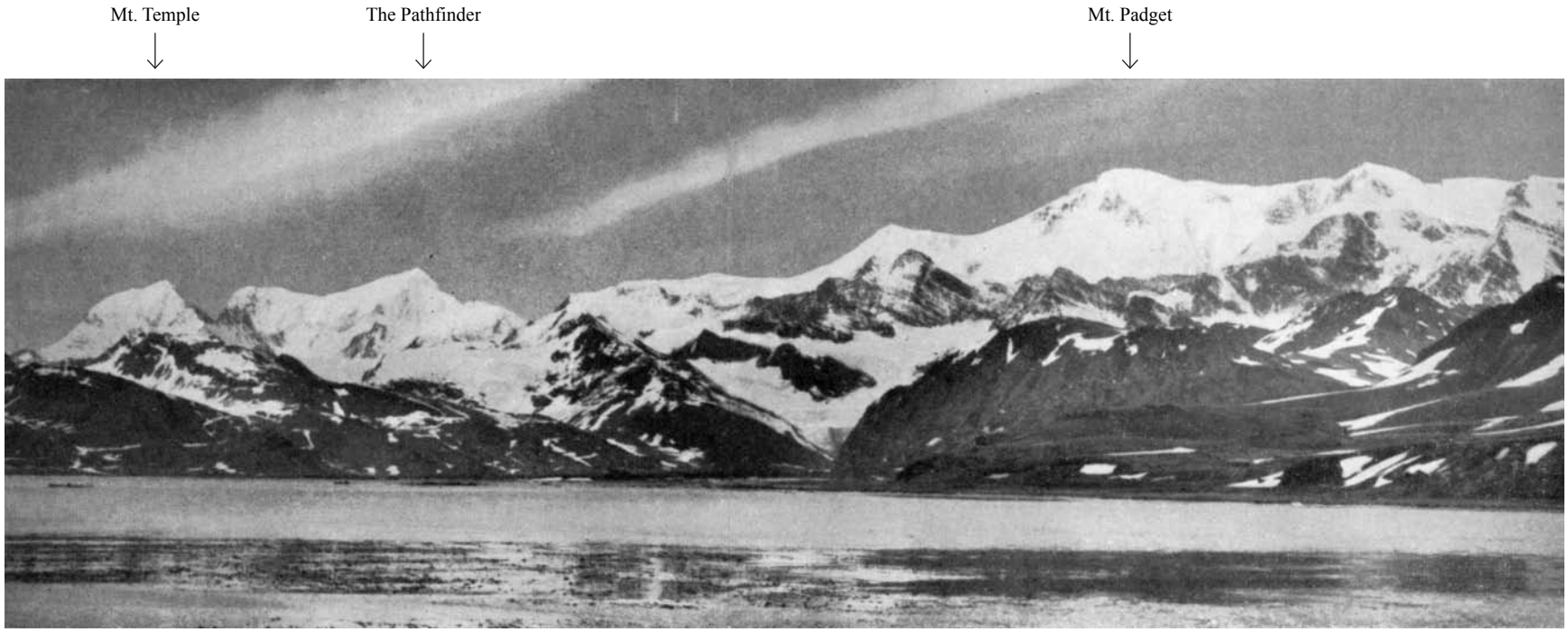
Material for the Journal should be sent to Mrs. Don Munday, 373 Tempe Crescent, North Van¬couver, B.C., Canada, or to any other member of the editorial committee by November 1st.

Members are urgently requested to assist by furnishing articles themselves or by informing the committee as to where articles might be procured.

Manuscripts should be typed with double spacing. Photographs should be finished with glossy sur¬face and on each photo there should be pasted a strip of paper bearing the caption and photographer's name.

Copies of the past and current issues may be obtained from the Secretary-Treasurer, L. C. Wilson, 1408 Gladstone Road, Calgary, Alberta.

ACKNOWLEDGMENT . . .
The Editor on behalf of the Club acknowledges with thanks Mr. A. O. Brigden's generous assistance and advice regarding all the illustrations. The Club is also indebted to Mr. G. Cairns for map drawings.



View S.W. From Base Camp Across Cumberland Bay. *Photo Walter Roots*

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FOREWORD

By E. O. Wheeler

The year 1952 witnessed several events of considerable importance to mountaineering on this Continent and to the Alpine Club of Canada.

In the first place, it marked the fiftieth anniversary of our sister organization, the American Alpine Club. To that Club we extend our congratulations and our best wishes for the next half-century. Founded in 1902, the American Alpine Club is four years our senior; it is of interest to all of us that its first President, Professor Charles E. Fay, for whom the Fay Hut is named, was also one of our original Honorary Members; and it is also of great interest and satisfaction to us that its President, until the end of 1952, is our life member Mr. Henry S. Hall Jr. and from 1952 our life member Mr. Bradley B. Gilman. We take this opportunity of congratulating Mr. Gilman and wishing him all good luck in his term of office.

In 1956, the Alpine Club of Canada will celebrate its fiftieth anniversary, and its fifty-first consecutive Summer Camp. In 1958, the Alpine Club will celebrate its centenary. There are many old friends and climbing companies among the membership of these three Clubs, the British, many years our senior, the American, a few years our senior, and ourselves. This being 1953, and camps requiring to be considered long in advance to be really successful, I think we must begin to consider now where we may camp, in 1956, to bring together old friends of our three mountain organizations—and to form, and cement, newer friendships.

The first camp was at Yoho Summit, above Emerald Lake. It would be fitting to have an anniversary camp there; but the climbing, in 1906 considered sufficient, falls short of modern climbing standards and other sites may have to be considered. But I suggest to members that whatever site may be decided upon, it be one that may permit old friends to get together round the camp-fire, besides providing adequate climbing for new and younger members of less advanced years and more active inclinations. However, there is considerable time, yet, to ponder the matter and come to some conclusion; the essential point is to ponder it, as in the case of all camps. Snap decisions are likely to lead to "grief"; if not for the membership as a whole, at least for those responsible for the camp organization.

There are three other major matters that developed in 1952, namely, the resuscitation of the New York Section of the Alpine Club of Canada, the inauguration of a Chicago Section to be implemented in 1953 and the connection established with the Alps by which groups from our Club may avail themselves of expert advice and assistance in climbing in that, the original serious climbing, mountain region.

We have long wished to camp in the region of the Athabaska Pass, the headwaters of the Whirlpool River on the historic fur route from the mountains to the Pacific Coast, via Boat Encampment and the Columbia River. Thanks to the reconnaissance carried out by Major Gibson

and his party in 1952, and to the cooperation of the National Parks Branch, that wish will be gratified in 1953. The 1953 Annual Camp will be held near the Scott Glacier, in full sight of it and the famous Mt. Hooker and only a few miles from the pass itself and the Committee's Punch Bowl; and from the also famous Mt. Brown whence there is a view surpassed by few in the Canadian Rockies. Light camps at the pass itself and on the Hooker icefield will provide advanced bases for some of the climbing, but there is also much from the main camp site itself.

For 1954, we have it in mind to camp close to Mt. Tsar, in the valley of the Kinbasket (Middle) River, accessible from the Big Bend Highway of the Columbia River. Reconnaissance from air photographs was carried out during 1952 and it had been hoped to have a ground recce in the same year; which however had to be postponed till 1953.

The value of early decision for recces, and their early execution—and the value of early decision for the actual site for camps of up to three years ahead cannot be overstressed. Early decisions enable all to make their plans—above all, those who may be able to help us with trails, bridges and the like.

As members know, a reconnaissance of the Upper Chaba region, south of Fortress Lake, proved abortive, not because there was no site—there is, a very good one—but because of the difficulty of access. A bridge is required over the Athabaska in the neighborhood of the confluence of the Chaba with that river; and (for preference) a road passable for light vehicles as far as Fortress Lake whence the upper Chaba becomes accessible with ease and the Clemenceau region without too much difficulty. With such a bridge, the upper reaches of the Athabaska, leading to Mts. Columbia and King Edward from the north, also becomes readily accessible, as well as the Mt. Alberta group.

During 1952, Sections were active, as reported in the "Gazette". The Mt. Assiniboine camp was very popular indeed —so popular as to make its administration and management highly difficult. There were many who turned up unannounced, who might be called "gate-crashers"; yet could not be turned away to freeze or starve. It is essential, in all distant camps, with difficult lines of communication, that timely notice be given of intention to visit the camp, and of length of proposed stay. Otherwise, there must of necessity be shortages of sleeping space and food. The officers of the Club can do no more than estimate attendance, and prepare accordingly. Should attendance exceed estimates, timely notice will prevent much discomfort by making possible revised estimates in sufficient time to organize extra supplies. I am sure that members do not wittingly put Club officials in this difficult position; but all should recognize that in most of our camps we are "in the blue", with no quick access to suppliers to fill gaps when required and we have, in effect, to rest upon what has been ordered and brought in beforehand. If there is underestimation in such circumstances, camp goes short; if there is over-estimation on the other hand, we may suffer serious financial loss through deterioration or predation. Consequently precise figures are needed insofar as they are possible; and so I urge all members to give us timely notice of their plans.

Financially, the Club is in reasonably sound state; figures have been published in the Gazette. But we are not in a state that could withstand two successive severe losses on summer camps, if bad weather should prevail; weather is, of course, the main imponderable of our summer camps; there are also other factors, but timely notice usually will take care of them. For bad weather, your Management Committee seeks to make "all-in" Camp terms as attractive as possible so that as many as possible will be encouraged to pay in advance—thus insuring the Club for that particular camp, while at the same time giving members the best possible terms. It must be remembered that

tents and other equipment wear out and require replacements—year by year more expensive. But for very generous donations of tent material, our tentage would be in far worse state than it now is.

To make even a rainy day more attractive, we plan to "double" our tea-tent accommodation so that there will be more room, well-lighted and warmed, for members to foregather to look at photographs, maps and mountain literature and swap "stories" about climbs made or to be made. And even the "Camp-fire" in these two tea-tents, should weather enforce it. Much as we all like the log on the fire, there is a time, sometimes, when the coziness of a tent is preferable. We seek to provide that.

In 1952 many were disappointed in being unable to climb Mt. Assiniboine itself but snow conditions above 10,000 feet were such that it was safe only for very strong parties—and as in all big mountain expeditions, with adequate supporting parties in case of trouble. This is a point frequently overlooked —the necessity for the strong supporting party, in case of accident or mischance. Climb safe we must.

In 1953, we have big peaks and also we have small peaks, a number of them virgin summits. Weather should not exercise so much control over our activities as it did in 1952—Camp too, is much lower—but we never know. We hope for the best, expect the worst and take what comes!

Sic Itur Ad Astra.

E. O. WHEELER.

SOUTH GEORGIA

By Walter Roots

South Georgia is a small island, quite alone, and yet a member of a curving chain of islands joining South America to the Antarctic. It is small, rugged, some 110 miles long up to 15 miles wide, and has a very "bristly backbone" which rises to over 9000 feet in the middle, and is frequently over 5000 feet. Except for low peninsulas, all the valleys are ice-filled; and the mountains are heavily glaciated. A coarse tussock grass grows in places, up to 300 feet above sea level, but the remainder is peak, ice, cliff, snow, and scree. The weather is terrible. Wind, mist, rain, sleet and snow, are general, with very few patches of reasonable weather longer than twelve hours. During the summer the temperature is in the 50°F. range, while the sea is barely above freezing.

The island lies just inside the region of winter pack ice from the Antarctic, being some 1000 miles south-east of Cape Horn, and about the same distance from the Antarctic Continent. It is a British possession, a member of the Falkland Island Dependencies, and is therefore governed by the Colonial office in London.

Captain Cook discovered South Georgia in January, 1775, and described it as: "Lands doomed by Nature to perpetual frigidness, never to feel the warmth of the sun's rays, and whose horrible and savage aspect I have not the words to describe." He was right, except for one thing. South Georgia has become the centre of a whaling and sealing industry.

Sealers have been visiting the island for many years, and various whaling companies have had bases and factories there since soon after the turn of the century. At times there have been as many as six whale factories on the island, and at present there are three in full swing. In addition there is a Government base near Grytviken, which houses the magistrate, and has a radio station, Customs office, and meteorological station. Up to 1000 people inhabit the island during the November to April whaling season, and some 300 for the rest of the year.

With a population of this size, and the shipping required to carry on a major $6,000,000 a year industry, it is surprising that the island itself is almost totally unknown and unmapped. Until our party went to South Georgia in November, 1951, only two groups had walked on the island . . . Sir Ernest Shackleton made a marvelous 20-mile crossing following his epic seventeen-day open boat journey in May, 1916. That is an exciting story in itself. A few years later a German traveller Kohl-Larsen, spent two or three days on the glacier behind Husvik Whaling Station.

The South Georgia Survey was organized in 1950 as a private expedition to explore and survey the island. We were a party of six: Duncan Carse, leader; John Heaney and Gordon Smillie, surveyors; Alec Trendall, geologist; Kevin Walton in charge of equipment; and myself, "joe-boy." All the others were from the British Isles, and had varying types and amounts of experience.

Equipment and stores were collected in the Spring of 1951, and by the kindness of Messrs. Chr. Salverson and Co., of Leith, Scotland, we sailed from Glasgow on September 15th. On the way south our tanker-transport stopped at Aruba in the Netherland West Indies, and took on 20,000 tons of oil, before continuing down the South American coast.

About 4 p.m. on November 2nd, South Georgia was sighted through the snow. It was an awe-inspiring sight of jagged broken peaks piercing the ice mantle, and steep screes falling straight into the sea.

Next morning we were taken by a tender the fifteen miles south to our base at Government Point. It was a lovely day as we steamed past steep rock and floating ice.

The first morning on the island I was rudely awakened by having a struggling, squawking penguin thrust into my sleeping bag.

That day we moved into our base, the island prison. It was a comfortable little hut, no longer used for its intended purpose. The five rooms served adequately as living quarters, storage space, and work room.

The first job was to find out whether or not our survey priority, the south-west coast, was at all accessible by land. To this end John Heaney, Kevin Walton and I were landed with a sledge and two weeks supplies at the head of Royal Bay. We were to explore routes, if such existed, to the west and south, and to try to make our way north to the snout of the Nordenskjold Glacier. This would bring us out about eight miles across East Cumberland Bay from the base. The land route from the Nordenskjold to base, was impracticable.

The sea was too rough for even the sealers to land near the Ross Glacier in Royal Bay, so we were put ashore in a minute cove a mile away.

We three spent a strenuous but abortive day trying to find a reasonable route out of the little valley behind the cove. Luckily, the sealer returned that evening to the cove for shelter, and we were able to signal her and be taken aboard again. Next morning we were landed through a screen of new ice on the beach alongside the glacier.

It was exacting and strenuous work to back-pack our 600 lbs. of gear through the labyrinth of mud-covered, dead-ice crevasses of the lateral moraine separating the beach from the glacier proper. Once on top, it was lovely ... a gently rising undulating highway of snow-covered ice about two miles wide. Low clouds hid most of the bordering mountains.

We pulled on ski, harnessed to the sledge in a 1-2 formation at 8-foot intervals. Three separate ropes acted as safety lines, and connected us to the 12-foot Nansen-type sledge. Skins were an almost universal rule. On this first reconnaissance the going was varied; drifted soft snow, hard smooth crust, rock-hard sastrugi, soft rain crust, and occasional bare ice with narrow crevasses. Navigation was difficult in flat light with no landmarks. We kept an accurate compass course and counted paces, hundreds and thousands of them. On the later trips we used a sledge-wheel milometer.

Our route was due west up the glacier but we were looking for a route to the south. For the present any possibility of this was blocked by ice-shrouded mountains.

On the third day we found another glacier leading off to the north. To the west of this there could occasionally be seen a mass of ice and snow which won the name of "Glass Mountain." During the afternoon we took a side trip up this glacier, but after 3 or 4 miles, because of drifting snow and thick mist, we returned. It was with difficulty that we found our camp. We were not yet used to skiing roped, and did not make very good time.

A day's pulling over rock-hard sastrugi was well rewarded. About midnight we awoke to a bright moon and clear sky, and crawled out of the tent in awe. The glacier here was some 2½ miles wide, and beginning to narrow rapidly. A col lay 2 miles ahead and 800 feet above us. The south was blocked by a line of steep mountains, rising probably 4000 feet right out of the ice. Extensive ice wherever the slope permitted it to cling, prompted the name, "The Shiverer." To the north our "Glass Mountain" proved to be but part of a much bigger ice-covered mass, "Mt. Hopeful." This we later worked out to be 5600 feet high. Beyond it to the west, some 15 miles away, rose the massive ice walls of Mt. Paget, 9200 feet. It was a frigid wonderland.

An early start was rewarded by a nice day with patches of sun. However, the upper half of the mountains was again in cloud.

About noon that day came a great thrill . . . we could look ahead or back, and either way was down to the sea. Ahead, the ice sloped down some 2000 feet to a bay about 5 miles distant. Seven miles behind lay our starting point, Royal Bay. We had found what had not previously been known to exist, a low pass across the island, south of the major mountain group. By mutual agreement it was called "Ross Pass," after the glacier up which we had come.

Seven miles in 5½ days does not seem fast going. However, we had been required to do much relaying of split loads, and some devious route-finding through crevasse areas, as well as travelling blind. Blind, because of poor visibility in unknown country. Even so, by the end of the season we found that an average of a mile a day for the outward journey, was quite good going.

There was no time to go on and explore further, and a strong wind discouraged stopping for lunch, so we turned back. It was hoped to complete the reconnaissance in 10 days, of which 5½ were already gone. And we were still 15 miles as the crow flies, from Cumberland Bay, if we could find a route to it.

John, Kevin, and I, felt that such a route lay up past "Mt. Hopeful" along the path started two days previously. Some five or six miles could be saved if we crossed a low rocky spur running out from Hopeful.

Going down was easy; it was off skins and push. Often one or more were needed at the back to supplement the sledge brakes by snowplowing. The four miles to the ridge were soon covered with only a slight detour around crevasses. Even easy descents became somewhat slow and cautious when covering new ground in flat light.

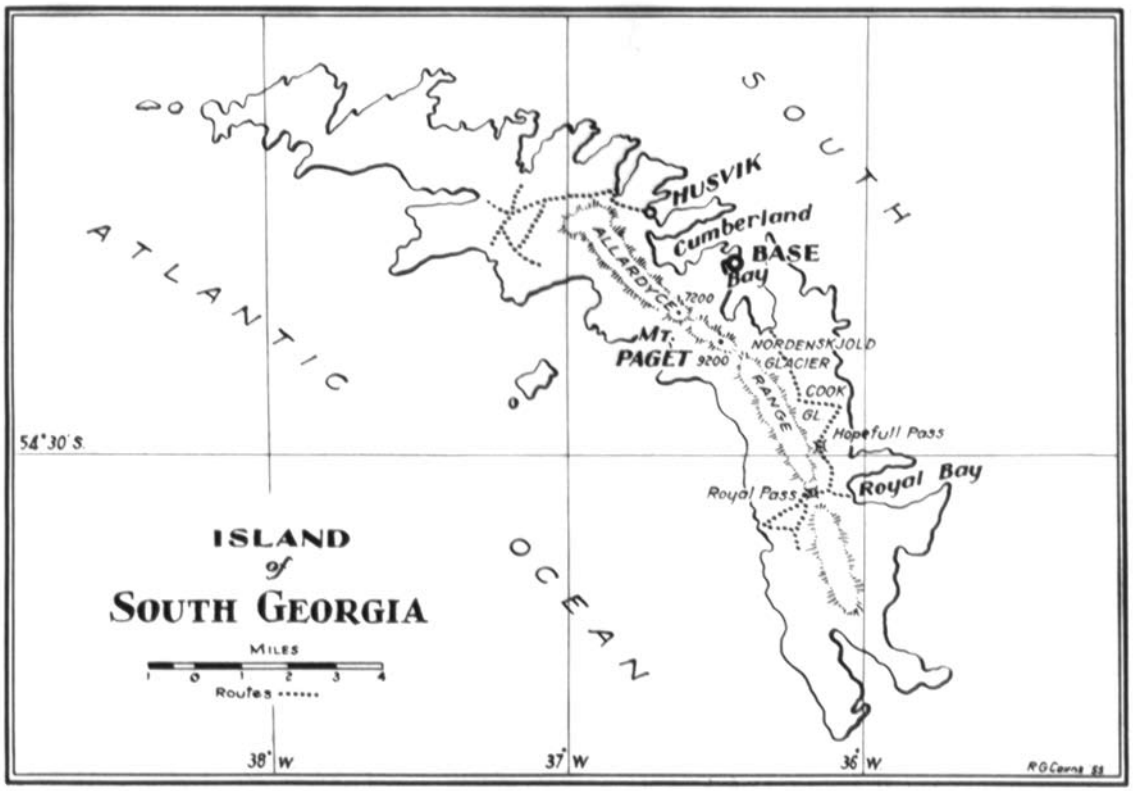
We found a good and feasible route over the ridge, which was here about 400 feet high. Up a snow slope, then up easy but rotten rock, along the far side of the summit to the left for 300 yards and down a steep snow slope, and we were over. Here ice axes and climbing ropes came into play. We soon found how difficult it is to pull with a springy nylon rope.

Running out of snow we made up packboard loads and carried them across to the other snow slope. We reloaded the sledge and began to belay it down. After about 80 feet of smooth going something went wrong. The sledge got away, and took me in tow for one of the fastest rides of my career, head first on my back. Finally I got loose and used my ice axe to slow up, while the sledge speeded up. We jumped a narrow bergschrund and went on. Soon the sledge reached the bottom, turned over, and exploded, spewing gear over 100 square yards. Luckily nothing was broken. I came up for air nearby, and watched the others troop sedately down. We pulled another half mile, and camped at dusk at 8 p.m.

Next morning we pulled on foot over a solid crust. The crest was topped before noon, and "Hopeful Pass" proved to be a small level snow field. To the west rose the cliffs of "Mt. Hopeful," while a series of small peaks rimmed the east. Side trips were made to climb two of these, obtaining views of the route ahead and of the east coast.

After a late lunch we set off down the glacier spilling out to the north. Camp was made that night amid bare hummocky ice at the juncture of this arm with the main Cook Glacier. We were perhaps 2 miles from the sea and 400 feet above it, and even here, the belching of the seals on the beach could be faintly heard.

Dazzling sunshine greeted us early, and we were away by six-thirty. Course was laid for a low spot in an enormous snow-covered medial moraine two or three miles away. This moraine turned out to be a rounded ridge bifurcating the upper glacier. Half the load was dropped as the slope got steep, and we laboured up with a partly loaded sledge. While the other two climbed to a high point and prospected the route ahead, I relayed the rest of the gear to the top. John and Kevin had encouraging


SOUTH
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37° W
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news. Three or four miles ahead lay a col which looked like the junction with a glacier running down to the north. Perhaps this was the Nordenskjold which would take us to Cumberland Bay.

It was still mid-morning as we skied down the side of the ridge. The day was hot, and the snow becoming very soft. Once again on the glacier, we pulled up it to the west, side-hilling slightly to avoid a huge hollow. Manhauling a sledge along a sidehill in soft snow is strenuous and exasperating work. After a quarter of a mile of sidehill and another up a gentle rise, we gave up. It was just after noon, but the surface was gone, and the sledge was sinking in the soft snow up as far as its load. Camp Seven was set up.

There followed a most pleasant afternoon. The sun was bright and hot; the sky impeccably clear. We were on a large gently undulating snow plain with rock and ice mountains on three sides. They inspired their own names, which perhaps describe them: On the left, "Armadillo", "Bluetop" and "Blanket"; on the right, "The Spires", "Dome" and "The Gull." Behind was the sea, blue and sparkling with bits of floating ice, while ahead was a marvellous sight. Red-brown rock and glistening ice rose tier upon tier for 5000 feet to form "Mt. Temple." It reminded me of Banff's Mt. Temple as seen on a winter's day from half way to Temple Lodge.

We lazed, photographed, did survey work, sketched, and ate. A wonderful afternoon ended as darkness drove us into the tent.

The three o'clock alarm brought us out to another travelling day. Visibility was perhaps two miles and the surface frozen. A rushed breakfast and hastily broken camp were to no avail. By 3:45 a.m. visibility was 100 yards and we recamped in our old site. At 7:30 it was clearing again and we started out. It was easy going for a couple of miles, and then we climbed up a steep slope past a belt of crevasses which brought us onto the glacier running down to the north.

Was this the Nordenskjold Glacier? Would it take us to Cumberland Bay? If only we could see. We turned down on compass course 356°. It was easy going, but six eyes had to keep a constant vigil through the flat light. By 10:30 we were an estimated 3 miles down the glacier with visibility one ski length, so we stopped to wait. In an hour it was lifting, and we pushed on, down a very steep slope for a few hundred feet. It was a good thing we had stopped, for care was needed for this descent. A mile or two along the level was followed by a second step down, and then by another mile along the level.

By 3 p.m. it had clouded over again, so we set up camp. Our position was estimated as two miles from Cumberland Bay, but we could not tell. Soon we were comfortably in our sleeping bags, cooking our supper of pemmican, 2 biscuits and a bowl of cocoa.

A peek outside at 5:30 showed visibility to be unlimited. Camp was broken for the third time that day, and we streaked for the coast.

At 7:30 we had completed the tricky descent off the glacier edge onto the beach and were chasing curious penguins out of our camp.

Promptly at 9 o'clock two quarts of kerosene poured on a clump of tussock grass made the biggest bonfire in the island's history. This was our signal to the base, 8 miles away across the bay. Soon an answering flash was received, and we retired peacefully to bed. Next morning at 11 o'clock the base came on the radio. "ZBH calling South Georgia survey party . . . catcher *Lille Carr* arriving for you 2 p.m. Good work!" The first trip was over, nine days out, and the mission completed with unexpected success.

I have reported the first trip at some length, for it gives an idea of the country, and out of it, most of our travelling and other technique developed. Perhaps this is a good place to summarize the way we did things.

We worked on a basis of two to a tent. The tents were modified Everest type 6'6" long, 4' wide and 3'6" high at the front, tapering to 2'6" at the foot. The entrance was a sleeve, into the side of which we set a 6" diameter "peephole." The latter proved most useful for getting snow, emptying garbage, and as a window. There was a 3" vent near the top, and a clothesline down the ridge. The tent was erected with riveted V-poles at either end held down by snow or stones piled on the 11" skirt all around, and by guys. The plastic ground-sheet was laid on a 6" inward turning skirt.

We found a week's ration of 2 candles and ¾ gallon of kerosene for the Primus, adequate. Two pots, a lid, 2 spoons, 2 bowls, a primus stand and filler, a radio and a flashlight, and when we could find it, a candlestick, made up the camping gear for a tent. A Yukon-type packboard made a comfortable dry and insulated bed with a small air mattress under the feet. The ration boxes were 8x8x30 inches, and an empty one made a good household and kitchen box, and when closed, served as a table.

Each of the above boxes when full weighed 45 lbs. and held 20 man-days of food. Our daily diet consisted of 3 ozs. pemmican, 3 ozs. butter, 3 ozs. chocolate, 1½ oz. porridge, 6 ozs. or 5 biscuits, 1 oz. cocoa, 2½ ozs. sugar, and 1 oz. pea-flour. Usually we substituted luxuries, like tinned meat, onion flakes, or soup mix for some of it. Most found the ration too much, but I was always hungry.

Clothing was fairly uniform. We wore a windproof jacket and pants over a shirt, sweater and long underwear, with two pairs of socks, mitts and overmitts. Most of us wore a cap under the parka, and we all wore goggles. Also we each had a fine pair of handmade ski-mountaineering boots. A limit of 8 lbs. of personal gear proved quite adequate for any trip. Into my personal, to act as a pillow, went two changes of socks, two of underwear, a spare shirt, sweater and pair of mitts, a scarf and a pair of soft boots for use around camp. Writing materials, a diary, and a couple of books, usually poetry, went with my shoe trees and completed my load.

Each person had his own climbing things, carabiners, crampons, ice axe, two pairs of skins, pocket first aid kit and a knife. As a group we took a spare pair of skis, spare poles, primus, ski and tent repair kits, two 120' ropes, and first aid and dental supplies.

This seemed a big load, yet to it must be added our survey gear. This equipment totalled nearly 100 lbs., and included theodolites, inclinometer, compass, plane tables, and drawing instruments; and in addition we carried geological, meteorological and photographic gear. When we left Britain we had some five tons in all, and as we covered the field for a 60-day trip we had the best part of a ton.

Now to get back to our travels. Soon after completing our first reconnaissance, Gordon, Alec, Kelvin and I set out again. This was to be a 5 or 6 day backpacking trip to try and establish a route across the island north of the main Allardyce Massif and to see what lay to the north. It was fairly easy going except for the wind and the lack of visibility. For the most part it was a lower and more gentle area, heavily glaciated and snow covered with clumps of peaks breaking through.

Five miles in from the east we found a large ice field at about 2500 feet. This was approximately four miles across and dipped down to the sea on the west. Possible routes appeared to run out of the north and northwest.

After three nights out, and having travelled 30 miles, we turned up at Husnik Whaling Station, tired but happy, and received a tremendous welcome. A second route had been found across the island, and we had established that backpacking was much faster, but for more than a few days, was harder work than sledge pulling.

In addition to these two trips, there was much work to be done around base. Survey base lines, astro and azimuth sights, accurate fixing of visible peaks, and much more, had to be completed. However, by December 11th we were off on our first survey journey. In two months we hoped to survey most of the area from Ross Pass south. The route of our first reconnaissance was followed as far as Ross Pass which was reached on the third day.

Here we were held up. We needed at least reasonable survey coverage of this area, but the weather proved difficult. On the next eleven days we moved camp 1½ miles and did two mornings of survey under poor and exasperating light conditions.

On Christmas Day it was snowing and foggy. In the afternoon we all crowded into one tent and celebrated. Being a democracy we rated ourselves an extra day's food. To this were added special luxuries like Christmas pudding, jam and peanuts. As the day wore on we talked of food and home, and read some Shakespeare.

Each evening at 8, Government Base came up on the radio to talk to us. However, due to climatic conditions and the mountains, reception was very poor. On Christmas Day I received two telegrams from England and was walking on air.

By December 27th we gave up waiting for survey weather, and with visibility of a mile we moved camp 8 miles to the southwest. Next day we were rewarded with fine weather. Dividing into two groups, three climbed a peak near camp, while John, Alec and I skied a couple of miles to the coast and made our first major climb. It was only about 3000 feet, but tricky and exposed. Cutting steps and avoiding cornices took a lot of time but it was well worth it. The summit was a long arched knife-edge of snow, falling off at 60° into the sea on one side, and slightly less steep on the side up which we had come. The panorama of sea, mountain and glacier was magnificent. Survey work was soon done and we started back. Observations from this point enabled us to correct some 8 to 10 miles of coast and to position a great deal inland. On return to camp we found Kevin sitting on a ration box throne having a tooth stopped by Gordon's inexperienced but willing fingers.

New Year's Eve found us in 50-yard visibility moving toward a previously seen col which ran to the south. After 2½ miles in the heavy wet snow we set up camp. About 8 p.m. the sky suddenly cleared to reveal wisps of cloud drifting magnificently from peak to peak in the setting sun. This was the first time the mountains had been viewed from this side, and the sight was breath-taking. Almost unimaginable was the extent of the ice cascades, many of them completely covering the mountains' south side. The evening sun on new snow set them off in great splendor.

Nineteen fifty-two began in glorious sunshine, as we pulled up the steep rise to the col. Once on top we halted, and before lunch made a quick trip up the little peak to the west. Survey work completed, the 1000-foot glissade back to our skis, and the ski run down was exhilarating.

In this area geologist Alec was very busy examining the junction of igneous and sedimentary rock. To establish this line of contact, and to understand it to some extent was his chief job on the island. He had examined the west of the col, and was working on the east side when suddenly all was shrouded in thick mist, obscuring objects 150 feet away.

Kevin was accompanying Alec while the rest of us finished lunch. Shortly there was a call from Kevin for ice axes and ropes. Alec, now without ski and working on rock 10 feet above the snow, had slipped, slid down a gentle snow slope for 25 feet and disappeared down a hole.

When I appeared Kevin was beside the 3 by 5 foot hole and calling down, but receiving no answer. In a few minutes the others arrived with all available rope, ice axes, etc., and a sledge.

A sound anchor was made by sticking skis 20 feet back from the hole, to which John was lashed as chief belay. Kevin was then tied on to the rope and gently lowered down the narrow bergschrund.

With 120 feet of rope out, Alex was just in sight and we tied on a second rope. From 160 feet down Kevin sent the message, "Alec on a ledge 20 feet below me. Says he is okay but cannot move."

Kevin had passed several ledges and angles and was now on a narrow ice shelf. He tried to throw the rope down, but Alex could not tie himself on. He was lying comfortably in a snowdrift on a wide ledge. Kevin jumped onto this, and tied Alec and himself to the rope. They could not see the bottom.

Two long blasts meant pull, and pull we did. It was slow, hard work. At times they could only be pulled when in a certain position, often it was stop and lower. Sometimes the pulling was easier as they could assist themselves. The knot in the ropes came and went over the lip of the hole seven times. Later I heard that at one point the rope had jammed and it was necessary to reach out with an ice axe and chip it free, while they dangled on the end.

Within three hours of falling, Alec was back on the surface and we could breathe easily again. He was not in too good shape, stunned, shocked, bruised and scratched, and with one leg decidedly in the wrong place. After a short sledge trip he was enjoying a hot drink in the tent.

Playing the role of survey doc was one of my jobs. Before dark we gave Alec a more thorough check. Aside from his leg he was not much hurt; a bruised and strained shoulder, cuts and bruises on his face and head, and badly scratched hands. The knee gave some concern. It was clearly out of place, and by the feel, I thought there was also a fracture. Next day Alec was still suffering from shock and the weather was unmentionably bad, so we decided to rush him back to the island hospital.

January 3rd dawned clear and warm. We made a depot of all extra food (200 more days) and gear and set off. Alec's sledge was made into a bathtub-like chariot with sleeping bags, packboards, air mattresses and ration boxes, and with the skis for hand rails along the sides. We made progress, but by mid-afternoon it was raining cats and dogs. At 7 p.m. we had recrossed Ross Pass, and were camping below it, wet and cold. There followed four days strenuous pulling. Along the level and when going down we pulled three on Alec's chariot and two on the provision sledge. Going up, we relayed.

The going was varied. Sometimes it was over smooth ice or snow, sometimes over hummocky ice, or carrying over rock, belaying down a steep slope, or struggling up one.

One of the worst jobs was getting off the glacier and onto the beach at Cumberland Bay. It was a drop of almost 100 feet over broken ice. Slowly the sledge and patient were lowered to the pebbles below.

That night our signal fire was seen by the policeman's wife returning from a visit.

Next afternoon we were towed 8 miles across the choppy bay in a dinghy, and Alex was in the hospital, X-rays showed there was no fracture, but a severe dislocation. The efforts of four doctors failed to reduce this, and Alec was sent to a specialist in London. It was fortunate that there was a tanker leaving the next week. At last report he was getting well, and expected to be out of his cast by mid-July.

The third week in January we were off again, this time to the north of the main mountain group, in the area of the second reconnaissance. For four days we wormed up a crevasse-ridden glacier tongue. After a few miles on smooth snow we were stopped by a blizzard.

Our tent door was not opened for the next eleven days. Kevin and I were tenting together at this time, and we kept busy reading, playing "Pick Up Sticks", writing, doing puzzles, talking, and sleeping.

Following this storm the weather was a little more kind. There were numerous rain squalls, but of the next 18 days only four were spent lying up.

On this trip we were out for 33 days, travelled about 100 miles, and mapped perhaps 350 square miles including 40 miles of coastline. It was a good trip. We looked down on Shackleton's route; made ski, crampon and foot ascents of several 2-3000 foot peaks; and became intimate with many ice and snow formations. Crevasse-hopping became a well-developed skill, along with running a sledge through ice hummocks or crevasses. On one occasion we spent an exciting couple of hours extracting a fully loaded sledge which had overturned and fallen 15 feet down a crevasse. It came out unharmed.

Most of March was taken up with a number of short trips lasting one to five days. These trips filled in much detail around the whaling bases, and gave necessary control for survey work. It was decided that Duncan should spend the remainder of the season working with the sealers to get coastline detail. About the same time Kevin was called home on the first tanker going north. We borrowed a man from the Meteorological Station and the four of us set off on March 23rd to finish the work cut short by Alec's accident. We took with us six days' food and were to pick up the food left on the col and do what we could in the three weeks before our ship sailed north again.

The depot site was reached at noon on the third day, but was quite unrecognizable. Although the glaciers were almost devoid of snow by this time, great quantities of it had accumulated on the pass.

We "fixed" the position of the depot accurately and spent a strenuous but heartbreaking time digging and prodding. During the next 36 hours 10 inches more snow fell, and made the search for the depot hopeless. We were almost out of food, and were forced to retreat. Ten miles back there was an emergency four days of food. If this were made to last a week, we could have an easy trip out, and tie up the survey along the way. At evening two days later we had picked up the food and were camping just below "Hopeful Pass" in light rain and a rising wind.

As usual we tied all loose gear onto the overturned sledge, or else put it on the tent skirt so it could be easily found.

During the night the rain stopped, but the wind rose, and by morning it was too windy to travel. More snow was piled on the tent skirts, the guys reinforced with climbing rope tied to ice axes, and the sledge pegged down by sticking skis through it.

About noon I was dozing in my bag, when suddenly I was out in the cold. There was no sign of the tent, but various boxes and a full 5-gallon tin of fuel were bouncing across the ice. Gordon and I hopped over to the other tent in our sleeping bags and demanded admittance.

Luckily I had been using my windproofs and boots as a pillow, and the cameras were beside me, so I kept hold of them.

Poor Gordon had been sitting up reading and had nothing but a few pages of his book, and the clothes he slept in.

Several minutes later there was another crash and the sledge went careering away. Later we found it had broken at least four skis in getting away. Two skis were never seen again.

It was crowded with four in the little tent, but that held it down. Soon flying stones began to tear holes in the sides. These we tried unsuccessfully to patch with adhesive tape, but ended up just holding our hands over the largest holes. We tried to sing, but the wind drowned us out.

By three in the morning the wind had abated enough for us to relax our vigil and go to sleep. It had been a tiring and exciting 15 hours.

Calm, and bright sunshine, greeted cold, cramped sleepers at 7 a.m. Gordon, wearing

borrowed clothes, and I, went out in search of gear, while the other two cooked breakfast, and packed up what gear we had.

About a mile away in a snowdrift, we found the sledge, badly broken, but still usable. A couple of miles further on was the tent, still with Gordon's boots and pants inside. In between we found odds and ends of gear, including broken skis, two whole skis, one pole, and all survey equipment.

We were now stranded with a broken sledge, one pair of skis, very little food, inadequate clothing, and little spare gear.

It was decided that Gordon and the 'met' man should take the sledge and gear down the two or three miles to Royal Bay and wait there.

Meanwhile John and I were to take ice axes, rope, and a pack containing a sleeping bag and a primus, and walk out the 12 or 15 miles to Cumberland Bay where there was food. From there we could signal for help, and get a boat to go around to Royal Bay for the other two.

By 10:30 we were on our various ways. The broken sledge gave a great deal of trouble, and the lack of ski made many detours necessary. However, luck was very much with us. John and I had gone only about six miles when we looked down the Cook Glacier and saw a seal catcher steaming into the bay. We ran, shouting and waving, to the beach, and were soon aboard the *"Albatross"* enjoying a meal of pork chops.

Later that evening we steamed into Royal Bay and picked; up our two companions and the gear.

On return to base we found that the wind had caused the needle to go off the scale of the anemometer at 120 knots. It had also blown down two buildings, sent several ships aground, and done other damage. We had indeed been lucky.

It is because of the losses incurred in the "big blow" that I must write this account from memory. I believe, however', that it is reasonably accurate. Most photographs are still covered by copyright, and are therefore not yet available for publication.

So ended the South Georgia survey's travels. During 5½ months on the island, we spent 100 nights under canvas, and covered perhaps 500 miles. Due partly to the work we were trying to do, and largely to the weather, it was mostly snow and ice travel, and very little real mountaineering, but it was indeed a unique experience, and an unforgettable trip.

THE KING PEAK-YUKON EXPEDITION, 1952

By Gibson Reynolds

Several years ago I had the good fortune to attend a talk given by Captain A. H. MacCarthy in which he described his 1925 expedition to Mount Logan. At that time he spoke admiringly of the great peak beneath which the expedition was forced to travel on their memorable ascent. I remember vividly his account of the terrible privations they suffered in the vicinity of this peak, King Peak. Thus when I received an invitation from Pete Schoening early in the spring to join an expedition to King Peak, and attempt its first ascent, I was initially rather hesitant. Only one member of the climbing party had done previous mountaineering in those northern latitudes and many of the difficulties that would be encountered were bound to be unique experiences for us.

As part of the St. Elias Range of northwestern North America, the peak lies in the midst of the most completely glacier-bound region of the continent. This remoteness, together with its seventeen thousand foot elevation and rugged symmetry are challenging not only to one's mountaineering blood but also to those capacities for planning and organization that are absolutely vital to an expedition of this nature. I was soon convinced of the soundness of the venture by the obviously high order of planning and the excellent advice and assistance that had been obtained from many outstanding mountaineers.

After a few hectic months of preparation, I found myself in Seattle in the second week of June. Our expedition's leader, Pete Schoening, and our pilot, Fred Melberg, were already in Alaska with Dick McGowan and Verl Rogers, paving the way for the rest of us. Our assistant leader, Vic Josendal and Fred's assistant, Dick Connell, together with Dave Harrah, Bob Yeasting, Bill Niendorf, Tom Morris and myself were to follow on or about the fourteenth. At this time we were surprised to hear that a radical change of plans was necessary. The original schedule called for a plane landing on the upper Seward Glacier or perhaps the Quintine Sella Glacier as close as possible to the start of our projected route on the west ridge of King Peak. For this purpose, Fred's Super Cruiser had been outfitted with a ski-wheel arrangement that would allow flights between this base camp on the ice, and the concrete airstrip at Yakutat, Alaska. Pete and Fred had tested this arrangement in landings and takeoffs from the Juneau Ice Cap and found that unfortunately the wheels, of necessity protruding slightly beneath the skis, caused too much drag, and in spite of successful trials earlier in the year, we were forced to abandon all hopes of air transportation to King Peak.

Since many of us had only a limited time, we decided to make a more easily accessible mountain, Mt. Augusta, our prime objective.

At about this same time word reached us that another party under the leadership of Al Paige had managed to land near the base of King Peak a few weeks earlier and had succeeded in climbing it by much the same route that had appeared most feasible to us. We decided the few of us that could remain after the attempt on Mt. Augusta would, if it were at all possible, climb King Peak by a different route with the spectacular east ridge receiving special consideration. As if all this re-organization were not enough, our special plane transportation from Seattle to Yakutat did not materialize because of a serious engine breakdown.

The commercial flight up the British Columbia coast and the Alaskan Panhandle was made at night on June 18 in a downpour most of the way. We arrived in Yakutat early in the morning and were greeted by cheering smiles and clearing weather. Pete had contacted Mr. C. F. Kirt at

Yakutat who was willing to attempt a landing on the Seward Glacier with his thousand horsepower amphibian. This plane, a Gruman Duck, could carry over a thousand pounds of cargo. Its one large pontoon and two smaller ones were capable of effectively supporting it on the snow-covered glacier surface. Minutes after our arrival in Yakutat, we were busy loading the "Duck".

Thus, within an hour or two, Pete, Dave, Verl, and Tom had taken off for the upper Seward Glacier with a large supply of food and equipment. Fred and Vic followed a short time later in the Super Cruiser to assay the results of the landing. They returned after several hours to report that a landing had been made successfully, but that Mr. Kirt was apparently unable to take off again. The pontoons were producing too much drag in the snow.

It became apparent that the rest of us would have to walk. Someone made a comment about how pleased archaeologists of a few millenia hence would be to find a primitive flying machine perfectly preserved in the ice. In the next couple of days, many more supplies were dropped on the Seward and we prepared for our long hike.

On the twenty-first of June the long trek began. Each man carried approximately a fifty-five pound load. Arrangements were made with the radio station at Yakutat Airport to listen each evening for broadcasts from our radio. The Super Cruiser landed us a few at a time on the far side of Yakutat Bay in miserable weather. The wet sand at low tide was our landing strip. Bob and I were the last to be flown over. We had a few anxious moments while Fred found a rapidly closing hole in the fog.

Now we were on our own. To join the others on the Seward, we had first to cross thirty miles of the Malaspina Glacier through the St. Elias Range, and finally traverse another ten miles across the broad upper Seward Glacier to our air-lifted base camp.

The fog had settled to a ceiling of a few hundred feet and it had begun to drizzle. We decided to hike the two miles between the beach and the Malaspina Glacier in the afternoon and camp on the glacier that night. Air reconnaissance had shown two long lakes directly in our path in which the ice terminated. The route lay along the crest of a causeway of moraine material that separated the lakes. The strip of coast between ice and sea is covered with underbrush and small trees. We followed a stream bed through this vegetation and quickly reached the barren terminal moraines and a large lake, beyond which rose the high debris-covered pressure ridges of the Malaspina.

The first likely moraine was followed out into the lake toward the ice. It ended about twenty feet short of the glacier. I was tempted to swim this small gap and quickly undressed. The others formed a Roman square and valiantly fought off an attack by several sea gulls that seemed to resent our presence. A quick ducking convinced me I could not wisely swim a fraction of twenty feet in that ice water. To accompaniment of flailing ice axes and the squawks of the sea gulls I hurriedly donned my clothes and we retreated down the moraine to safer ground. These gulls were by far the most ferocious beasts we encountered on the whole trip. Taunted by the war cries of the victorious gulls, we skirted the edge of the lake to the east and encountered a complex of moraines that seemed to form a causeway. This time we were not disappointed and reached the top of the first pressure ridge by eight p.m. We contacted the airport at Yakutat and set up camp on a snow patch.

The minimum temperature was 41 degrees F. and an icy drizzle continued all the next day. The outlying pressure ridges are several hundred feet high in places, and covered with loose rock. Because of the low hanging clouds we could see only a few miles ahead from the tops of even the highest ridges. It was necessary to navigate by compass. At the end of the day we camped on the last of the pressure ridges and the endless white plain of the Malaspina lay before us.

On Monday the 23rd, we reached the confluence of the Seward and Malaspina Glaciers after travelling over twenty miles across the flat level surface of the Malaspina. Rain and low

clouds made it again necessary to use a compass. We camped on the Malaspina near the edge of the ice and experienced more freezing temperatures. Tuesday's route lay up the left bank of the Seward Glacier, which inspection had shown was a nightmare of crevasses and séracs in the lower section. There is rather a prominent hill that juts away from the main ranges and forms the corner past which the Seward flows to become the Malaspina. A small pass behind this hill leads from the edge of the Malaspina, to the snowfields along the Seward's edge. To gain this pass we had to negotiate a number of crevasses in the "black" ice along the Malaspina's edge and then climb a few hundred feet of snow to the crest of the pass and the edge of the Seward. By evening we had progressed several miles up the Seward to a point just below its junction with a tributary, the Pinnacle Glacier. The characteristic roar of the Duck flying overhead in the clouds did much to cheer us up. We had about given up hope of a takeoff and were considering a special trip to escort Mr. Kirt back to Yakutat Bay.

The next day we reached the Pinnacle Glacier by kicking steps up a steep melting snow bridge that bordered and bridged lateral crevasses of the Seward between the main séracs and a steep hill side of the Hitchcock Range. We crossed the Pinnacle Glacier, passed Point Glorious, and reached the area just south of Mt. Owen. Here the Seward temporarily becomes very broad and smoother, and capable of being crossed on foot. Visibility was less than 200 feet at times and we were fortunate not to encounter any serious crevasses. Our thirty-seven-hundred-foot camp at the base of Mt. Owen that night was subjected to fog and snow and a temperature of 29 degrees.

The fog lasted until noon on Thursday. The sudden clearing gave us our first view of Mt. Augusta, rising precipitously over ten thousand feet above us. Its forbidding aspect raised serious doubts as to the possibilities of climbing it. We could also see the great pyramid of Mt. St. Elias twenty-five miles to the west of us. The Corwin Cliffs with their hanging glaciers loomed directly across the Seward and formed the west wall of the Seward Gorge. Huge masses of ice on Mt. Owen were directly above us. After so much rain and fog we were getting the first real view of our home for the next few weeks. New York city seemed very far away.

Our route lay across the Seward to the relatively smooth ice on the western side. We followed the gorge, gradually traversing from east to west and at sunset (eleven p.m.) reached the large icefall just below the entrance to the gorge.

The icefall was by-passed on the smoother ice and snow slopes near the rocks on the right bank. We reached the main surface of the broad icecap forming the upper Seward Glacier in the wee hours. The temperature was 16 degrees F. and the elevation about 5000 ft. Earlier in the day leaking boots had soaked my feet and the strong winds and low temperatures were now quite uncomfortable. This cold was actually a great blessing, however.

Usually, snowshoes are necessary on this upper portion of the Seward and we had neglected to bring any with us. The surface was frozen so hard that we could heel and toe all the remaining distance to the base camp. Snowshoe tracks made earlier in the day by Pete and Tom were helpful in guiding us to the base camp hidden on that great white plain by vast distances. We arrived at 2:00 a.m. on the 27th, having taken five and a half days on a trip our fellow climbers had made in an hour. In spite of the late hour we were treated to gigantic portions of beef stew, jello, cookies, nuts and chocolate. Under the guidance of Verl, two large igloos had been constructed and we were given the privilege of sleeping in them while our friends "roughed it" in a tent.

I was saddened to learn that one of the strongest climbers and my excellent counsellor on matters Alpine had returned with the Duck. On a reconnaissance of Mt. Augusta, Dave's feet, injured previously in the Andes, had given trouble and he had thought it best to fly back with Mr. Kirt. This was a great blow.

We had little time to rest after our long trip, as the spell of good weather had to be exploited. Pete and Tom had established a route to 9500 ft. on Mt. Augusta before our arrival at base camp. A camp had been constructed near the base of Augusta at 6000 ft. and a tent left in a col at about 8000 ft. The route of ascent followed a valley on the northwest side of Mt. Augusta that terminated in a small col on the northwest ridge of the mountain. From here the route wound among the crevasses and large blocks of ice on the lower part of the northwest ridge to a campsite at 9500 ft.

Saturday morning, June 28th, saw us begin to climb up Mt. Augusta. We split up into two groups, a climbing party and a support party. Vic, Verl, Bob and myself constituted the climbing party. Pete, Tom, Dick and Bill were our lifeline. The climbing party left base camp after dark on the evening of the 27th and thanks to a nine-degree temperature were able to heel and toe all the way to the base of Augusta without snow shoes, pulling a heavily laden sled made from skis. Soon after entering the valley, we transferred the heavy loads to our backs. The snow had become very soft by this time and the uphill grade was steep. Accordingly, when the tent at the col was reached, we left a large part of our loads there, intending to go on up to the 9500-ft. campsite, establish camp and come back later to retrieve them. The soft snow all the way to 9500 ft. was tiring and slowed progress. The climbing was not difficult, there being only two short steep snow slopes that required care. We erected a tent at the 9500-ft. site and built about half an igloo.

Sunday the 29th, dawned clear except for scattered cirrus clouds and plumes on the eastern peaks. Verl and Bob returned to the col to get the supplies we had left on the previous day. They and the support party arrived around noon heavily laden. The support party rested in the afternoon while Vic, Bob, Verl and myself left at 2:30 p.m. to climb the steep ice slopes above us. This portion of the ridge consists of approximately two thousand feet of exceedingly steep ice and snow. At times the angle is as much as sixty degrees. The first few feet were steep in spots but relatively easy as one could crampon without cutting steps. This was followed by about 300 feet of snow-covered ice at a slope of 40 to 50 degrees which at this time of day was somewhat soft and insecure. It was necessary to dig down to the ice beneath and install an ice piton on the lower part of the slope a hundred feet above a small schrund at its base. The next 200 feet were treacherous because the ice beneath would not hold pitons and between the ice and a melting crust was a layer of dry unconsolidated snow. Large platforms were chopped in the ice to serve as belay stations.

Soon we reached a spot where a traverse across the west face of this shoulder of Mt. Augusta could be made to gain a rib of rock that offered security from possible avalanches. The next few hundred feet were negotiated by scrambling up the steep rotten rib with an occasional piton or sling for safety. The rock did not last and before long we were challenged by a slope of ice and hard snow that must have had at times a slope of 60 degrees. The leads were long, ice pitons were used every 50 feet and huge belay platforms were chopped. There was about 250 feet of this before the slope became an "easy" 40 to 50 degrees again. The step and platform chopping went on all night and it was long after sunrise when we reached the shoulder of the mountain and established camp at about 11,500 ft. Leads were changed several times on this climb with Vic leading the nerve-wracking portions above the rock rib. The great exposure on this route adds to the strain. Several huge avalanches from the west face of Mt. Augusta did nothing to soothe our nerves.

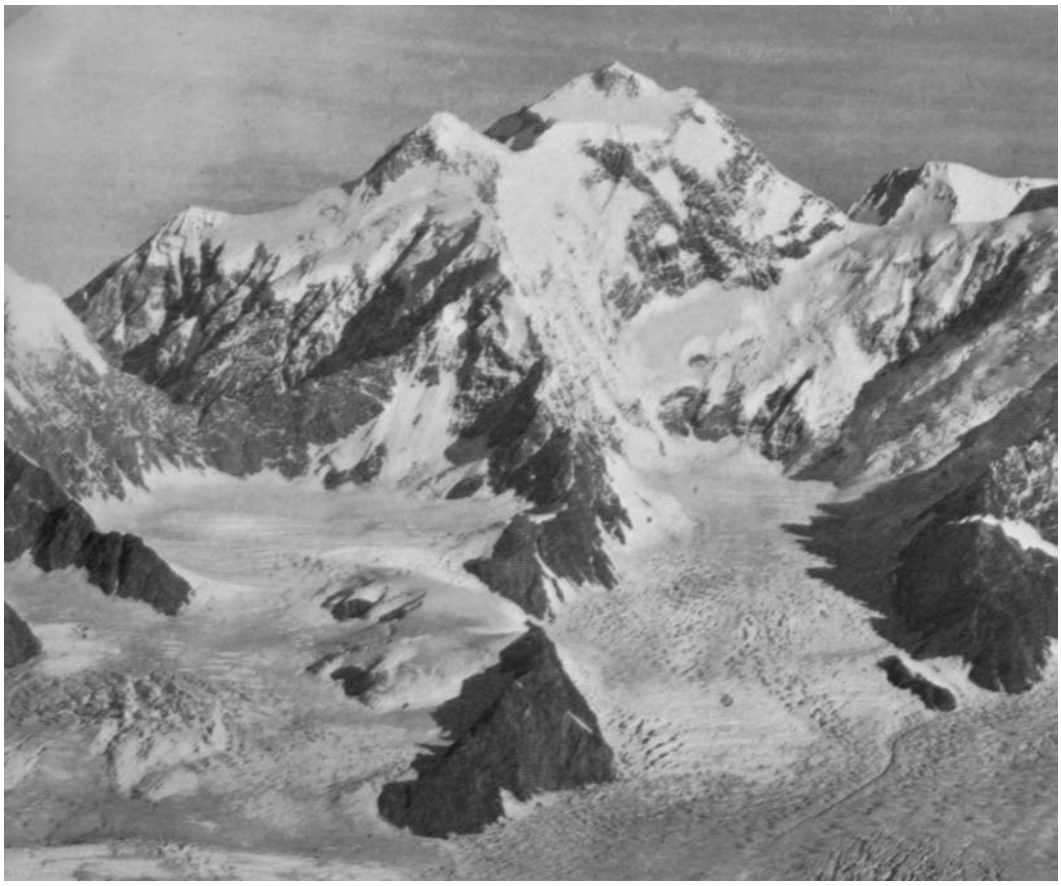
The weather was by now becoming uncertain. After a hot meal and a few hours rest we went on up the shoulder toward the summit. At first the climb was a beautiful ridge walk that gradually steepened. There was one 50-foot ice step at an angle of about 50 degrees. The wind became much stronger and clouds were forming rapidly around us. The only obstacles on the ridge that seemed likely to cause difficulty were a number of gigantic blocks of ice around 12,500 ft.

near the prominent ice cliffs that terminate a hanging glacier on the north face. I was very anxious to know if there was a route between the ice blocks and the cliffs. Verl and I pushed ahead in the hope of seeing if such a route existed before the full fury of the storm struck. We by-passed the ice blocks by traversing beneath them on the north face and were heartened to find that there existed a steep, if somewhat unstable, snow slope, leading up to the ridge again behind the blocks. We hastily retreated down the ridge to the 11,500 ft. camp where we rejoined our companions in the supply group. They had climbed the evil ice and snow below us with heavy packs filled with food and supplies.

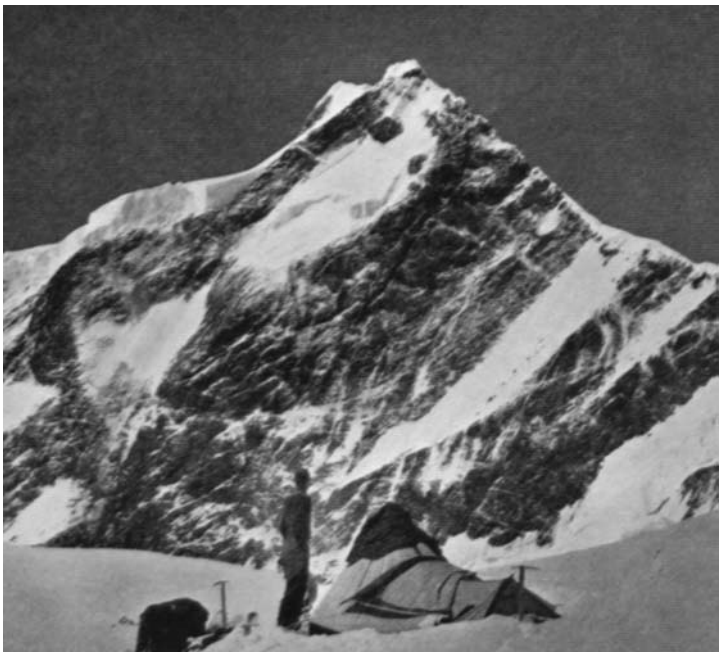
Pete then decided the climbing group would remain at this camp and make an attempt on the summit at the first opportunity. Since there was only enough food at the high camp for four men for three days, the four in the supply group would return to the 9500-ft. camp and on down to our base camp many miles away on the Seward Glacier, to collect more supplies and bring them up to us when the weather permitted. To safeguard and speed their descent before the storm became worse, we tied together all the rope and were able to belay them from above for the initial 400 feet. Vic, Bob, Verl and I then began our long wait for good weather. We passed the time pleasantly enough, philosophizing, playing "twenty questions," and learning Alaskan history and lore from Verl. A snow ridge behind our tent mercifully protected us from the force of the wind, and for three days we were warm, comfortable and deliciously lazy. On the fourth of July, the day dawned clear and cold and after a substantial breakfast we once again set out to climb Mt. Augusta.

Our previous tracks had been obliterated and in a few spots the soft snow necessitated hard work for the lead man. Our prolonged inactivity had weakened us, making the climb more tiring than it had been on our last attempt. We traversed beneath the blocks of ice again and climbed the steep snow slope to the ridge, taking care to be belayed from solid ice and snow positions. The climb up the ridge was made with little difficulty and a minimum of step kicking and cutting. It was a comparatively easy ascent all the way, and we arrived at 2:45 p.m. The summit ridge forms the boundary between the United States and Canada. Since this was Independence Day, we "entered" the United States and ignited flares and smoke signals in honor of the occasion. The weather had been growing worse and we could get only occasional views through the clouds. Mt. Saint Elias, 16 miles away, was sporting a cloud plume and thick fog was rolling in off the ocean. The barometer indicated an elevation of 14,800 feet compared with the actual height of 14,070 feet. We left at 3:55 p.m. and met the supply group at about 13,000 feet on their way to the top. In spite of the rapidly worsening weather they were also successful. The climbing group then went on down to the 9500-ft. camp arriving at 3:00 a.m. The sky was now clear but the Seward Glacier was covered with fog. The thermometer at this camp read 14 degrees. We were joined not long afterwards by the rest of our expedition who had carried the high camp down. The day was spent eating, sleeping and being thankful we would never again have to climb that treacherous route up to the shoulder! We left in the evening and arrived at our Seward base camp at 5:00 a.m., July 6th. The last part of the journey consisted of pulling two heavily laden sleds over the frozen glacier surface at night. The sleds were unduly heavy with additional food Fred had dropped at our camp at the base of Augusta. The bad weather had delayed his flight until after we had climbed the mountain (but not yet come down) and thus it was too late to be of use to us. His precision in this drop was attested by the food can that went through the roof of an igloo.

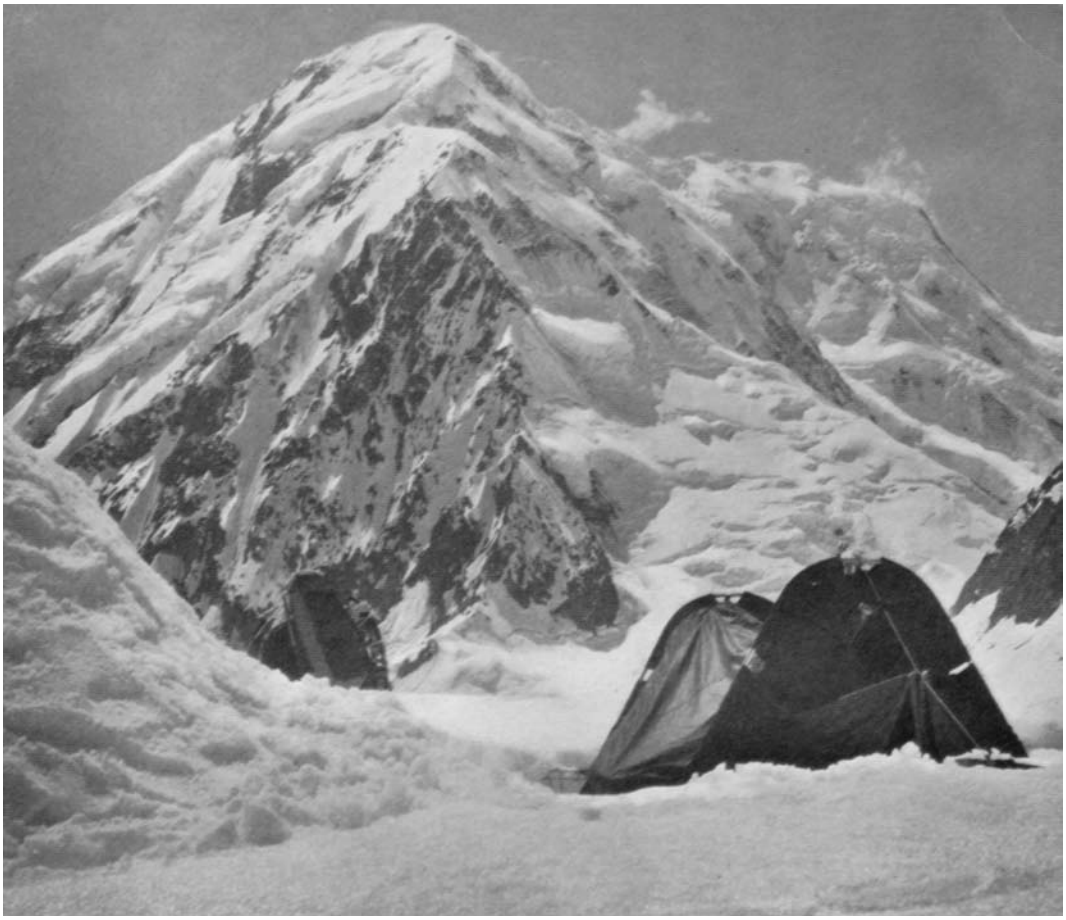
The next few days were spent in resting and planning for the future. Vic, Tom, Verl and Bob prepared for their long trip back to civilization. Pete, Dick, Bill and myself were getting ready for King Peak. There was fog and snow for two days and partial clearing on the 8th.



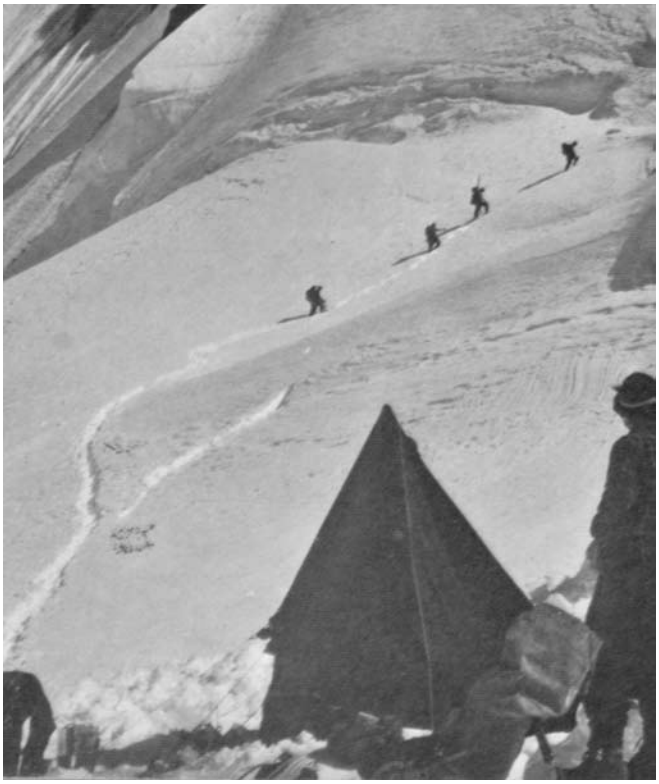
Aerial View Of King Peak From 11,000 Ft. *Photo Walter A. Woods*
Route of ascent up middle right glacier, shoulder and ridge.



King Peak From 14,000-Ft. Camp. *Photo P. K. Schoening*
Right ridge (east arete) route of ascent.



Mt. Augusta From Augusta Base Camp.
Photo P.K. Schoening



Climbing Party On Steep Slopes Of Mt. Augusta.
Photo P.K. Schoening

Above 9,500 Ft. Camp

Wednesday, July 9th, was clear with a minimum temperature of 28 degrees. Pete and Dick set out up the Seward to mark the best route to King Peak. Tom and I decided to explore some crevasses near our camp. The snow was very soft and had a breakable crust. We roped together with 120 ft. of nylon between us but did not bother with snowshoes. Tom was in the lead as we approached the edge of a broad shallow crevasse. Having just broken through the crust, I was floundering around in soft snow up to my hips trying once again to reach a section of solid snow. Just as I was halfway out of the huge "flounder hole" I had created, I received a sudden unexpected jerk on the rope that pulled me over on my face and dragged me five or six feet before I could get my feet in front of me and brake the motion. I stamped a huge pit in the soft snow before I was able to anchor myself and take a look around. Tom was nowhere in sight. Repeated shouts went unanswered. After much stamping in the bottom of my pit the snow was hard enough to anchor my ice axe and take the strain of the rope. Securely fastening it, I untied myself and cautiously made my way to the spot where Tom had disappeared. The snow covering a small tributary crevasse had collapsed under his weight and he was now dangling twenty feet below the edge. The crevasse was three to four feet wide at the top and narrowed to about two feet where Tom hung. Beneath him the crevasse narrowed still further and was apparently bottomless. He did not appear to be seriously injured, but was very uncomfortable. If he had fallen a few more feet he would have become wedged between the ice walls and the situation would have been much more serious. He was able to lessen the strain on his chest by standing on a small rounded projection of ice with one foot. This could be done for only a few seconds at a time before the foot slipped off again. Through the worst kind of oversight, neither of us had brought any slings with us on this little jaunt. This was the first time either of us had been without them on the entire expedition, and it certainly brought home forcibly to us that not even a moment's negligence can be tolerated on this ocean of ice.

Without extra rope or slings for him to stand in, there was nothing I could do except get help as quickly as possible. Those of you who have had occasion to run on a breakable crust will understand the nature of my return trip to camp. I could attract no attention with my shouts until I was almost all the way back. Vic, Verl, Bob and Bill grabbed ropes and slings and dashed to the scene. They speedily and efficiently rescued Tom using the Bilgeri technique. Tom was cold, tired and soaking wet, but except for a few cuts and bruises and a mild case of shock, uninjured. He was in the crevasse 40 minutes.

On July 10th, Vic, Bob, Verl and Tom left at 12:55 a.m. for Yakutat. The temperature was 18 degrees and they were able to heel and toe across the solidly frozen glacier surface dragging a sled piled high with provisions.

Next day we contacted Fred by radio while the plane was flying overhead and instructed him to drop food and fuel at the site near the base of King Peak which Pete and Dick had marked with colored tarps. This area was approximately twelve miles west of our main camp near the junction of the Seward and the large glacier that originates beneath King Peak, King Col, and the western section of the great south face of Mt. Logan. We named this the Hall Glacier. At night we left the Seward Base camp to establish our first camp near King Peak.

By early morning we reached the drop area and added more weight to the already heavy sled. The crevasses on this part of the Hall Glacier are many and treacherous and it was evening before we reached a large nunatak at 6500 ft. near the eastern margin of the Glacier. Here there was running water and solid rock to camp by for the first time in weeks.

The next day (Sunday) Pete and Dick returned to the drop area and hauled the remainder of the supplies to our nunatak camp. Bill and I attempted to find a way across the middle section of

this glacier to the western branch and up this western branch to the base of King Peak.

We reached the base of a ridge extending south from the eastern shoulder of King Peak which forms the divide between the upper portions of the western and middle branches of the Hall Glacier. The lower part is very precipitous and any direct assault upon it was obviously impractical. Near its southern end and just south of the large cliffs is a small peninsula of rock and a snow slope leading from the mouth of the middle Hall to a col adjoining the western Hall, and effectively by-passing the large ice fall. From many miles away on Mt. Augusta, observations had led us to believe that this would be one of the greatest obstacles on our way to King Peak. The glacier was bounded on the eastern side by sheer cliffs that made any detour in this direction impracticable. The entire afternoon was spent in trying to force a passage through the ice. I believe we climbed the biggest sérac in the Yukon not knowing what it was until after we had reached the top.

A sheer rotten ice wall that was hidden from sight and extended at least half way across the glacier finally stopped us only a hundred yards from the easy snow slopes beyond the cliffs on this eastern side of the glacier. The soft melting snow bridges and steep ice had necessitated frequent changes between snowshoes and crampons. This process delayed us to such an extent that we had to give up and return to prevent our companions from worrying. We had not yet found a route up the glacier or the far side.

While Bill and I slept late the next morning, Pete and Dick followed our flags and willow wands up to the col with fairly heavy loads. Here they unburdened themselves and began to explore the glacier. Meanwhile Bill and I followed half a day behind with heavy packs and reached the col to find Pete and Dick waiting for us. They had marked a trail across the Glacier to a more likely appearing route on the west side and had already carried across one relay of loads. This was quite a feat since by this time a light fog had settled over the glacier and visibility was no more than 50 to 100 feet. The four of us now roped together and made our way across to the west side in the fog following the flags and willow wands. It was a very beautiful trip. This part of the glacier consists of many blocks of ice jumbled together and capped with thick frostings or snow. There were many incredibly blue lakes scattered about. The fog greatly enhanced the weirdness of the landscape. We camped well away from the cliffs and avalanche slopes on the western edge near a tributary glacier that joined ours in a spectacular ice fall. Before supper Pete and I reconnoitered a route along the margin of the glacier by-passing the worst ice falls on the snow slopes adjacent to them. The fog prevented our seeing whether or not we could proceed further in this direction. Some of the snow slopes were obviously avalanche slopes. We resolved to cross them early in the morning before they were appreciably warmed.

All next day the weather was bad. On July 17th, we left in the fog to try to force a route at least part way and carry some of our supplies as far as possible. The clouds suddenly lifted and we were happy to see a comparatively easy path up the edge of the glacier, partly on the avalanche slopes and partly on the ice itself. We quickly reached the broad level névé at the head of the glacier and established our second permanent camp at 8500 ft. near the brink of a very broad, shallow, partly filled crevasse. After another trip to bring up the remainder of our loads, we went to sleep until nightfall would make the huge snow slopes above us safe for travel.

The way now lay up these long snow slopes that lead from the eastern side of the glacier to the crest of the south ridge of King Peak's shoulder. Their vertical height is about 5000 feet. We prepared to ascend the centre of an avalanche path where the snow was packed harder than elsewhere. Since we must get off the slope before sunrise, this direct route seemed to be the shortest and the safest. The temperature that night was considerably below freezing. The snow was as hard

as ice and we were able to ascend rapidly with the crampons and to carry heavy loads. We left these loads on the 14,000-ft. crest and quickly returned to camp before the sun struck the slopes.

We again retired for the day and at night set out once again with more food and equipment for the ridge crest. All unnecessary items were left behind including our snowshoes and a supply of food for use on the return trip. The thermometer did not drop very far below freezing that night with the result that the "pavement" of our previous nights highway had now become a breakable crust. We established our third camp at 14,000 ft. and attempted to reach the shoulder. The brim of an icecap barred our way. All along the upper edge of the shoulder the ice presents a sheer or overhanging aspect except at its extreme end. At this point the ice cliff merges with a steep ice and snow slope on the crest of the ridge. This slope lay directly above precipices falling at least 5,000 feet to the head of the middle branch of the Hall Glacier. It was up this ice slope that we tried to make our way, beset by fog, wind and snow. The exposure and steepness of the slope and the inability to see more than a few feet ahead forced us to abandon the attempt. We left our loads on a platform stamped in the snow and anchored them securely to a rappel picket. We spent the rest of the day in the fog at our 14,000-ft. camp. At 2:00 p.m. the temperature had dropped to six degrees outside the tent.

The next day was Saturday the 19th. We retraced our well-marked route back to the steep slope and our earlier cache and found that we had unknowingly reached the surface of the ice cap on the previous day. The remainder of the trip to the crest of the east shoulder was made for the most part in soft snow that seemed to be somewhat unstable in places but otherwise not troublesome.

A dazzling landscape lay before us. From King Col at our feet, the huge mass of Mt. Logan rose toward the north and east presenting a snowy panorama many miles in breadth. Its highest points seemed scarcely reduced by distance. The great summit plateau is well buttressed by several sharp ridges descending to the south and eventually disappearing beneath the ice of Seward Glacier. Between these ridges the mountain swoops vertically downward in some of the world's largest precipices. Great avalanches hurtling down appear to be merely small clouds drifting gently into the valleys, their rumblings, faint and long delayed or entirely lost in the voids. A mile to the west of our position and a little below us, the eastern arête of King Peak began its climb into the sky. We were overwhelmed by the scenery and pitched our tent on the highest point of the shoulder where the views were the most comprehensive. Only the summits of King Peak and Mt. Logan were less protected from the elements than this, our fifteen thousand-foot camp! The wind, funneled between these two great mountains, blew continually from the north with unvarying intensity for the duration of our stay.

Until this time we had been able to see only the south side of King Peak. Our intended route along the east ridge had seemed to require considerable rock climbing at each of several large steps. Now we were happy to discover that the north face of the mountain had long steep snow slopes upon which we might by-pass some of the cliffs. Although only two thousand feet of mountain remained above us, we realized that all our work so far was just by way of preparation for the real climb that was now to begin.

Sunday dawned clear and cold. The minimum reading thermometer recorded -2 degrees F. overnight. We quickly reached the base of the ridge, and for the first time since Mt. Augusta we began to climb on rock again. The lower portion of the ridge was a short scramble followed by a ridge walk and another short rock scramble. A fairly steep wind-packed slope then led to a longer snow ridge walk and eventually to the base of the prominent cliffs and steep rock that had seemed so unattractive to us from down on the Seward. The rocks were avoided by traversing beneath

them on the north face and climbing directly up the steep snow and ice slopes behind. We climbed four in a rope with roughly a hundred feet of rope between each of us. In this way, avalanche danger could be minimized by having at least one man always anchored to solid rock. Two belay platforms, two ice pitons, and many "bucket-sized" steps safeguarded this ascent. Progress was very slow and we reached the ridge crest in the afternoon. Our elevation was now more than sixteen thousand feet, and the wind showed us little mercy.

We hardly had got started up the ridge again before it became apparent to all that our first attempt on King Peak had to be abandoned. Pete and Dick were wearing felt boots which were coming apart. Dick's were in especially bad condition and he was suffering from the cold. Fixed ropes were installed and left on the long steep ice slopes beneath us to facilitate our descent and speed our subsequent ascents. Being anchorman was not particularly pleasant as the King Glacier could be seen between my knees three thousand feet below and the "bucket steps" required seven league boots for their proper negotiation. After descending the ridge, we were amazed to discover that the short slope between the base of this ridge and our high camp on the shoulder had become interminable and changed from a gentle incline to a steep up-grade.

Monday was again clear and cold after a minimum overnight temperature of -2 degrees. We left soon after dawn for our second attempt. Dick's deteriorating boots slowed our progress considerably and it was not until late in the morning that we reached the high point of Sunday's climb. From here we walked up the gentler angle of the ridge crest to the base of a large gendarme that was only a few hundred feet lower than the summit of the mountain and was the last major obstacle to be overcome. In an attempt to by-pass the gendarme, I cut steps high up on a steep ice slope on its north side toward a vertical rock buttress of the gendarme, intending to cut my way down and around it. This buttress blocked our view of the route ahead. The day was wearing on and Dick was once more feeling the cold. After progressing about halfway, Pete thought he saw a quicker route lower down beneath the ice slope. I retraced my steps and while Pete belayed me from above, I began cramponing first diagonally and then vertically down the steep ice toward the beginning of a long snow slope beneath it. In the interest of speed and because I was well belayed from above, I did not cut steps. We hoped that from this lower position, a view around the buttress might be obtained. On the steepest part of the ice I snagged a crampon spike on the knee of my trousers and pitched forward down the slope. My somersaulting flight was constrained into a broad arc by the pull of the rope- I came to rest against a small outcropping of rock, none the worse for the experience, except for a rather large tear in my trouser leg. The snow upon which I now found myself was the most vicious stuff I've ever seen. Its surface was somewhat windpacked. Underneath it was very soft and great sections of it needed but the slightest urge to begin sliding. I got out of the worst section by letting the rope rather than the snow take my weight and floundered as cautiously as possible back to the edge of the ice placing an ice piton for safety. I was still unable to see around the buttress but now it seemed quicker to approach it from this angle. Pete worked his way down to my position. He had to chop steps down the ice because of the miserable condition of his boots and the resulting poor crampon control.

The route to the buttress lay over the top of the wind slab slope at the point where it met the hard ice above. The line of juncture was a small snow-filled shrund which seemed to offer reasonably safe passage because the ice above was solid and pitons could be used. However, it was anybody's guess what lay beyond the buttress. Pete decided to try to climb over the top at the far side of the ice slopes and beyond the point where I had turned back. This route appeared to be safer and might lead quickly to the col between the gendarme and the main summit. We retraced our

steps across the upper ice slopes and Pete chopped his way up toward the top of the gendarme near the buttress. The last forty feet or so beyond the ice consisted of a difficult short traverse across snow-covered, down-sloping ledges.

Just as he reached the other side, I noticed that the cold and wind had again taken their toll of Dick's energies. Pete immediately retraced back to the partial shelter of some rocks on the ridge. To continue was out of the question. Pete was obviously tired from his ordeal and Dick needed first aid to prevent frostbite. We put all our extra clothes on Dick, fed him, warmed his feet against our stomachs and administered anti-frostbite and energy drugs. He must have had to exert all his will to keep going as far as he did.

After a couple of hours of rest and recuperation we started down again. Spending the night on that mountain was the last thing we wished to do. Pete's and Dick's boots were tied together with string to make them last as long as possible. Their footing was certainly insecure. It was necessary to keep moving to stay warm. Once again I became anchor man and once more we slowly crawled back down the mountain and eventually reached the base of the ridge. The trip up that last slight incline was endless and could be done only because there was no other alternative. The camp never seemed to come closer in spite of our efforts. Finally, in the early morning, we fell into our sleeping bags exhausted and slept most of the day.

It seemed too much to hope that the weather would be good for another day. Nevertheless, time was absolutely necessary for repairing our equipment and restoring our strength. In spite of the beautiful weather, we rested and reconditioned ourselves for another attempt.

The next day, Wednesday, July 23rd, we started out at three a.m. and by four had climbed only a couple of hundred feet up the ridge. Here Dick stopped and called a conference. He told us that he believed the condition of his feet did not safely warrant his climbing any further. They had been numb since our last climb (but not frostbitten) and he would be unable to tell whether or not they were cold. Bill also did not wish to continue, so now came a fateful moment of decision for Pete. He had always maintained that we would all make the climb of King Peak together or not at all. With another day of recuperation, Bill and Dick would undoubtedly be in a better frame of mind and body to continue. However, the weather was threatening. Although the north wind continued unabated, it was bringing clouds with it. This had not happened before. A north wind had meant cold but clear weather.

Pete decided that he and I would go on up the mountain alone and try to find a route around the gendarme. We would "engineer" the mountain with fixed ropes and chop large steps so that a climb might be made in moderately bad weather if necessary. Since there were only two of us, we alternated the lead and thus ascended very rapidly. Upon reaching the gendarme we went down the ice slopes on the near side to the point where we had turned back two days before. Then we traversed across the top of the wind slab slope to the base of the buttress taking advantage of the natural trail formed by the schrund and belaying from pitons in the solid ice above. During this traverse, the wind slab "popped" but did not slide. We passed beneath the buttress and saw the route ahead up to the col lay over more treacherous wind slab that now was no longer adjacent to solid rock or ice. Fortunately, however, a small crack several inches wide in places led diagonally upward across it. By keeping to this crack we were able to cross the slope without incident. A steep but short ice slope led to the col where we rested and ate some of our lunch. For the first time in many days there was absolutely no wind! The protected snow cup that forms the col focusses the sun's rays and is completely shielded from the north wind. It was quite warm and comfortable there in spite of its 16,500-ft. elevation. The remainder of the trip to the summit was an uneventful walk up a snow ridge.

We reached the top at 9:30 a.m. and spent over an hour taking pictures and admiring the view. We could find no record of any previous ascent other than a tent pitched far down the south ridge that was evidently abandoned by the Paige Expedition. We left the summit at 11:30 and quickly returned to the col to finish our lunch. From there we could see that the route over the top of the gendarme which we had tried so hard to negotiate two days before would have led only to more trouble. The top of the gendarme was heavily corniced and crowned with pinnacles of ice that would have been difficult to climb. We clambered back down the mountain leaving more fixed ropes in some of the steeper spots and enlarging the steps as we went. We reached the base of the ridge and our high camp in the early afternoon feeling tired on only the very last part of the trip.

The next day, July 24th, I lent my boots to Dick and spent the day in my sleeping bag while he and, Bill and Pete climbed the mountain. It was cold, wind and foggy all day. I felt very alone and could not help considering the impossible plight in which I would find myself if my companions did not return. Late in the evening I was overjoyed to see three figures moving up the final slope to camp. They were tired and I don't believe I've ever seen people move as slowly. Nevertheless, they had been successful. Bill and Dick had climbed all the way to the top while Pete waited for them at the High col.

Our thermometer had been lost several days before. The cold was now worse than it had ever been. The clouds and wind also increased. We packed up and left the next morning. The trip down off the ice cap was slow and treacherous. The few steps that had not evaporated since their cutting a week before were filled with wind-packed snow. Below this slope we had some difficulty finding the route as many of our flags and willow wands had been blown away. Eventually, we reached the site of our 14,000 ft. camp and went on down the avalanche slope to the 8200 ft. camp, largely on the seats of our trousers.

After packing up this camp we went down the west side of the glacier and followed the few remaining flags and willow wands across the glacier to the col with the little lake. Many snow-bridges had collapsed and many more crevasses had opened up during our absence. Most of the wands and flags had fallen over and melted down into the snow. The tiny lake in the col now filled almost the whole area. We camped here for the night and slept all morning in the warm pleasant weather. In the afternoon we leisurely worked our way back to our nunatak camp following a different and much more interesting route that Dick pioneered for our entertainment. We ate and slept a while, then left in the early morning for our main base camp on the Seward, arriving soon after sunrise after a forced march over the partly frozen glacier surface.

Several days of doing nothing and waiting for good weather passed pleasantly enough. We left in the afternoon of July 31st for the long journey out to Yakutat taking most of our equipment with us on a heavily loaded sled. There followed days of good weather filled with the purely animal tasks of dragging, hauling, and carrying, until we reached the end of the snow near the pressure ridges of the Malaspina. Here all loads were transferred to our backs and for a day and a half we worked our way up and down the loose rocks of the moraines and pressure ridges before reaching the beach of Yakutat Bay on the afternoon of August the fifth. Fred landed with the Super Cruiser and shuttled us back across the bay to Yakutat and all the marvels of civilization. On the last leg of our journey we had all carried loads of ninety pounds or more up and down the pressure ridges with Pete setting the record of one hundred and twenty-five.

THE YALE LOGAN EXPEDITION

By Dudley W. Bolyard

During the month of September, 1951, Howell Martyn and I began to make plans for an expedition into the Logan Mountains of Northwest Territories, Canada. The expedition was to be a seven-weeks project undertaking mountaineering, exploratory work, and a preliminary geologic reconnaissance[1] in the region. Since the expedition was to be sponsored by the Yale Mountaineering Club, the name Yale Logan Expedition was given. The name is somewhat confusing, however, because our expedition was not at all concerned with the famous Mt. Logan of the St. Elias Range but rather with a range of mountains named after the same explorer and geologist, Sir William E. Logan. These mountains are largely unexplored: in 1937 Colonel Harry Snyder[2] landed on Glacier Lake, determined its geographical position and altitude, and triangulated a few of the nearby peaks: in 1950, geologist Dave Kingston[3], using a rubber boat, made a stratigraphic reconnaissance along the South Nahanni River, the nearest large stream.

These Logan Mountains are part of the Selwyn Range, located along the boundary between Yukon and Northwest Territories in northern Canada. They center approximately around the intersection of lines 62° North Latitude and 128° West Longitude. The South Nahanni River, whose waters empty eventually into the Arctic Ocean by way of the Liard and Mackenzie Rivers, is the largest stream in the area, and is fed by several smaller tributaries which result from the melting of numerous alpine glaciers and icefields to the west. The high, rugged peaks of the Logan Mountains extend from the Flat River north across the Rabbit-kettle and Rapid Rivers to the forks of the Nahanni River, a distance of about 50 miles.

Our knowledge of these mountains was gained largely through the use of aerial photographs and through the able assistance of Dr. Hugh S. Bostock[4] of the Canadian Geological Survey who informed us that, from his study of the air photos, the area appeared to contain many granite peaks rising from valley floors of 3,000 feet to altitude of 9,500 feet which "possess a degree of ruggedness the Canadian Rockies rarely ever match." After this enticing description, it was no trouble to find interested climbers. We finally chose George Yntema and John Bailar, both graduate students at Yale University, and Harry Nance from the University of Colorado.

We arrived in Watson Lake, Yukon Territory, on July 13th, 1952. With the help of the Department of Transport we tested our radio and found that everything was in good working order. At Watson Lake, we had arranged for G. C. F. Dalziel to fly the expedition 170 miles into the mountains. We had originally planned to land on Totempole Lake, near the Flat River; this lake, however, was found to be unsafe for aircraft, and we landed on Glacier Lake some twenty miles north of there. Within a few days we had all been dumped at Glacier Lake, and arranged for a rendezvous with Dal on September 1.

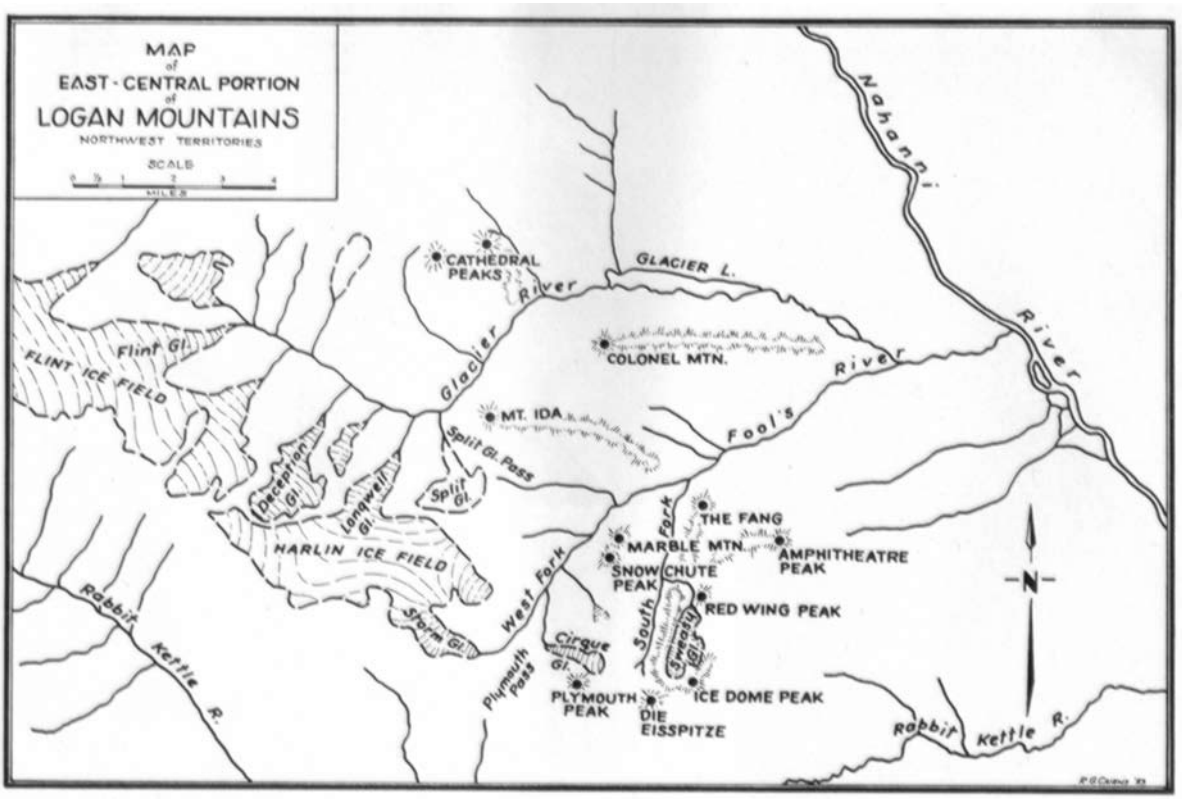
A description of our equipment is in order. Weight was at a premium, and our 5-man expedition weighed only 1600 pounds. Over 800 pounds of this was human, the remainder being

1 Bolyard, D.W., 1953, Preliminary geologic reconnaissance in the Logan Mountains, Northwest Territories, unpublished manuscript in the library of the Department of Geology, Yale University.

2 Lambart, H. F., 1937, The Harry Snyder Canadian Expedition, Canadian Alpine Journal, Vol. XXV, pp. 1-18.

3 Kingston, D. R., 1951, Stratigraphic Reconnaissance along the South Nahanni River, Northwest Territories, Bul, A.A.P.G., Vol. 35, No. 11 pp. 2409-2426.

4 Bostock, H. S., 1948, Physiography of the Canadian Cordillera, with special reference to the area north of the fifty-fifth parallel, C.G.S. Mem. 247, pp. 53-55,


MAP
of
EAST-CENTRAL PORTION
of
LOGAN MOUNTAINS
NORTHWEST TERRITORIES
SCALE
MILES
Nahanni
River
CATHEDRAL PEAKS
GLACIER L.
Glacier River
COLONEL MTN.
Fool's River
Flint Gl.
FLINT ICE FIELD
MT. IDA
Split Gl. Pass
Deception Gl.
Longwell Gl.
Split Gl.
HARLIN ICE FIELD
THE FANG
MARBLE MTN.
AMPHITHEATRE PEAK
SNOW CHUTE PEAK
South Fork
West Fork
RED WING PEAK
Storm Gl.
Cirque Gl.
Freaddy Gl.
Plymouth Pass
PLYMOUTH PEAK
ICE DOME PEAK
DIE EISSPITZE
Rabbit Kettle R.
Rabbit Kettle R.
N

Red Wing Peak (8,500 Ft.) From Summit Of Snow Chute Peak.
Photo Dudley W. Bolyard

Dashed line indicates route of ascent (left) and route of descent (right).
X - Nance's fall. A - Bivouac.

Die Eisspitze (Altitude 9,000 ft.?)
Photo Dudley W. Bolyard

View south, showing route up central ridge and across ice slabs.

Camp On Harlin Icefields, Tent Pitched On Glacier Table.
Photo Dudley W. Bolyard

Left: Howell Martyn. Right: Harry Nance.

divided among climbing equipment, radio, cameras, tents, food, and a few ounces of personal gear. It was agreed beforehand that we would depend to some extent on our .30-06 rifle, and until we had plenty we would go on short rations. The bulk of our food was high-calorie stuff, such as chocolate, sugar, mince meat, and oleomargarine. Nevertheless, we were on starvation rations unless we could live off the land.

After arrival in the mountains, we were confronted with two problems. First, was the problem of food; temporarily we had more pressing worries. Second, we had landed at a different lake, so we had to make plans all over. Yntema and I therefore made a lengthy exploratory trip to a point where we could view the important features of the country. At that latitude there was sufficient light to see all night, and we arrived at camp the next morning babbling of mountains to the South that resemble the Alps, of great glaciers to the southwest, and of extensive granite pinnacles to the north.

There was still one load that had not yet been flown into the mountains, and we expected this to arrive sometime the next day. Consequently, we left Martyn, Bailar, and Nance at Glacier Lake to put these supplies onto the cache, while Yntema and I packed loads over Colonel Mountain into the valley of the Fool's River. After we all built a raft for crossing the lake, Yntema and I ferried our packs across early that afternoon to begin our trip over Colonel Mountain. We reached the Fool's River at about nine o'clock that night and set up a tyrolean traverse for bringing the packs across; this required that I first swim the rapids while being belayed by George and, after getting the packs on the other side, that I belay George through the fast water. This was the first of many times we used this system to cross rivers.

The next day, while Martyn, Bailar, and Nance were packing over Colonel Mountain, Yntema and I made a cache two miles up the river, returning to pick up our packs at the campsite of the previous night. We then went down the river until we found the east ridge of Amphitheatre Peak, packing up this ridge to timberline where we had planned to meet the others. They had been delayed at the cache, however, and we did not make our rendezvous that night.

Seeing, however, that the climb would not require the five of us, we began to ascend the east ridge of Amphitheatre Peak. The clouds soon boiled in around us, limiting visibility to 20 feet. The granite was rotten, and covered with lichens which soon became slippery from the melting snow; by the time we had reached the summit two or three inches of snow had fallen. The only difficult part of the climb was the last 100 yards, which I would describe as a knife-edge honed on fractured granite blocks which would break with the slightest pressure. Although at no time could I see clearly, I was under the impression that on both sides of the knife-edge the mountain dropped away about 2,000 feet in vertical cliffs. The descent was a hurried one, for the snow did not cease, and static electricity buzzed in our hair. On the return, we met the other three, who could see that it was no longer practical to try for the summit because of the fresh snow. We returned to the Fool's Valley, making camp in the rain at about 10:30 that night.

The next morning it was decided that Bailar and I would return to Glacier Lake unloaded, bringing supplies over to the Fool's Valley and up to "The Forks." While we were doing this, Martyn, Nance, and Yntema were to pick up our cache left two days before, making camp at the Forks, and attempt the ascent of The Fang.

The Fang is a huge granite shaft having the appearance of an elongated spearhead; although it appears from the north to be uncomplicated, the peak is actually broken into three primary structures, each in turn being divided into lesser structures: all of this makes for exceedingly complicated route finding, and on each attempt they found their route ending in a vertical, unbroken

wall requiring much tiring tension climbing. Consequently, two attempts failed, and it was decided that we would pass by The Fang until we could approach it from the other side.

While the others were making their second attempt on The Fang, Bailar and I were working up the north ridge of Marble Mountain, a rather massive peak west of our camp at the Forks. After a short distance we decided to leave the ridge in favor of an ice couloir where we thought we would not be bothered by loose, rotten rock: this, however, proved hazardous because of occasional rocks funneling into the couloir from the adjacent rock buttresses. So, after about 800 feet, we climbed out of the couloir over nearly vertical, but firmer, marble. Good belay positions were scarce, and the route was necessarily complicated because the rock was nowhere such that a dependable piton could be placed. We were able to traverse onto a sharp buttress, and our route then became much easier. It soon became evident that we would have to traverse a long knife-edged arête to reach the highest summit. This traverse was not difficult because good belay positions were plentiful.

On the descent, which was made by a different route, it was necessary to be extremely cautious because of the loose rock; yet speed was essential because we had not reached the summit until 4 o'clock in the afternoon. We reached camp at about 10 o'clock that night.

The following day was spent packing up the west fork of the Fool's River. This required detouring around two waterfalls, and, above the falls, passing through much thick bush and over swamp ground and moraines. Above timberline travel became easier, complicated only by swamps. We reached the head of the river that evening and established what we called "Cache Camp." The Fool's River, like all rivers of this region, occupies a glaciated valley. From Cache Camp we planned somehow to get onto the icefields; actually, we did not know where these icefields lay or how to reach them from this camp. Indeed, we only knew of them from speculation; for many of our air photos were taken early in the summer when much of the ground is covered with snow. Martyn and I went out that evening to explore the head of the valley and we saw several glaciers, one of which appeared to emerge from a broad expanse of ice.

The following day Martyn and Nance climbed Plymouth Peak, while Bailar and I went onto the Storm Glacier in search of the icefields. From Plymouth Peak they were in plain view, and it was obvious to Martyn and Nance that the only practical route would lie over the glacier that Bailar and I were exploring. Yntema, however, had carried the rifle all day and was able to increase our food supply by 300 pounds. Consequently, all plans had to be postponed. The next day Martyn and Nance cached our rations and packed the camp down to the Forks. This was done because we needed firewood for preparing jerky. Yntema, Bailar and I butchered and carried the meat to the Forks, staggering under heavy loads until we reached camp late that night.

Nance and Martyn then went to Glacier Lake to pack more supplies into the Fool's Valley. After spending two days setting up the racks for preparing jerky and gathering a huge supply of firewood, Yntema and I set out to climb Snow-Chute Peak, leaving Bailar to attend the fires. Snow-Chute Peak was named for the prominent snow and ice gully which distinguishes its northeastern face.

We planned to reach the summit of the mountain by ascending a rock buttress just south of this gully, dropping down into the gully about 700 feet from the summit, climbing several hundred feet up this gully and then over a rock pinnacle to the top. The rock climbing here was excellent, for the route was interrupted by numerous small pinnacles and clefts, a few of which required rather delicate climbing. One pitch, on which Yntema was leading, went over a series of very small ledges that ended abruptly at a slightly overhanging crack about 20 feet high, and which was just wide enough to jam in a fist and toe. There were only two handholds (other than the crack itself)

and the climb resolved itself into a struggle requiring much arm strength and balance. It took Yntema a long time to lead this, and when I was belayed up the pitch I was amazed that he had done it at all; once on top of the belay platform above the crack, we were nearly exhausted from the climb up the overhanging crack and stopped to rest our aching arms.

By the time we reached the summit we could see that several easy couloirs could have taken us to within 800 feet of the summit, and the descent was down one of these. We arrived at camp at about 11 o'clock that night, for my injured knee had begun to lock at frequent intervals and George had to wait for me several times.

The following day, Nance and I packed loads up the south fork of the Fool's River to climb three peaks, while the others were left at the Forks to finish preparing the jerky. Red Wing camp was established that same day. Nance and I left this camp early the next morning to climb Red Wing Peak, approximately 9,000 feet high and rising 4,000 feet above our camp. It was apparent that technical climbing would be required for about 3,000 feet, and the most feasible route lay up one of two parallel buttresses on the northwestern face of the mountain. Between these buttresses was an ice-filled couloir, which we hoped to avoid as much as possible, and we chose the northernmost buttress, which proved to be a very fine climb. There were no impossible pitches to turn us back, yet every pitch was sufficiently difficult to make the climb "interesting." Perhaps the climb was so enjoyable because the granite here was so firm, a quality to be appreciated after the first few ascents of the summer. After about 1500 feet of climbing on the buttress, we came to a large cleft and decided to traverse into the couloir. After this we found ourselves in one couloir, then another, traversing a ridge to still another, finally climbing out of one long, ice-filled slot to a point which appeared to be about 400 feet from the summit. This final rock pinnacle was a welcome relief from the ice and falling stones of the couloirs, and it was not long until the top was reached.

The descent of the mountain was not without excitement, for upon entering the first ice gully, it was evident that conditions had changed. Shortly after I began the descent of this gully, belayed from above by Nance, the upper layer of snow began to slide on the ice beneath. I therefore traversed out along a ledge on to a sharp ridge, surveyed another route and told Nance that it looked as though we could return by this new way. Nance started down the snow quite cautiously but, before reaching the traverse, slipped on the ice, and fell approximately 100 feet down the couloir where he slammed his back against a projecting block. Fortunately, I was able to arrest the fall to some extent by pulling in the slack. Nevertheless, he suffered a bruised back, sprained ankle, and numerous cuts and abrasions. We remained still long enough to take stock of the situation; Nance soon informed me that no bones were broken, and that he would be able to climb up to my position. After checking the route down the other side of the ridge. I told him that it seemed the most feasible thing to do because the route did not look too difficult, and was certainly much better than the ice of the couloir. When he reached my position I could tell that he was shaken up considerably. I pointed out the route that I had selected, indicating a ledge about 50 feet below which would serve as the next belay point. We could not both see this ledge at the same time, for one of us had to belay while the other looked at the route; as it was, Nance saw a ledge at a lower level than the one I had intended. As he descended, 130 feet of rope passed through my hand, and it was soon evident that he had gone to another ledge. It did not seem wise to waste his strength by having him climb back to that ledge, so I started down the pitch, looping the rope over rock projections to serve as overhead belays.

After reaching his position, we made some easy traverses, descended several broken pitches, and began rappelling down the vertical western face. By this time it was getting dark, and we were

forced to look for a good ledge on which to bivouac for the night. Eventually, we reached a ledge about two feet wide, but there was no way to tie in here. We felt our way along this ledge until we entered a gully. We soon found a suitable spot where there were two ledges about one foot wide and five feet long on which we could "sleep," and where it would be easy to tie in. We placed our rope under us and dressed in everything we had. When we awoke, we were shivering from the cold, but felt that we had gained by "sleeping" a short time. At 2 a.m. we could see enough to continue our descent. Had it not been for Nance's strong constitution and fortitude, the descent would have been exceedingly difficult and we would have been forced to bivouac at a much higher elevation on the mountain.

While Nance recuperated, Yntema, Bailar and I began the ascent of Ice Dome Peak. Leaving the camp at 3:00 a.m., we soon reached Sweasy Glacier, and followed the glacier until reaching the point where the western rock face of the mountain passed beneath the ice. From Sweasy Glacier we climbed over about 1000 feet of rock before reaching the small glacier resting on the summit of the mountain. On this upper glacier there is only one crevasse, and I, of course, had to fall in it. The entire crevasse was covered with one long snowbridge. Probing with the ice axe soon revealed the other side, and I began to cross. I stepped on ice one moment, and the next moment I was swimming in a lake some 30 feet or more below. Looking up through the small hole in the roof where I had broken through the ice, I thought to take stock of myself. I could not climb out because of the overhanging sides, and it was difficult to make contact with Bailar and Yntema. My main concern was that there was five feet of slack in the rope, but I was soon informed that the rope was tight. On my fall into the lake at the bottom of the crevasse I had apparently gone about five feet under water, dragging the rope down into the hard snow and ice at the lip of the crevasse. Bailar, there, felt the pull on the rope when he tried to take up slack; yet there was slack between the lip of the crevasse and me. Meanwhile I was about to drown, for I not only had heavy boots and crampons on my feet, but a pack on my back and an ice axe in my right hand. Once more I yelled "up rope," and surveyed the remainder of the crevasse from this frigid swimming pool. Slightly more than ten feet above me was a platform of ice surrounded by vertical ice walls. This I would have to climb and, after falling back into my private bath twice, I managed to get on the platform; meanwhile, the rope tightened around by waist.

Once on the platform, I removed my pack, found my mittens, and pulled two nylon slings from my pockets, and waited while Bailar cautiously cut a larger hole through the thin ice. I then attempted to climb out using these slings attached to the climbing rope by prusik knots. Prusik knots were absolutely worthless because the technique apparently does not work with wet nylon. The most amusing part of the whole incident was that in order to begin prusik knotting up the rope I had to first jump from the platform; then I found that the knots would not move up the rope because the nylon was wet; at the same time, Bailar found that the rope slipped through his hands, and the net result was that I was once again lowered into the lake to "enjoy"? the only period of intensive bathing I had all summer. I again climbed on to the platform, and satisfactory plans were made for getting me out of the crevasse.

I believe that I had about an hour to enjoy the beautiful blue ice and spectacular scenery, and was not at all sad that the incident had occurred; yet there is a limit to the amount of time one can spend in such an environment.

When I was once again on the surface, we continued on to the summit of Ice Dome Peak which was less than an hour away.

My fall into the crevasse had made my knee injury much worse, and it was not possible for me to climb Die Eisspitze, so I went down to the Forks where Howie had been recuperating

from some unknown sickness. We intended to wait there until Bailar, Nance, and Yntema returned from the mountain. Die Eisspitze, approximately 9,000 feet in altitude and located at the head of the south fork of Yntema River, is a very impressive granite peak flanked by glaciers at its base and covered by ice on much of its northeastern and northwestern faces. Nance, Bailar, and Yntema started up the river from Red Wing Camp at 2:00 A.M. on August 8, crossed the lower part of the glacier at the base of the mountain, and climbed onto the northeast ridge at an altitude of about 6,000 feet. Although the climbing along this ridge was only moderately difficult, occasional insurmountable pitches forced them to climb out onto the southeast face, (which drops away in a sheer precipice for 2,000 feet), returning again to the ridge after circumventing these obstacles. The ridge ended about 200 feet below the summit, and it was necessary to traverse a 300 foot expanse of ice which lay at a 60-degree angle on the upper portion of the northeast face. It was then an easy scramble to what appeared to be the summit, but on reaching this point it was evident that the actual summit was further to the south. To reach it required a descent of one hundred feet through some ice chimneys and a traverse across some steep friction slabs with perhaps 3,000 feet of exposure. Once across this delicate pitch, it was only a short distance to the summit, which was reached at 2:00 P.M. Although the ascent had required 12 hours, the descent was done in 8 hours, and they arrived at Red Wing Camp late that night.

Yntema, Nance, and Bailar arrived at the Forks on the evening of August 9, and plans were promptly made for Martyn and me to climb Mt. Ida, leaving that same evening. The others would meet us the next day at Cache Camp.

Martyn and I started up the west fork of the Fool's River once again, making camp late that night, on a tributary creek. There was food at Cache Camp, and food at Glacier Lake, but none anywhere else. In fact, the food supply at Red Wing Camp had been finished before the ascent of Die Eisspitze was completed. We were content to camp that night without food, saving our two cans of sardines for the climb of Mt. Ida. The purpose of climbing Mt. Ida was to view the country in hopes of finding a feasible route for the supply trip to follow, and a practical rendezvous in the Glacier River Valley. Martyn and I, after returning to Cache Camp, were happy to report that we had found a good route over Split Glacier Pass.

Bailar and Yntema therefore returned to Glacier Lake to pick up supplies; while Nance, Martyn, and I started across the icefields on August 11. This was the turning point of our expedition because snow fell every day but two, from then until September 1. When Bailar and I had made our reconnaissance two weeks before, most of the crevasses were covered with snow of great enough depth that probing would not reveal ice beneath, and it was only where the snowbridges caved in that we had been able to tell of the crevasses beneath. Because of recent melting the crevasses were now visible, and the only remaining snow bridges were substantial, and glacier travel was therefore relatively easy. Camp was made that night on a glacier table, and supper cooked in the lee of the rock where the cold, biting wind would not extinguish the primus stove.

The next morning was spent in reaching the other side of this portion of the icefields and in making scientific observations. That afternoon we broke camp and packed over several miles of crevassed ice, finally making camp that evening on another glacier table. It snowed most of that day and the following day. Nevertheless, after breaking camp, we moved further over the ice in hopes of determining whether or not a connection exists between these, the Harlin Icefields, and the Flint Icefields to the northwest. Although a blizzard did not permit us to ascertain this, we later found that the connection does not exist. A temporary lull of the storm permitted us to find camp again, and that afternoon we packed down the north side of the great icefall of Longwell Glacier

until we reached the outwash flats of the Glacier River, where we established another camp.

Since Bailar and Yntema had not yet returned with the supplies, the following day was spent resting injured ankles and knees. The next morning, Martyn and I went up the Glacier River, placing cairns in front of the termini of several glaciers to provide a basis for determination of their regimens in future years. The Glacier River empties from the terminus of Flint Glacier, and having finished our reconnaissance of this valley with time to spare, we decided to explore the lower portion of the glacier. We did not have sufficient time however, to determine the full extent of the ice, and we returned to camp that evening.

Bailar and Yntema returned from the supply trip that afternoon, and plans were made to climb Cathedral Peak. Meanwhile, it had snowed each day since August 11! Nevertheless, since Cathedral was the principal mountaineering objective of our expedition, we were still hoping to climb it. Cathedral Peak rises 5,900 feet above Glacier Lake in one unbroken, sheer, perhaps unclimbable, face. The fresh snow made any attempt on this face out of the question, so we planned to approach it from the west side, working around in back of the mountain where it would be more broken. One day was spent in making a high camp, and the following morning we would try to climb Cathedral. It snowed that night. The five of us left the high camp early the next morning, working north and around the mountain. The climb was easier than we expected, and we made the summit shortly after 1 o'clock that afternoon. Upon reaching the summit it was clear that we were on the wrong mountain, that the Cathedral massif is divided into two distinct peaks by an ice-covered col, and that East Cathedral Peak was about 150 feet higher than the west peak. Furthermore, it would be impossible to reach the East Peak that day, and would require several days of backpacking around the south side of the mountain, since to continue around the north side would require packing over vertical walls several hundred feet high. As we returned to camp we were somewhat dejected for not having reached the summit of East Cathedral, yet glad to know that the mountain will not yield so readily as West Cathedral had, and will provide a real challenge to whoever attempts its ascent. After camp was reached, we descended into the valley of the Glacier River, and continued down the river to Glacier Lake. That night much snow fell on the high mountains, and it was evident that a second attempt on the mountain would be futile. Although we had all seen The Rabbitkettle River from many points, none of us had actually been there. The snow had ruined the climbing for the remainder of the summer, so Martyn and I decided to make a trip to The Rabbitkettle while Yntema, Bailar, and Nance stayed in the country around Glacier Lake. We wanted to explore as much of the valley as possible, in order to further our geologic reconnaissance and in hopes that exploration of the valley would aid in making our map of the region more accurate.

We left Glacier Lake on the morning of August 24, packing up the river through beaver ponds and sloughs, through thick bush, finally on to higher ground and over the steep Split Glacier Pass to the Fool's River, making camp that night at Ice Lake. The next day we continued on to the Rabbitkettle, stopping only long enough to place a cairn in front of Cirque Glacier and for a can of sardines at the top of Plymouth Pass.

Next day we travelled down the river about eight miles, locating the granite contacts and tracing them for a short distance south of the river, returning that night to our camp. August 27 was spent going up the river about six miles, and returning; but, unfortunately, we were not able to accomplish much because of the bad weather and limited visibility.

In the headwaters of this river each tributary appears to be occupied by glaciers issuing from a belt of icefields. Snow fell all night and when we awoke the next morning there was snow

and ice down to the river. We knew that the trip back to Glacier Lake would be difficult, and we hastened to break camp so that we could have as much daylight as possible for the long, difficult journey over the pass. The top of Plymouth Pass was drifted over with snow, and we occasionally had to make our way through drifts as much as three feet deep. We kept going down the Fool's River until we reached the Forks at nightfall, completely exhausted on our arrival. Next day we arrived at Glacier Lake, where we waited two days until our pilot arrived on September 1.

During the seven weeks that our expedition spent in the Logan Mountains, we were able to climb only nine peaks: Amphitheatre Peak, Marble Mountain, Snow Chute Peak, Red Wing Peak, Ice Dome Peak, Die Eisspitze, Plymouth Peak, Mt. Ida, and West Cathedral Peak. Had the problem of supplying ourselves with food not been so difficult, and had the climbing season been longer, we would perhaps have been able to accomplish more. These, however, are factors which cannot be avoided in the Logan Mountains and our greatest aim, after all, was exploration of this area.

The Logan Mountains offer unlimited possibilities for ascents of virgin mountains rivalling the Alps and Cascades in grandeur and difficulty. Although there are many excellent and exacting climbs in the area surrounding Glacier Lake, the most promising and desirable areas lie north of the Flat River and south of The Rabbitkettle River.

There are many difficulties which any expeditions for these mountains must face. I have already mentioned that our plans were upset because we had to base our expedition at Glacier Lake, rather than at Totempole Lake near the Flat River. Seaplanes can be landed at Totempole Lake with some risk, but cannot take off with a load. Consequently, any expedition based at this lake must devote considerable time to packing to the Nahanni River, the nearest place where they can be picked up at the end of the summer.

As a result of both the recent glaciation and of permafrost, swampy conditions exist everywhere in the low valleys, and the traveler's feet are constantly wet. Indeed, where the beaver population is large many hours must be spent carrying packs through water waist-deep since it is easier simply to wade their ponds than to attempt to detour around them. Therefore, in some areas of thick bush, one can travel only four or five miles a day. Several days must be devoted to packing supplies from the base camp to other camps. The problem of supply is so difficult that we were on short rations most of the summer.

When planning an expedition into this region one must realize the demoralizing effect as well as the physical effects of hunger. We found that even if we had plenty of food we could not have kept ourselves supplied because of the difficulty of packing over rugged terrain into the isolated areas. It is also important that radio communication be established, the radio cache being made at some locality which is easily reached from the climbing areas and, if possible, where topography does not interfere with transmission.

Yet, realizing these and other difficulties, future expeditions into this region will be rewarded by the excellent quality of the mountains and the limitless possibilities for virgin ascents. It is my hope that the next decade will witness increased mountaineering activity in the Logan Mountains.

THE FRANCO-AMERICAN ASCENT OF SALCANTAY, PERU

By Fred D. Ayres

In south central Peru, northwest of the historic city of Cuzco, the Cordillera Vilcabamba runs in an east-west direction for some 60 miles. This chain of snow peaks contains several summits over 19,000 feet high and culminates in Salcantay (20,500 ft.), about 45 miles from Cuzco. From the mountaineering standpoint the range is almost untouched. Prior to 1952 no major peak had been climbed and few had even been attempted.

In the autumn of 1951, George Ball, who with Graham Matthews and Austen Riggs had reconnoitered the approaches to Salcantay the previous year, began active preparations for an American expedition to the mountain. After organizational details were largely completed, word arrived in April, 1952, that a French expedition was also being prepared for the same objective. Acting on the proposal of Bernard Pierre of the French group, the two expeditions eventually decided to join forces for an assault on the mountain, a happy arrangement as it turned out, for the two parties formed a homogeneous group throughout their association together.

By June 26 the complete group was assembled in Cuzco. The French party, all members of the French Alpine Club, included Bernard Pierre and Dr. Jean Guillemin, both from Paris, and Mme. Claude Kogan from Nice. The members of the American party, in addition to Bell, Matthews and Riggs, were David Michael, John Oberlin and Fred Ayres. Riggs, with Bell as passenger, arrived in his own plane, a Piper Super-Cub, after a not uneventful flight down through Central America from Texas.

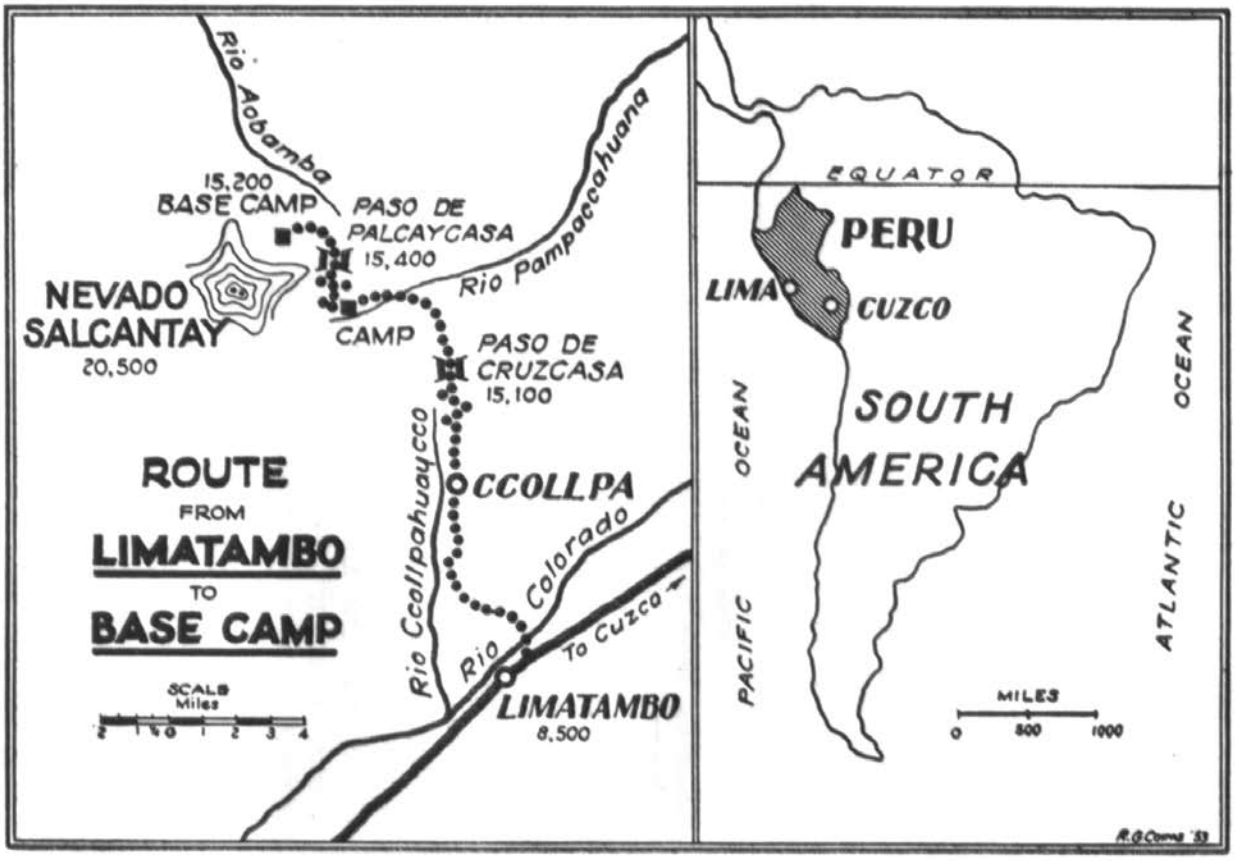
The remainder of us arrived by air at Lima, and were ferried 350 miles across the Andes to Cuzco by the Faucett Airlines of Peru. The courteous and efficient personnel of the Faucett company assisted us materially in handling and transporting our expedition equipment.

Riggs's objectives were aerial reconnaissance and photography. He was obligated to return to the U.S. at an early date and could not participate in the climb. During the first few days in Cuzco, he and Bell made several flights in nearly perfect weather, obtaining views and photographs from the air which clarified many details of the proposed climbing route.

From Cuzco to base camp our transportation problems were taken over by Senor Abel Pacheco, a young Peruvian engineer with a thorough knowledge of the Salcantay region gained from numerous hunting trips around its base. On June 27, we piled our gear into one of his trucks, climbed in on top of it, and were driven 45 miles over winding mountain roads west from Cuzco to the little village of Limatambo, as far as we could go by wheeled vehicle but still 25 miles by trail from our base camp site. During the next two days, Pacheco assembled a caravan of nearly 40 horses and mules together with a dozen Indian muleteers.

Meanwhile, Ayres, assisted by Oberlin and Matthews, unpacked a butterfly net and began fulfilling a promise made to a specialist friend back in Oregon, who wanted some South American specimens. We pursued butterflies round and about amongst the flora of Limatambo, including banana trees and cactus. This hobby was later continued up to 15,000 feet, where it can be recommended highly as training exercise. The Andean hillsides are steep.

On June 29, we left the lower elevations and climbed steadily upward by trail for 4000 feet in a nearly continuous drizzle of rain, arriving damp and hungry just before dark at Ccollpa, a Quechua Indian settlement of half a dozen scattered huts at 12,500 feet in the upper valley of the


Rio Aobamba
15,200
BASE CAMP
PASO DE
PALCAYCASA
15,400
Rio Pampaccahuana
NEVADO
SALCANTAY
20,500
CAMP
PASO DE
CRUZCASA
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ROUTE
FROM
LIMATAMBO
TO
BASE CAMP
CCOLLPA
Rio Ccollpahuaycco
Rio Colorado
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Ccollpahuaycco River. Pacheco, who spoke the Quechua language, arranged with the villagers for us to stay in one of the huts overnight, quarters which proved to be dry, warm and more comfortable than our tents would have been. The huts had thatched roofs above solidly constructed stone walls. Inside ours, we found that the smoke-darkened rafters and grass ceilings gave the interior a faint, and not at all unpleasant, creosote-like odor. We bedded down on the dry, dirt floor and in general slept soundly, though I was wakened twice during the night by inquisitive and quite friendly little furry creatures which occupied permanent quarters in one corner of the hut. Later, we tentatively identified them as guinea pigs and were told they served as food.

The next morning it was snowing and the country-side was white. A scouting party went out to explore 15,100-foot Cruzcasa Pass, our next hurdle, but found the trail near the summit too deep in snow for our heavily loaded mules. We spent another night in the hut but next day set up our tents out of consideration for the villagers, who were having to double up in the other huts in order to make room for us.

We were stalled thus for eight days, a restless period spent in climbing up and down the surrounding hills during intervals of partial sunshine. There was even an abortive attempt on a nearby 17,000-foot peak, an effort which bogged down in deep snow at least a thousand feet short of the summit. Presumably all this preliminary activity was beneficial in allowing us to become acclimatized.

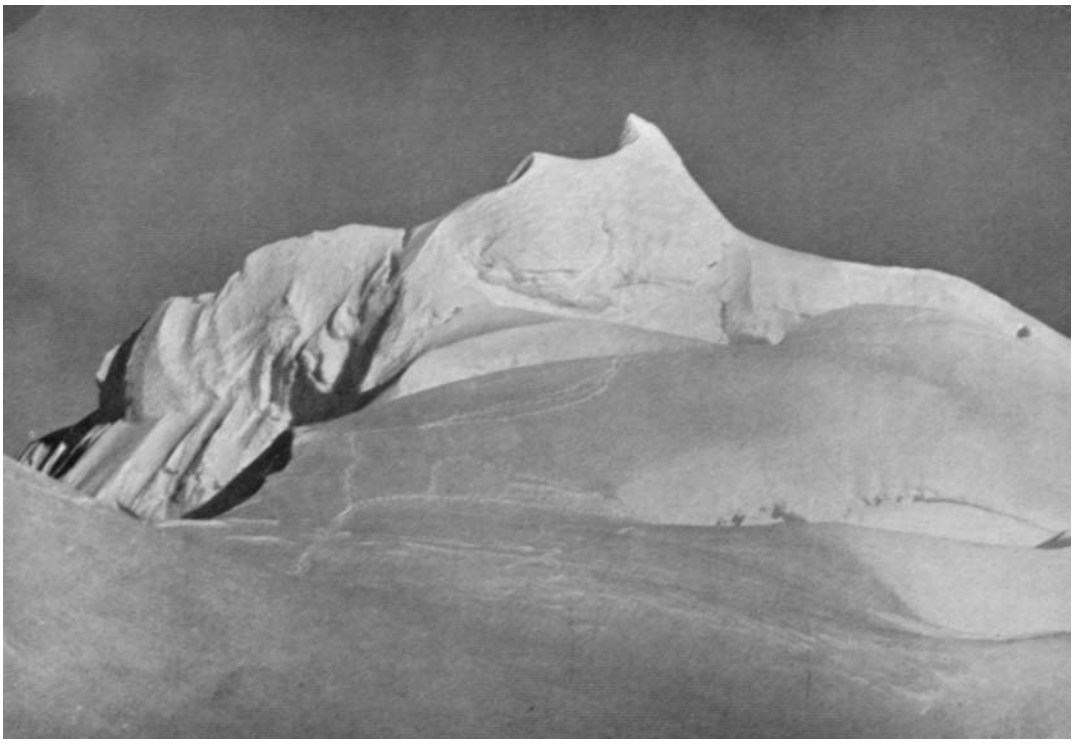
Meanwhile, word reached us that Salcantay had just been climbed on June 26 by Felix Marx and Marcus Broeniman, two Peruvian residents of Swiss nationality. This news understandably dampened our hopes somewhat. Over two weeks later, Lima newspapers brought into our base camp disclosed that the Swiss party had reached Salcantay's lower summit, but not the higher, after a strenuous climb via the east ridge, a different route from the one we were proposing to attempt. They were reported to have left the national banners of Peru and Switzerland on the lower summit.

Finally, clear skies returned again to Ccollpa and most of the snow melted from Cruzcasa Pass. We crossed over into the Pampaccahuana Valley where we turned west for three miles and camped on the grassy plain known as Sisaypampa at the upper end of the valley. Steep mountain walls rose 1500 feet high on either side of our camp. Only half a mile from our tents the giant terminal moraine of Salcantay's east glacier reared up, closing off the head of the valley, while behind towered the peak itself.

Our next problem was Palcaycasa Pass (15,400-ft.) over the north wall of the valley, which we had to cross in order to reach our base camp site three miles further around Salcantay toward the northwest. Normally, a narrow trail leads up to the pass through cliffs and across talus slopes, but recent snows had almost obliterated it. Pacheco, after climbing up on foot with an exploring party, pronounced the trail impassable for our animals. There was no hope for rapid melting. The slope was a south-facing one, shaded and cold in this, the southern hemisphere.

However, Pacheco did not propose to give up here. He organized eight of his muleteers into a trail crew, then, joined by the rest of us, began a vigorous attack on the snow-covered trail. We used the only implements we had, four folding shovels about 24 inches long, and 13 ice axes.

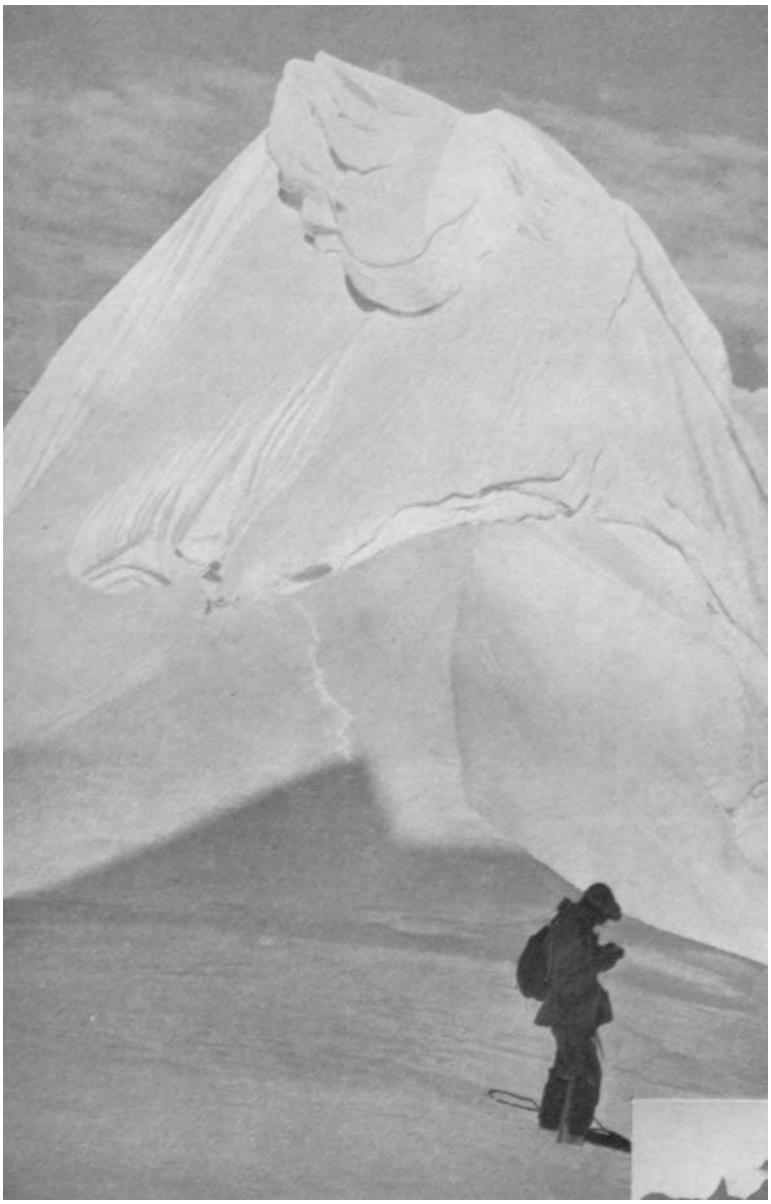
It was soon apparent that the stories we had heard regarding the hardihood of the Andean Indians were not exaggerated. Born and raised at these high elevations, they eventually led the shoveling brigade and marched steadily up the slope, axes and shovels swinging. Two or three of them preferred to remove their sandals and work barefooted, presumably because they could get better traction by hooking their toes into the snow.



The Summit Of Salcantay.
Photo Fred Ayres

Taken the morning after the climb from near the bivouac site.

Air View Of Salcantay From Northwest.
Photo Fred Ayres



The Lower Summit From The Saddle.
Photo Fred Ayres

Night was spent in the crevasse which cuts across the ridge.

Crevasse In Which We Spent The Night.
Photo Fred Ayres

In two days of this concerted effort, we zig-zagged our way up through two miles of switchbacks and 1500 feet of altitude in snow that eventually reached a depth of over two feet in drifts near the top of the ridge. Even after excavation, the trail was icy in a number of places and proved difficult for the pack train. One struggling mule slipped, landed half off, half on the trail, and had to be unloaded while two of the muleteers strained to keep the animal from going off altogether. The Indians already that morning had relieved the mules of part of the work by carrying sizeable loads up to the pass on their own backs and returning in time for breakfast.

The sunny north side of the pass was free of snow and once across we contoured westward for three miles around the lower slopes of Salcantay on a little-used mine trail, finally establishing base camp the afternoon of July 13 at 15,200 feet on the flank of the mountain between its east and north ridges. Base camp was handsome. The French had brought gaily colored tents which brightened the locality remarkably. Dr. Guillemin had with him an abundant stock of medical equipment, from vitamin pills and cough medicine to harnesses for mountain rescue work. To the muleteers, these supplies appeared to be something of a novelty and Guillemin did a brisk business in ailments both real and imaginary.

Below camp the slopes fell away steeply for 3500 feet to the headwaters of the Aobamba River, tributary of the Urtt-bamba, the sacred river of the Incas. Across the valley to the east there was a skyline of snow peaks dominated by one 17,800-foot summit which engaged many of our idle moments in searches through binoculars for hypothetical climbing routes. North of us lay the Amazon basin, from which even now was approaching the first of the storms which were to plague us for the next three weeks. Within 24 hours our freshly-pitched tents were sagging with wet snow in a storm which continued intermittently for two days. There was one characteristic feature of the storms for which we were grateful. Though cold and disagreeable, they were never violent and we were spared the ordeal of driving winds.

July 17 dawned partially clear. After scooping snow off the tents and drying our damp sleeping bags, we turned full attention to climbing problems. The two great ridges between which we were camped formed a right angle. Our proposed climbing route followed a minor ridge or rib, which approximately bisected this angle and merged into the lower summit. From base camp this route was attained in 1½ miles by a relatively easy traverse across a series of rock fins and a tongue of ice, followed by a scramble of several hundred feet up talus and rock. Michael, an indefatigable cairn builder, soon had this passage formalized by a line of huge, teetering rock monuments to which the rest of us gave a wide berth.

Above the rock slope the route was entirely on snow and ice. We established camp I at 17,000 feet on an ample snow platform just off the crest of the ridge which our route followed. Matthews and Michael engineered the construction of a sturdy igloo which made it possible to move the cooking operations out of the tents entirely. After two weeks the igloo congealed into a virtually indestructible dome of ice.

A second camp with three two-man tents was set up at about 18,200 feet, on the crest of the ridge where there was a gently sloping shelf. Between camps I and II we were forced by cliffs to detour eastward from the ridge, first crossing a broad avalanche swath, then recrossing it at a higher level to reach the camp II site. This double passage worried us considerably and with three or four exceptions we always made it in the morning. In supplying the two high camps, we were relieved of much arduous back-packing by four of Pacheco's best men, who were detailed to us as porters. They were completely equipped with boots and other climbing gear which Bernard Pierre had brought expressly for the purpose.

Above camp II, the ridge became more narrow and rose steeply for 1800 feet of altitude, then in another 400 feet merged into the rounded eastern end of the lower summit at about 20,200 feet. The major problem of the climb proved to be the ascent of this 1800-foot section of ice ridge, about 1000 feet of which rose at an angle of 50 degrees or more. With few exceptions steps had to be cut continuously and our progress was slow.

Camp II was occupied by Pierre, Kogan, Ayres and Bell on July 22, the same day it was established. Oberlin, Matthews and Michael, who had climbed up with loads, returned early to I. In the afternoon, when camp II had been made tidy, Bell, leading, chopped away a massive superstructure of ice blocking our way past a crevasse and cut a line of 70 steps up the slope above.

The following morning in steadily deteriorating weather, Kogan and Pierre pushed the steps 200 linear feet higher with Kogan leading. Diminutive Claude Kogan, only 4 feet 11 inches tall, well deserved her reputation as one of France's best women mountaineers. Bell next continued for another 120 feet, by which time nearly zero visibility and a freshening snow storm induced us to return to the tents, leaving 200 feet of fixed rope along the steps. It was still snowing, off and on, next morning and the mountain was fogged in, a difficult situation for route finding. Prospects looked so gloomy we descended to camp I and eventually to base camp, accompanied by the others from the lower camp.

Three days later the weather was judged to be improving and Camp II was reoccupied, this time by Michael, Matthews and Bell. On the first day they cleared snow from the old steps and cut 320 more, before halting because of bad weather. They strung a continuous line of fixed ropes along the new steps.

We had adopted as standard policy this rather lavish use of fixed ropes. Without them the descent of the ice ridge in a storm with all steps full of snow had proved harrowing as well as inordinately slow. On the same day Pierre, Kogan and Ayres arrived at II with more supplies and all six of us spent the night there.

Next morning, July 30, everything was clear at our level, but clouds were threatening not far below. Michael and Ayres were off by 8 :30 to do a stint at step-chopping, while Pierre and Kogan rearranged an intermediate section of the route. It required two hours for Michael and me to rake the snow out of the old steps and reach yesterday's high point, by which time we were enveloped in fog.

As Michael had told me, we had a small problem to solve. The crest of the ridge, which was already in a rather honeycombed condition, suddenly became a complicated structure of icicles and curling ice cornices. It was no longer usable as a route. After chopping away several unstable decorative features, we descended eight feet into a veritable ice grotto under the cornices, where we trod lightly for 40 feet until we reached a spot where we could escape into a shallow but steep gully which ran upward parallel to the ridge on its east side. The gully too was ice. As we chopped away it started snowing. At frequent intervals, cascades of fine snow pellets came pouring down the gully, showering us. This behaviour was characteristic of the entire ice slope. Very little snow-adhered during a storm, except in our tediously cut steps. After an hour we gave up, attached a fixed rope and retreated, probing with our toes for hidden steps all the way down to camp II, where we joined the other four in the tents. Later the fog cleared.

That evening we had our only genuine excitement of the entire expedition. Just at dusk as Bell and I were sitting at ease in our tent, a mighty roar exploded the silence. Avalanche! And it was above us. We sat petrified for a few seconds while visions of our tents, perched up on a ridge and

presumably safe, were repeatedly chased from our minds by the onrushing noise above us. By now the general roar was being punctuated by the concussions of individual ice blocks, when through it all came the piercing yells of Claude from the adjacent tent, "Mira! Mira!" (Look! Look!) How she managed to use Spanish rather than French in a situation like this was a puzzle to me. Bell and I began pawing at snaps and strings and got the tent flap open just in time to see a rolling gray cloud of ice dust sweep over us while the tents billowed with wind. We now realized that the avalanche was going down the big gully west of our ridge several hundred feet from camp and that we were safe, though it was some minutes before the haze of snow and ice dust cleared from the air.

Next morning the weather was so poor that we decided once more to evacuate camp II. Bell and Ayres stopped at I while the remaining four descended to base camp according to a plan which called for their return on the first good day. Meanwhile Dr. Guillemin, ironically enough, had developed a badly infected finger which kept him off the higher slopes. Our ranks were further depleted by the departure of John Oberlin whose vacation period had expired, leaving him with small reward for a month of hard work.

Two days later the weather was better. Bell and I climbed back up to camp II, ate lunch, then continued up the route, cutting snow out of all steps up to the ice grotto before returning to II. The following day, August 3, dawned fair with the temperature 11 degrees Fahrenheit. We left camp at 6:45 and cut 140 new steps to the top of the gully, where we were back on the top of the ridge again at a snowy, less-steep portion. We gained 200 feet on crampons alone without the necessity of chopping. Then, after crossing a narrow but bothersome crevasse, we were once more on ice at the familiar 50-degree angle cutting seemingly interminable steps. In the early afternoon we began to tire and turned back at about 19,500 feet, leaving a fixed rope along the new steps. At camp II we found Pierre, Kogan, Matthews and Michael, who with Guillemin had come up with three of the porters, bringing more supplies and a light, two-man tent for possible use at a higher camp or as a bivouac shelter. Guillemin had already left for base camp with the porters. His finger was nearly normal but he still thought it better to go no higher than camp II.

The weather was still fair and there was now a line of snow-free steps to within a thousand feet of the lower summit.

Everyone was in good spirits because it appeared that tomorrow we would make our bid for the top. We went to bed early and were away by 6:10 the following morning in the first dim light, with the temperature three degrees Fahr. Our spirits were not so high now, however. The sky was overcast, and in the north and east there were ominous clouds with occasional distant lightning. The valley below was blotted out. At eight o'clock the storm looked so frightening that we started a hasty retreat, fully expecting the worst. By 10 we were fogged in and snow began falling. Then, for some unaccountable reason, the whole massive storm gradually dissolved, leaving us sitting by noon at camp II in hazy sunshine, staring resentfully up at the summit which was completely clear. By five, it was snowing again and we went to bed feeling somewhat better.

Next morning, August 5, we awoke late to find blue skies. These vagaries of the weather were beginning to have a corrosive effect on us psychologically. After a hasty breakfast and a brief council, all six of us left camp with the extra tent, three bivouacs, three small, lightweight air mattresses, food for three days and a firm resolve for the summit at the most or a few hundred more steps at the least. The going was slow because all our old steps were full of snow again. Fog soon drifted in on us, but no snow fell. We were in three ropes of two each. Bell and I had deliberately seized the top position because of a mutual disinclination to have occasional ice chips dropping on us. We reached the former high point and were soon hard at work again, with Bell leading.

The slope had steepened to 54 degrees, and six-foot 4-inch Bell was leaving an almost impossible distance between each of his steps. I tried to visualize Claude negotiating them somewhere below out of sight in the fog.

At last the ridge began to slope back perceptibly. We crossed a slanting crevasse and soon after came, quite suddenly, to a flat platform underneath a big ice wall. A bit of probing indicated the platform was secure. We sat down for lunch, peering at jumbled séracs which loomed vaguely in the fog off to the east.

We turned the ice wall by a traverse to the west without much trouble. There followed a long pitch with more steps up a rounded ice shoulder, then we came out into the sunshine.

Above us there were several rolling snow domes, one above the other, but nothing really steep. After a total of over 1200 steps cut from camp II to here, this was not an unwelcome sight.

We continued upward in soft snow, leaving behind us a line of markers to guide us back to the top of our stairway, in case it stormed. Soon the slope rounded off into the lower summit. On the flat crest we found a wooden pole about one inch in diameter projecting straight up out of the snow for two feet, but with the top broken off. This was undoubtedly the staff on which Broeniman and Marx had left the Peruvian and Swiss flags, but we could find no trace of the flags themselves. We surmised that the shaft had been snapped by the wind. According to Broeniman's photographs in the Lima newspapers, the flags had been quite large.

It was now 2:45. The true summit was west of us. It looked a long way off and not at all easy. Broeniman's description of it as a "Gothic tower" seemed appropriate. We walked along the ridge, which sloped gently downward toward the saddle between the two summits. For most of the distance the ridge was comfortably wide and there were no cornices. Then it became narrow, the downward pitch increased and it began to develop a pronounced list to the left. We halted. Down the right hand side there was a steep icy slope which pitched abruptly into a crevasse, the latter slicing across the whole ridge. The crevasse was bridged by one narrow and lonely-looking ice structure located diagonally downward from our position. A 110-foot length of fixed rope barely let us down this rather dangerous slope and across the bridge. Anchoring the lower end of the rope with an ice piton, we continued across the saddle and upward toward the Gothic tower.

The other two squads were now in sight behind us progressing along the ridge toward the saddle. Bell and I came to a second crevasse which we barely managed to cross. This one was a bit critical. By this time we had worked around to the right somewhat and it was apparent that the tower was going to be easy. Some hard work toiling through very deep snow, followed by 40 or 50 feet of steps up a 45-degree slope, brought us to the sensational knife-edge snow-crest of the tower, whence it was 15 feet a cheval to the topmost point, reached at 4:30.

The distance between the two summits had proved to be shorter than we expected, probably not more than half a mile. We estimated that we were 50 to 100 feet higher than the other summit.

This final tower of Salcantay is distinctive. Its airy curves exhilarated us. Though accessible from the saddle, it is perched at the extreme west end of the mountain and overlooks slopes which fall away steeply for thousands of feet on three sides.

Our colleagues were fast approaching. We descended from the tower to make room for them, exchanging mutual congratulations and encouragement as we met. By the time all had taken their turn on top, it was late to begin the descent. We discovered, in the crevasse adjacent to the lower summit, a sub-chamber, out of reach of the wind, which had a stable floor and bombproof roof. In this cave we supported the tent from ice pitons in two opposite walls. Floored with air

mattresses, this two-man tent provided a warm but not exactly comfortable refuge for all six of us inside for 12 continuous hours. The temperature never dropped below 38 degs. Fahrenheit in the tent throughout the night.

Until 1:00 o'clock there was much jocularity, from 10 until 2 a growing awareness of how long it was till morning, and from 2 until 7, squirming misery. The top layer, if one could stay in it, was not much better than the bottom. Periodically one of the air mattresses went flat and the occupant in contact therewith at the time insisted on blowing it up again, an operation requiring the full cooperation of the other five. Twice during the night Pierre somehow managed to isolate a meta stove from elbows and feet long enough to serve up rounds of hot chocolate.

At 7:30 we clambered unsteadily out of the tent. The air temperature in the crevasse was 12 degs. Fahr. Outside, the skies were blue but a cold wind was blowing. We returned to the tent for another hour before starting the descent. After surmounting the ice slope immediately above our heads, the downward trip was uneventful. Pierre and Kogan came last, retrieving two fixed ropes from the lower route, which were actually spare climbing ropes. For a change we had a full day of nearly continuous sunshine.

We had been spotted high on the mountain that morning. Guillemin was already at camp II with the porters when we reached it. Most of camp II was moved down that afternoon, and the remaining equipment retrieved from both camps during the next two days.

The weather now remained fair for over a week. On August 17, to give us a final view of Salcantay during the flight back to Lima, Captain Moberley, Faucett pilot, circled his DC-4 twice around the peak. Puffs of cloud were floating nearby but the summit was clear and dazzling white.

FIRST ASCENTS WEST OF THE MISTAYA

By John D. Mendenhall

Dark and forbidding rose the shadowed eastern walls of virgin Synge and Midway. Higher yet, gleaming in the afternoon sun, floated the frigate-like pinnacles of unclimbed Aiguille Peak. Since reading the account of Dr. Thorington's visit to the area with guide Edward Feuz and the Measurolls, Ruth and I had entertained the thought of attacking Aiguille (9840-ft.) Now the mountain was in view, promising a strenuous approach and difficult climbing.

The cliffs above the Mistaya were studied in search of a col that would avoid the long pack up the Howse River. The best prospect appeared to be the gap between Midway and Stairway—a difficult route involving loose rock and steep ice. Light packs and a bivouac camp would be required. Should it be attempted? My companion of fourteen years' climbing, observed that such efforts were better reserved for the final peak, that a comfortable camp gave one more vitality, and that we would lose precious time if our gamble failed. This counsel prevailed.

Mrs. Black, at the Saskatchewan Warden's Station, was most helpful, and gave valuable information regarding the Howse Valley and the upper Blaeberry Canyon. "Whitey" Olson was engaged to pack our gear to Howse Pass, and sleep came early beside the roaring Mistaya.

Dawn of August 1 saw us swinging up the beautiful Howse Valley, minus our customary ponderous packs. Inviting peaks passed in stately review. Numerous moose eyed us sourly, then ran away with their comical, high-kneed gait. We enjoyed Warden Black's well-maintained trail after two back-packing trips along the upper Athabaska, and appreciated the effort required to keep it open. It was somewhat unpleasant to find a jeep road going halfway in, but we would have doubtless felt very tolerant had we been riding.

After a long wait for our pack train at Conway Creek junction, we climbed the easy, well-maintained trail to Howse Pass. Mr. Olson kindly took our duffel down the Blaeberry until fallen logs and a comfortable campsite called a halt, 21 miles from the road. The next day would be tiring, as Ruth and I would become the beasts of burden and force our way up the steep slopes that were crisscrossed with fallen logs. The horses apparently feared that they were expected to pack the gear further, and noisily departed during the night.

The next morning, my companion and I shouldered packs and started down-canyon, soon crawling over, under, and through down-timber. Mr. Measuroll's article in Appalachia advised reaching the base of Aiguille by crossing the shoulder north of Ebon Creek—apparently less an evil than following up the creek itself. After a rather sensational descent into the log-choked Blaeberry Gorge, we were soon climbing the tiring slopes beyond, which were littered with prone forest giants.

Ebon Creek was finally reached a short distance below the main fork, and our packs seemed lighter as Aiguille marched into view. The glacier-mantled peaks above the Lambe Glacier now rose impressively beyond the Blaeberry. Range after range formed a white-capped troubled sea in British Columbia, while nearby Howse towered above our canyon.

High timber was reached about 1 p.m., six miles from the last camp. After helping Ruth level a tent-site, the writer made a reconnaissance of Aiguille from the Aiguille-Stairway Glacier. The only feasible route seen by telescope involved climbing the southwest ridge and descending steep rocks to the base of the upper cliffs. These would be very difficult to reach directly from the glacier, being separated therefrom by a water-festooned wall. From the base of the upper cliffs,

three routes were possible: the most promising way entailed a long traverse on unsound ledges, ascent of a steep chimney, then a wicked-looking crack in smooth rock; a second choice avoided the traverse and chimney by direct ascent of a long, black gash to rejoin the first route just below the final crack; a third route would involve assault on the southwest buttress from the notch—two overhangs made this way undesirable for a first ascent.

I returned to camp, and after baths in the icy Ebon North Fork, and a tasty dinner prepared by my companion, equipment was packed for the next day and we turned in.

Dawn of August 3, 1952, came quickly, and stars still visible in the paling sky promised a fine day. Breakfast was quickly prepared and consumed, and our Bramanis were soon mounting the long moraines.

The southwest ridge required caution but no rope, and we were soon at the apex, studying the final towers. The cliffs to the left were abysmal, the buttresses directly in front had two slight overhangs, and the sole feasible route was along the base of the cliffs to the right, as seen the day before.

Now roped, Ruth led down the steep but firm rocks; pitch followed pitch, down and down, until finally the ledges could be gained, and the long traverse began. The outsloping ledges were covered with gravel, and dropped to snowfields that tilted down to cliffs far below. This was the only unpleasant portion of the ascent, and extreme caution was required. Once, when no belay point could be reached, I placed a piton (on the seventh attempt).

Eventually the chimney was reached, and it was a relief to grasp firm rock. Two pitches placed us atop a square tower, and it was necessary to make a delicate descent onto a small snowfield to reach the final walls.

Above towered the castle's keep. A loose, narrow, three-inch crack curved up, overhanging a bit at the top. Ungallantly leaving the heavy pack for Ruth, I ascended easy rock and placed a shallow anchor piton at the base of the cliff. My companion was belayed up and anchored. Two more pitons, and the base of the crack was reached. Extensive "gardening" therein failed to produce trustworthy holds; piton four went in an inch, and number five, a foot above, was no better. After several vain attempts, piton six finally penetrated an inch.

The leader was now beneath the slight overhang, and it was obviously safer to apply pressure slowly to such sorry pitons than to risk a fall and jerk on them. Accordingly, two slings were snapped into the highest carabiner. As my weight was gingerly transferred to the loops, the piton was eyed with distrust, but it held. Another loose piton was placed, and the writer breathed more freely, reasoning that some should hold.

Standing in the top sling, I reached above the overhang and drove a wide piton into a sound crack. An attempt was made to dispense with artificial aid, but I slipped off the smooth bulge. Thereupon I sadly snapped in another sling and pulled myself up onto the sloping surface above. Success was yodelled exultantly to Ruth, who was invisible below the overhang.

The Bramanis held on delicate friction as the leader moved up until the rope could run through a sling hooked around a fortunate chockstone. Ruth started her ascent and appeared amazingly soon, due to her experience and the ease with which the pitons were removed. She remarked that the climb may not have been justified, especially since the anchor piton had come out with two taps!

Ruth led the next pitch on steep but sound rock, emerging on the crest of the notch separating the two small summit towers. I ascended the final easy pitch and reached the summit, a sloping area the size of a small room. Ruth was hastily belayed up, and we happily relaxed.

Final Tower Of Aguille From Southwest Arete.
Photo John D. Mendenhall

Southwest Arete Of Aguille, Showing Descent Into Notch.
Photo John D. Mendenhall

Conway and Mummery group in the background.

Aguille Peak From Mt. Synge.
Photo John D. Mendenhall

Except where the lower northeast summit joined our peak, the cliffs dropped away in a manner reminiscent of Yosemite's Cathedral Spires. The view was dominated by precipitous Howse, frowning down upon us from across the abyss to the north. Chephren and Waterfowl Lakes, 4,000 feet below us, gleamed in unreal aqua. The Black and White Pyramids of Chephren reigned grandly over the Mistaya Valley, and the towers of Murchison suggested helmeted warriors in battle formation.

Nearby Synge and Midway, both virgin, beckoned. To the south rose Stairway and difficult-appearing Aries, both first climbed by Dr. Thorington's party. Southwest, beyond the deep trench of the Blaeberry, rose the shining glaciers of the Mummery and Conway Groups. The eye next leaped to regal Forbes and his satellites beyond the gravels of the Howse, and so back to Howse Peak.

After admiring the inspiring view, "panning" in color, and eating a long-delayed lunch, it was high time to start the "long road back". The climbing and rappel ropes tied together enabled us to pass the critical pitch of the ascent in one long rappel. However, it was impossible to avoid bringing down loose rocks, one of which cut our climbing rope twenty feet from the end. This made the return much slower, especially on the long unstable traverses: several pitons were required, whereas one had sufficed that morning.\

After an interminable time, the loose, outsloping traverse was ended, and it was wonderful to ascend the steep but sound rock several pitches to the summit of the southwest ridge. A few more pictures were taken in the failing light, and the slightly treacherous descent made down the sloping strata and loose scree of the southwest arête. The glacier was speedily crossed and we were well down the moraine before moonlight overtook us. The way seemed long, yet endurable with our mission accomplished. Camp was reached at 11 p.m., after 18 hours out.

The next day we made a leisurely departure for unclimbed Synge (9700-ft.) and Midway (9570-ft.) Their appearance suggested little difficulty, but Synge was somewhat treacherous. After crossing the Aiguille-Stairway Glacier, we attacked an easy-appearing ledge that led to a point below the summit. The way sloped outward and was covered with loose rock. The occasional snowfields were welcome, being comparatively solid. However, their melting produced seepage that made the rocky sections even more unstable. It was a distinct relief to reach the summit and unrope.

The view was as superb as yesterday's, with the added fillip of an abysmal drop into the Mistaya Valley. By returning higher than on our ascent, a much safer route back to the glacier was discovered. Next, Midway was soloed by the writer. The col between Midway and Stairway forms the easiest way of entering the area from the east, and would have been our route had we chosen the shortest way in—but one view down the steep, funnelled ice and rotten brown rock made me thankful that we had not tried to force our way up the cliffs with bivouac packs.

A splendid 15-minute glissade, a speedy glacier crossing, down the long moraine—and camp was reached. Following a fine, icy bath, and dinner, bed was as welcome as ever. Lightning threatened an end to our unbelievably good weather, but the next morning dawned clear, and it was time to abdicate from our mountain kingdom. Surprisingly, the descent to the Blaeberry was more tiring than the ascent. Due to either absence of rest days or a letdown after the three objectives had been gained, lowering oneself and pack down the slopes of fallen timber in the hot, humid, still morning was exhausting. It was a relief to reach the site of our first night's camp, raid the cache, cool hot feet in the stream, and read.

We were soon slogging wearily along the good trail. The rain, which had charitably spared

us during the climbing days, now forced us to flap along under ponchos. It relented about dusk, and a camp was made in heavy timber. Stars were out, the writer was tired, so the tent was not pitched. An icy shower was fortunately short-lived, and the balance of the night was not uncomfortable to a pair who had become either toughened or numbed.

Anxious to move and thaw out, a feeling so familiar to climbers, we consumed a cold breakfast and departed. It is feared that the beauties of the Howse Valley had less appeal by now to the heavily-burdened, footsore adventurers, and the sight of the car was admittedly welcome.

After checking out with the cordial Blacks, we paused on our way south. There sailed the frigate in the sky—the spars and masts of Aiguille, high above the dark walls of Synge and Midway. And we were thankful for another fine outing in the inspiring mountains of Canada, grateful for days on ice, snow and rocks, deeply appreciative for the memories never to fade.

A NEW SHANGRI-LA FOR CLIMBERS

By Pim Karcher

Were it not for an unfortunate set of circumstances, I am sure that Ken Jones would be relating this story to you. Although no climber may rightly lay claim to an unclimbed area, it is not perhaps uncommon for one to think of a region as "belonging" to a fellow climber. The years of anticipation and numerous attempts to organize a party of climbers to attack the Mummery Group certainly gave Ken Jones a logical priority to these peaks.

Ken, who is well known to many an ACC member, and participants of summer camps, had been quick to realize the advantage of a new 20-odd mile logging road up the Blaeberry River, At his suggestion a trip was organized and the Cariboo climbing party of 1949—Andy and Betty Kauffman, Jane Showacre and Ken and Pim Karcher—assembled at Golden to meet him.

You can well imagine that the morale of our spirited group almost fell apart when we learned that a recent illness would prevent his accompanying us.

On the evening of July first we drove off for the logging road hopeful that Ken Jones would be strong enough to join us in two or three days. The condition of the road matched our mood. Excessive rains had turned what is normally a superior road into a sea of mud. Our two cars came to a stalemate not more than two miles from our point of departure. There, at this point of impasse, was Mr. Samuelson, superintendent of the logging operations. When thoroughly convinced that we were a self-sufficient unit, he offered to get us through. Andy's station wagon was then pulled through 18 miles of mud chained to the back of a Dodge Power Wagon.

Late in the evening we crossed the waist-deep Blaeberry to its northwest side. The next day we pushed up nine long miles, alternating between disgusting bush and refreshing river flats. At 6:15 p.m., we pitched camp on a beautiful meadow at the junction of Mummery Creek and the Blaeberry. Looking up Mummery Creek was a heart-warming experience. The tentacles of the lofty Mummery Glacier seemed to hang from the sky. Tall, steep cliffs looked ominous and snow-capped peaks stirred our imaginations and whetted our appetites.

The Mummery Group is in full view from summits of the Little Yoho Valley and the Freshfields, lying slightly to the south and west of the latter group. Although the South Peak of Mummery had been climbed in 1906, the area's inaccessibility had kept it virtually a paradise of virgin peaks. The unclimbed 10,800 foot (or slightly more) North Peak of Mummery was the prize package of the area.

Our trek up the four miles of Mummery Creek was almost a day-long job. We followed the west side of the creek crossing to the east side at the last stand of timber where we established camp on a high bench. When we packed out we followed the east side of the lower part of the creek and were most fortunate to find a series of dried-up streambeds which simplified travelling considerably. All climbing was accomplished from our high timbered camp.

Not so bright and early on the morning of July 4th we headed up the "snow gully" back of our high camp in search of Mt. Cairnes. We felt that we were more on a reconnaissance than a climb, for the whereabouts of Cairnes was still not definite in our minds. After some distance we turned to our right and ascended the steep cliffs of Pyramid Point, a minor summit seen clearly from the Blaeberry Valley. After delicately maneuvering through an exposed ice and snow chute, followed by a bit of airy rock climbing, we reached the summit ridge of Pyramid Point. To our amazement, a large expanse of névé stretched before us! Cairnes was visible as the culmination of

a long ridge on the southeast side while Mt. Barlow (10,320) was at the northwest edge.

Mt. Barlow was conquered after a long snow walk; but enjoyment of the summit was rendered impossible by a strong and incessant wind. Inspection of the cairn yielded only the record of the first ascent by Cromwell and Thorington in 1930 and we consequently inferred that our climb represented a second ascent. Ignoring the not so gentle hint of an approaching storm, Ken, Jane and Pim, decided to push on and capture Mt, Cairnes. Andy and Betty returned to camp. Our progress toward Cairnes was accompanied by winds of increasing fury; it became more and more difficult to walk in the steps of the leader. We followed the roller coaster snow-rock ridge, and as we came over a rise, the peak of Cairnes seemed easily within our reach. With one eye on the peak and the other on black clouds north of Mummery, we held a hurried consultation.

We concluded that discretion was the better part of our mountaineering as well as valour and undertook a hasty retreat. White "marbles" began to sting our faces. Winds had approached gale force and the first crack of lightning was heard!—or was it felt? Jane hastened the descent with jet-propelled energy which left Ken and Pim gasping for breath. Ken, at the end of the rope, begged for a more reasonable pace with what little breath he had left. Other than a brief moment of harrowing suspense, our escape was without incident. Thus ended the third known unsuccessful attempt on Cairnes. Betty, the chief chef of the party, greeted us back in camp with cups of hot tea and steaming soup and we "bravely" related our experiences.

We awoke to a raindrop symphony. Ah! a day in camp. No one was annoyed at that welcome thought. Andy's tarpaulin, called Jumbo because of its immense size, provided a dry, cozy and expansive abode for the five of us. Soon after lunch the weather began to clear. Across the Blaeberry in the Yoho Valley little white streaks of cloud hung caressingly to the tops of such peaks as Des Poilus, President, Vice-President and Collie.

We had decided to wait to see if Ken Jones would join us before climbing Mummery, so when the morning of July 6th dawned clear, we headed up the snow gully back of camp toward the three prominent peaks just north of Mummery. These peaks are on the Waitabit-Mummery divide and our objective was to climb two of them. Two other peaks almost as close to camp are on the Freshfield divide, and one of them we later concluded must be Helmer, climbed by Don Woods and party in 1949. Around noon we gained the col between our objective peaks and first attacked the southern peak. The snow ridge leading directly to the summit offered some of the most interesting and thrilling climbing of the trip. The ridge was so sharp that it would barely support steps, and the ice axe had to be raised almost above the leader's head in order to secure an adequate hold for each step upward. Throughout the entire climb each person belayed in succession below the leader. The condition of the snow was perfect but it is doubtful if there are many days on which this ridge could be climbed.

The summit of the peak afforded a magnificent view of Mummery's North Peak and its hanging glaciers. It looked like a photograph out of a Himalayan scrap book. One could not do better than quote Don Woods who wrote of the Mummery Glacier, "The crevasses and icefalls in this glacier were among the most spectacular I have seen in my twenty-five years of mountaineering, twelve of these in Canada's mountains."[1] In retrospect, we decided to call our first ascent "Karakal" after the "dazzling pyramid" which guards the entrance to Shangri-La in James Hilton's famous "Lost Horizon". Nanga Parbat is very close and it may be recalled that in the story Conway mistook Karakal for that peak.

1 p. 71 *The Canadian Alpine Journal,* Vol. XXXIII, 1950.

We found it necessary to back off the ridge in order to better preserve the much-needed steps for the last members on the rope. We had a late lunch at the col and Betty and Pim took the second rope and began the descent toward camp. Andy, Jane and Ken proceeded up steep snow toward the summit ridge of the second unnamed peak. The ridge itself, although not steep, was badly corniced in places. In due course the top was reached and for lack of a better container, the record was left in a plastic food bag. We decided to call the mountain "Jones Peak"; it is actually the most spectacular looking peak from the Blaeberry Valley. No accurate measurements were made but "Jones Peak" is probably 10,000 feet while "Karakal" is just a few feet less.

"Water's boiling!"—the inevitable bugle call of the camp, provided each morning by Andy—shook us awake to a glorious day. Not long after we were scrambling up through séracs and icefalls at the foot of the Mummery Glacier. The glacier was clear ice where we crossed. We headed up through a short, steep snow chute which led to the upper névé and the west ridge. Only two crevasses called for caution before reaching the long-sweeping snow ridge. The sharp peak of South Mummery rose far ahead. We followed this ridge to the base of the summit peak and then paralleled the bergschrund to a point where we could see a dip on the high ridge above us. We started directly up the steep snow face but each step convinced us the snow was in too dangerous a condition to continue. We backed off and re-crossed the schrund, proceeding north to the wide col between the two Mummery peaks. At this point we decided to split the party into two ropes clue to the lateness of the day. Andy, Betty and Jane turned to the snow covered ridge of the South Peak and Ken and Pim crossed the snow col to the base of the North Peak.

A steep snow face afforded easy access to a high shoulder of the North Peak. Arriving at this point, Ken and Pim found a huge expanse of snow stretched before them sloping at a gradual angle toward the summit. The summit itself was a snow table large enough to house a baseball diamond. We romped over it and briefly celebrated our ascent. We were unable to build a cairn; hence, no record was left.

Across the expanse to the south we could see the tiny dots of our climbing companions descending the sharp and pronounced snow ridge of South Mummery. How small people are compared to the giants they climb! The South peak appeared magnificent in the sun. The summit was so corniced and laden with snow that it was utterly impossible for them to find the cairn and the 1906 record of the first ascent.

In every direction was a limitless panorama, and magnificent views of the Freshfields. It was one of those exceptional days when there is only little haze in the distance and although late in the afternoon, peaks from the Southern Selkirks to the Lyells were sharp and clear, while the height and peripheral location of Mummery gives one a sense of detached superiority. As in the case of every climb we made, we could not spare the time to identify our close neighbors in the Freshfields systematically. The Mummeries impressed us as peaks deserving attention long after first ascents and new routes have been established.

We joined the others at the col for a very late lunch. From the col we followed the route of the morning as far as the snow chute leading to the glacier. There we deviated from the route by rounding a small rock "peak". It was Ken's intention to avoid the hanging icefalls at the end of the glacier, but instead, we were confronted with steep cliffs and tiring climbing. Thus, "Ken's Folly" got its name. We crossed under the waterfalls clearly visible from the valley as we worked our way back to camp.

Jane's voice does not equal the volume of Andy's, and so, the "water's boiling" bugle call was not nearly so effective the next day. The group just wouldn't budge. After no little coaxing,

Jane's efforts for a good breakfast were not in vain and eventually she had a few customers. Consequently, it was not until 9:00 that we leaned on our ice axes for our last climb in the area. Unclimbed Mt. Cairnes (10,120) was our goal and "Cairnes at all costs" became the cry of the day.

After some very interesting and startling rock work back of camp by our "girl guide" Jane, we reached the glacier nestled between Pyramid Point and Mt. Cairnes. Betty and Andy had selected a less tricky route. Unfortunately, Betty's ice axe strap broke and they had to climb down 300 feet to rescue her axe. They told us to go on; they would saunter around, return to camp and have dinner waiting for us.

Jane gave the lead to Ken. (Jane and Pim secretly decided he could probe for crevasses and be expendable on questionable snow bridges). The crossing of the glacier was a greater task than estimated. Our progress was painstakingly slow since the glacier was heavily crevassed. When this nasty work was finished, "girl guide" took over the lead. Jane decided on a sporting attack on the mountain and led directly up the cliffs in the snow ridge we had been driven from in the storm. This, of course, consumed additional time and we arrived on top of the ridge only to discover the peak still a good distance away.

The ridge maintained its roller-coaster ups and downs until we reached the final pitch. There was very little rock exposed on top of the peak; just a small sharp rock jutting out of corniced snow, but with cautious belaying, Jane led to the uppermost point which looked down on Cairnes Creek. We erected a cairn just below the summit and recorded the ascent. It was then five o'clock so we decided to return to camp via the route of the storm knowing it would consume less time. As promised, dinner and a campfire were waiting for us. Is there any more enjoyable way to complete a day's climb?

This was our last evening and as we anticipated a mid-morning start down Mummery Creek the next day, we allowed ourselves the luxury of sitting around the camp fire, enjoying a sense of satisfaction, happily re-living our climbs and experiences. It was certainly an excellent climbing area and our trip was most successful. One of the unique features of the area is the nearness of a desirable campsite to such heavy glaciation and attractive peaks. In the five days at camp we had made four first and two second ascents. Our only regret was that Ken Jones was not able to share them with us. Although he didn't get to climb "his" peaks, he was "with us" on each one.

Generally speaking, most of the climbs from our campsite took about 12 hours although none of the climbs was hurried. Helmer and Low could be approached easily from our camp. A bivouac near the Helmer-Barlow snow basin might put Nanga Parbat within climbing reach. We believe there is one unclimbed peak on the Waitabit-Mummery divide. With the new logging road, "Karakal" not only guards a Utopia in fiction but marks a new Shangri-la for climbing in reality.

THE FRENCH GENERALS

By Ann C. Cunningham

Some fifty miles below Banff where the British Columbia-Alberta border makes a sudden, short, northeastward turn, lies the. French Military Group of the Rockies. At the southern tip of this turn is Mt. Joffre, a pleasant snowcapped peak of 11,316 feet. Access to this area had been limited until recently when a power line and maintenance road were built down the Elk Valley, thereby eliminating a pack train or long back-pack from Banff.

On August 12th our party of three, Jerry More who came complete with movie equipment for the purpose of recording the trip, Gerry Cunningham and Ann Cunningham, using this new approach found it very easy .... but only for those who can hear the crunch of rocks on the underside of a car, or slither greasily out of one large puddle and into the next with little or no mental anguish. The presence of a shovel, axe, emergency chains, extra gas, a good driver and mechanic, though not the usual requirements of a climbing trip, would be comforting. Nearly all the 66 miles and 9 hours which we traveled from the highway to the point at the end of the burn where we decided our luck had been pushed far enough, was done in first and second gear and consumed three-fourths of a tank of gas, a little item we had overlooked when starting. We camped on the road the first night as it grew dark, and next morning, expecting only a short drive, we were more and more dismayed as we realized how far we had come and yet how far we had to go. While talking to Eddie the Ranger the night before, we had paid scant attention to his statement that it was a good 24 miles to the Elk Lakes from his cabin. Distances seem much longer at five and ten miles per hour. Portions of the road narrowing down to a small neck of dirt propped up by loose logs on either side, did little to hasten our progress. Much time was spent in making such places passable. Finally we reached the end of the burn and the beginning of more and deeper puddles where the road was definitely on the downgrade. Getting back up the hill after a fresh shower would have been work for a jeep or truck, and we gladly left the car to begin the serious work of backpacking.

We followed the power line for a mile or so until it made a sharp turn to the north and away from the Elk Lakes. Lower Elk Lake was reached through meadow and timber with a minimum of bushwhacking. From Lower Elk Lake we found no sign of a trail, though the Ranger had said there was one. Having had little trouble so far, we didn't look thoroughly and again struck out through the down timber and many channels of the connecting stream. The brush soon became active in pushing our heavy packs about, and keeping upright on slippery logs above the water was a problem. We envied Jerry his tricounis. Giving up about dark, we camped at the edge of a marsh and attempted to dry out before the fog began dripping again.

A short reconnaissance located Upper Elk Lake just over a steep ridge, and a late start the next morning put us at the upper end by lunch time. Gerry slipped in and with already wet feet, discovered easy walking along the narrow shelf of the lake in knee-deep water. Jerry More and I continued to crawl, squirm, squeeze, slip and batter our way through the brush in the interest of keeping our boots dry, only to find on reaching the end of the lake that it had been wasted effort and that it was necessary to wade up to our knees for the last 20 yards. From the lunch spot, smooth gravel beds, a crossing of Petain Creek and excellent game trails brought us to a meadow at the lower falls. Here a glimpse of a hanging glacier through the fog gave us a clue to the amount of climbing yet to be done. We were at the foot of a tremendous 1500-foot headwall, down which Petain Creek poured in three great falls. This unexpected obstacle we had failed to recognize from

Mt. McCuaig From Basecamp.
Photo A.C. Cunningham

Mt. Joffre From Castlenau.
Photo A.C. Cunningham

Mt. Neville.
Photo A.C. Cunningham

our aerial photos or from the "cliff bands" mentioned by Hind (*C.A.J.* '52). After some debate, we camped at an early hour rather than continue with lightened loads up the headwall.

Rain most of the night and on through part of the morning delayed our departure. We decided not to go up the avalanche gully to the right as it seemed too far out of the way. This was a mistake, and we bushwhacked and rock-climbed half way up the 1500 feet before coming to any appreciable stretch of meadow. From the lunch spot beside a small, tumbling stream to the top of the upper falls was a slow drag broken by short rock climbing practice. Jerry, in spite of his movie equipment dangling from the front of his pack straps, struggled up the rock climbs ahead of us to search for a camp site. At the top was a great, barren, rock-strewn flat land bounded by a crescent-shaped cliff band over which Petain Creek came roaring in one graceful sweep. A grove of full-grown tamarack on the other side of the creek seemed to afford an excellent campsite, and although the creek near the top of the upper falls was, in places, only three feet wide, all three of us went upstream some distance to a wadeable spot, being only too glad to get wet feet rather than risk being swept over the brink. Tents were set up and spread with drying clothes when a cold rain and hail storm hit. This discouraging event lasted nearly an hour, during which we huddled under a poncho, occasionally hastily pawing a trench to divert a new trickle of ice water. At last a partial truce was declared with the weather, and we ate and tumbled into our bags.

Next morning Jerry tended fire and turned socks while Gerry and I reconnoitered a route that would avoid the remaining cliff bands and take us to Petain Glacier. We climbed behind a small hill in back of the camp and found ourselves above the crescent-shaped cliffs but with still another cliff band between us and the glacier. A number of possibilities confronted us, the most discouraging being a long drag over rocky territory to a scree slope on the other side of Petain Creek. With this dismissed, we chose a place in the cliff shortly beyond a full-grown waterfall emerging directly out of a hole in the rock. This place could hardly be called a gully, but it was safely climbed unroped. Some time was spent cheerfully tossing down rocks to clear the way, and we arrived at the tongue of the glacier as the rain began. A short break in the weather and we tramped up the ice in the hope of picking our routes to the various peaks. Surly clouds hid the view and soaking rain soon drove us back. Of course, the sun came out again and dried us as soon as we were down the rock climb and out of view of the peaks.

Next day an early start put us on the glacier by 6:30. No problems were encountered in climbing the glacier to the foot of Mt. Castelnau, which proved to be a nasty slippery scree pile until near the top where the scree was partly frozen and provided small patches in which to get an infrequent firm foothold. The summit bore no evidence of previous ascent so we stopped for a small cairn, a lazy lunch in the sun and then decided to go down the other side and climb Mt. McCuaig. A scuffle and slide down through more scree put us at the head of an icefall, and rope and crampons brought us quickly to the base of McCuaig. After finishing our lunch here, we scrambled up a small buttress with rocks again vying to see which could be the most unstable. However, the buttress soon turned into firmer scree and we walked upright to the top. The view nearly 3000 feet down into the Elk Lakes was enjoyed all the more for our being the first to see it from this vantage point. This was an excellent time to discuss a better route down out of the valley, and we made the best of it. Avoiding the icefall on the return trip by negotiating the crevasses lower down and skirting the top of the snow-field around the east side of Castelnau, we reached the Petain glacier in good time. Melt water at the edge of the snow over the ice was six inches deep, and we slopped back to camp with wet feet.

The next day we arose at the amazing hour of 8:30, were off in the speedy time of an hour

and a half and all three of us staggered up the glacier toward Mt. Nivelle. We chose to go up the length of Petain Glacier instead of the Castelnau Glacier, thinking perhaps it would be shorter and that the west ridge would have something more to offer than what we had observed of the east ridge and north face the day before. The whole party was in such a sad state that we arrived at the junction of Petain and Nivelle Glaciers in time for lunch. This inauspicious beginning was made further so by the short reconnaissance up the west ridge where many possible routes opened up, all of them composed of rotten rock, all of them very dubious and all dangerous in threatening weather of which we had an abundance. Having also an abundance of lazy people in the party, we trudged back to the tamarack grove, the only accomplishment for the day the finding of a lost mitten from the day before.

Next day was cloudy, but had no immediate storms in prospect, so we roped up and put on crampons to cross the heavily crevassed northern side of Petain Glacier. Some of the laxity of the day before still lingered and so did we, taking movies, puttering around and in general, not putting much effort into getting up Mt. Joffre, our goal for the day. Reaching the edge of the glacier and a small waterfall at 11:00, we decided to eat half the lunch there. We then climbed rotten rock to an upper snowfield and slogged half way up in deep, wet snow until we decided rock would go faster. A short stretch of snow over ice required rope and crampons till we topped the small cornice. Continuing up the ridge, we proceeded cautiously, but none-the-less a steady rain of rocks poured down as each of us climbed. Finally, we reached a turning point on the ridge from which we had expected to traverse a scree slope to the Joffre ridge. This proved to be rotten cliff work for which wings would be a prerequisite, and so we were forced on and up over the north sub-peak of Joffre. Here we built a cairn and consulted the ever-threatening clouds before walking down the short slope to the saddle and snow of Joffre. Snow is a misnomer as the thin layer of crust over ice would have afforded no footholds without crampons. The weather held for the moment, and we kept a steady pace to the summit. Wind and cold gave no invitation to linger, so we retraced our steps after scanning the records of the two previous ascents which had been made from the north. We saw no insects or birds as reported by both other parties. The descent from the sub-peak was slow, cold work, hastened only slightly by the light snow beginning to fall. Reaching the snowfield once again, we glissaded, roped and belayed at first, as small snowslides were being dislodged and flowing over the cliffs below. Reaching our lunch spot at 6:00, we realized with a start that our quick half-lunch was seven hours behind us. Not wishing to be caught on a crevassed stretch of the glacier by darkness, we opened two cans of meat and ate as we tramped the long way around to avoid the worst crevasses. We reached the head of the rock climb with just enough light to get down safely. The weather had long since settled down on the peaks, but the drizzle did not catch up to us at the campsite until we were comfortably settled for the night.

Next day, the ever-present task of drying clothes and a final trip to the glacier for some pictures, ended our climbing. Thursday was cloudless, and we skidded down the avalanche gully (which we had chosen from the top of McCuaig as the best route down) to the meadow by the lower falls and arrived at Upper Elk Lake for lunch. This time we did not hesitate, but waded along the shore line immediately, making excellent time (one and one-half hours) to the lower end, where we found a log jam which we crossed with little trouble. Here we found the trail leading to Lower Elk Lake and on arriving there, discovered why we had been unable to find any trail on the way in. The trail led off from Lower Elk Lake a little east of north, an unexpected direction, in order to avoid the same swamp, brush and many stream crossings through which we had floundered. It is a well kept and traveled trail and worth a bit of searching to find.

Camped at Lower Elk Lake were Tom and Delia Holley of Michel, B.C., with their three small daughters. We were very hospitably served coffee and sandwiches while Tom fixed the carburetor of his jeep, flattened the windshield, and offered to drive us back to the car. We accepted with little hesitation, not knowing what the flattened windshield really meant. From the camp to the car was as wild a ride as we have ever had, and none of us were strangers to a jeep. Over young trees, through thick brush, between trees and under heavy branches with barely an inch to spare with scarcely a slackening in speed, Tom took us to the relatively open and smooth power road. We buzzed over the four miles to the car in what must have been record time. Upon asking how the younger Holleys survived such rides, we were calmly told that they were put in back and told to hang on! Tom deposited us and some gas he was able to spare at the car, and we heard him roaring on his way back to the lake in the quiet of the closing day.

We had intended to climb in the Italian Military Group a few miles to the south, but the prospect of getting marooned on the road by a day's downpour was too much for us, and we concluded a very pleasant and successful vacation by retreating to the more civilized but less interesting Tetons.

Although the rock was very rotten and not to our liking, an earlier trip would have provided more snow climbing. The area is certainly very attractive and should be climbed much more frequently now that it is easily accessible. There are still a few first ascents left, and in the area to the south, between the French and Italian Military Groups, there are a great many very spectacular virgin spires.

IN THE NORTHERN PURCELLS, 1952

By Peter Robinson

On the 28th of July four climbers of the Dartmouth Mountaineering Club gathered at Dick McClain's farm not far from Spillimacheen, British Columbia. Bob Collins, who had brought most of our supplies in his Model A, had been waiting for five days. Bill Briggs, his brother John, and I came from Jenny Lake in the Tetons, where Bill and I had spent three weeks climbing with other Dartmouth mountaineers.

We had become interested in the Purcell Range and its literature through our friend Percy Crosby, who in 1951 had made four ascents in the Bugaboo Group. Unlike many of the more recent visitors to the region, we were not seeking difficult ascents in the granite spires, but wanted to gain knowledge of unexplored sections of the divide, especially between Bugaboo and Horsethief Creeks[1] and in the Bobbie Burns Group. With financial aid from the Dartmouth College Department of Geography a large set of aerial photographs was obtained from the R.C.A.F. From careful scrutiny of these many things, hitherto unknown, became quite evident.[2] Before leaving for the west we conferred with Prof. Rosenstock-Heussy, who with E. A. Little and A. Fabergé had made the first ascent of Mt. Taurus in 1946.[3]

Dick McClain, hunting guide for the region, promised to get us to "twenty-seven mile" (the Forks) on the Bugaboo by evening. Behind his red farm tractor he hitched a two-wheeled rubber-tired stake wagon into which we piled a veritable mountain of goods. Seated atop this load with Dick astride his "iron mule", we moved down the "main street" of Spillimacheen.

Eight bone-bruising hours later we arrived at the cabin on the Bugaboo Forks. Dusk was just settling over the wild spires and ice falls of the Bugaboos.

I. THE VIRGIN COUNTRY

We spent the next forenoon sorting and packing supplies for the most important part of our trip. We planned to cross the watershed pass (Phacelia) at the head of the East Branch of Bugaboo Creek and from there establish a climbing camp as near as possible to the Taurus-Virgin col. There were also hopes of investigating Thorington's "two writing desk wedges somewhat above 10,000 feet" to the south of Taurus.[4]

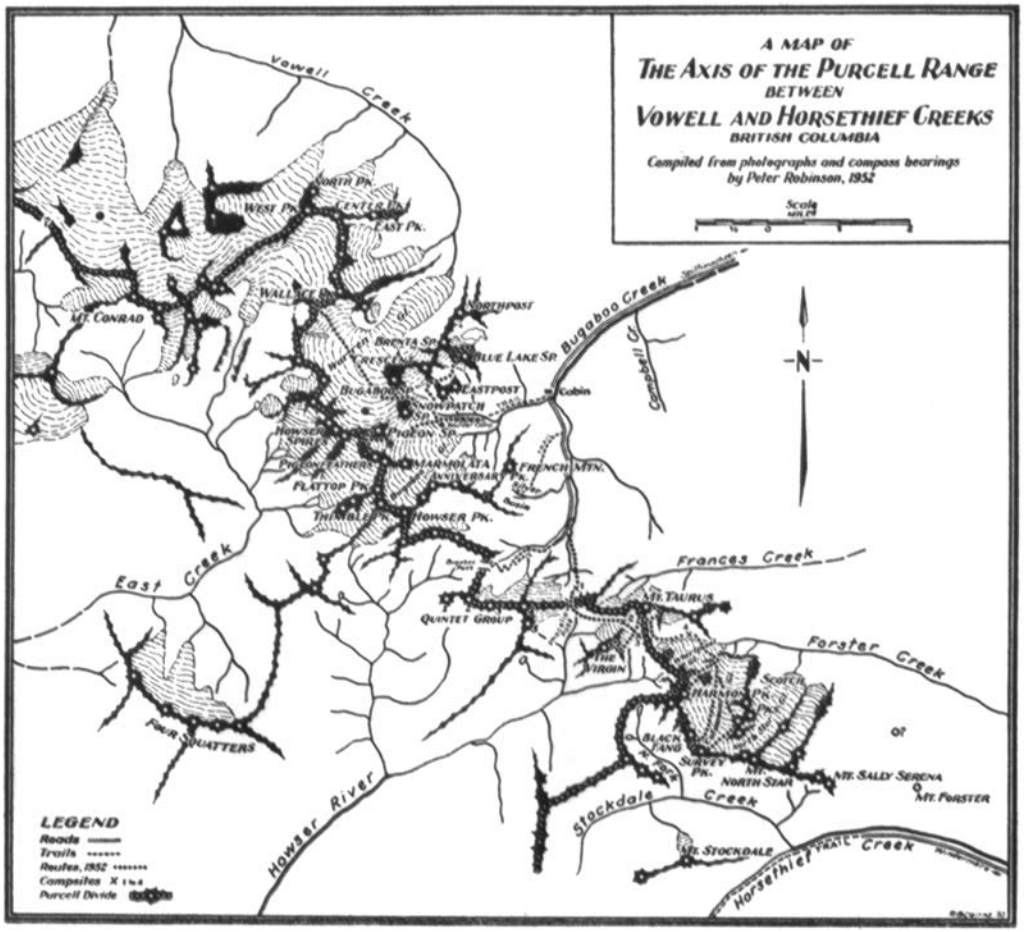
After lunch we decided to climb French Mountain to get our bearings and have a look at our objectives. Five hundred feet of steep bushwhacking up the east slopes brought us to a long diagonal trail slanting upward to the south, which led after a mile or more into verdant Silver Basin. Here two old mine shafts are to be found at timberline. From a rock ridge 100 feet above the basin we were able to study the approaches to Phacelia Pass closely, with Taurus, the Virgin, and Mt. Farnham beyond. Directly across the Bugaboo South Fork was the ice-laden Quintet Group. A half-hour scramble along a ridge toward the northeast brought us to the top of French Mountain (7600 feet) where the view opened out in all directions. In a straight line with the great "U" of the

1 Conrad Kain (Edited by J. M. Thorington): *Where the Clouds Can Go.* The American Alpine Club, 1935. Pg. 408

2 A rough map of the Bugaboo sector was constructed. Maps of other sectors are in the process of construction.

3 E. A. Little and E. Rosenstock-Heussy, *C. A. J.,* Vol. XXX, pgs.15-28: "Ascent of Taurus." (? on photograph opp. pg. 16 is Survey Peak).

4 J. Monroe Thorington: *The Purcell Range of British Columbia.* American Alpine Club, 1946. Page 115.


A MAP OF
THE AXIS OF THE PURCELL RANGE
BETWEEN
VOWELL AND HORSETHIEF CREEKS
BRITISH COLUMBIA
Compiled from photographs and compass bearings
by Peter Robinson, 1952
Scale
N
Vowell Creek
Bugaboo Creek
Campbell Cr.
East Creek
Frances Creek
Forster Creek
Howser River
Stockdale Creek
Horsethief Creek
Mt. Conrad
Howser Pk.
Mt. Taurus
Quintet Group
The Virgin
Four Squatters
Mt. Sally Serena
Mt. Forster
Mt. Stockdale
LEGEND
Roads
Trails
Routes, 1952
Composites
Purcell Divide

Bugaboo Valley rose the towers of Mt. Goodsir in the Rockies. A precipitous descent via the east slopes brought us back to the cabin at dusk.

At 10:30 the following morning the four of us started for Phacelia Pass (7100 feet). The first four miles were easy going along the south Fork Road. Then we cut across open meadows on a smooth game trail until reaching the forest. There were a few anxious minutes of very heavy going before Bill struck the main game trail, which looked so much used that at any moment we feared we would be trampled: by a downward-charging herd of deer, moose, elk, and grizzlies. At the far end of the upper basin one has the choice of a long alder slide or a steep waterfall course. We chose the latter and were forced to rope up at one nasty spot. By 4:30 we reached a large bench near the highest timber and camped. On this bench are to be found the flowers Phacelia for which the pass is named.

I climbed alone to the pass to look things over. To the southeast I was confronted by the sheer ice-draped north face of the Virgin. The north and west sides of the Virgin are drained by a branch of Howser River which also drains Phacelia Pass. Our plan was to go to the head of this fork and cross the Taurus-Virgin col to the drainage of another branch of Howser River. The Virgin could be climbed in one day from Phacelia Pass via the west ridge. We preferred, however, to attempt the long, beautiful northeast ridge. Taurus cannot be seen from the pass because of a high buttress east of the pass, but there was a fine view of Eyebrow Peak and the Horsethiefs to the south, and the Bugaboos in the north. Westward is a long ice slope leading to the challenging, unclimbed peak of Quintet No. 5.

Inside the cairn I found a small rusty tube containing the following note: "J. M. Thorington, Conrad Kain, June 29, 1933."

I recalled how these two mountaineers had been frustrated by rain and fog on their last climb together before the latter's death, thus delaying the discovery of the Virgin by thirteen years. No record of the 1946 Taurus party was found.

Reaching Phacelia Pass from Camp I at 8:45 next morning, we started a long traverse of slopes toward the Taurus-Virgin Col. Eventually we had to descend directly to the valley, where we stopped for lunch at the first water. The rest of the afternoon was spent plodding up the left bank of the glacier which skirts the north face of the Virgin. At 5:30 it was decided to establish Camp II on a moraine three hundred feet below the col, while I went over the top to reconnoitre.

The Taurus-Virgin Col is heavily coated with névé, hence it is easy to reach. From the top one is confronted by the large, triangular and vertical southwest face of Mt. Taurus, while to the southeast is the west side of an enormous block of glaciated granite peaks. About 150 yards south of the col a grassy ridge divides the ice. The east side is nearly vertical, but the west side slopes away from a level crest. Here are to be found several natural tent platforms and an excellent source of water. Among other advantages the campsite commands not only a view to the southwest down the Howser Valley but a view to the east through a low pass to the Forster Valley and the Canadian Rockies.

I returned in a few minutes to Camp II. As we lay watching the sun set over the Quintets, we marvelled at the great sheets of ice and snow clinging to the Virgin's north face at angles of sixty to seventy degrees. August 1 dawned another perfect day, and late in the morning we took a leisurely trip over the col to Camp III, our semi-permanent residence at around 7800 feet.

At 12:10 Bill, Bob and I started to attempt Mt. Taurus (9,820 feet)[5] while John, not primarily

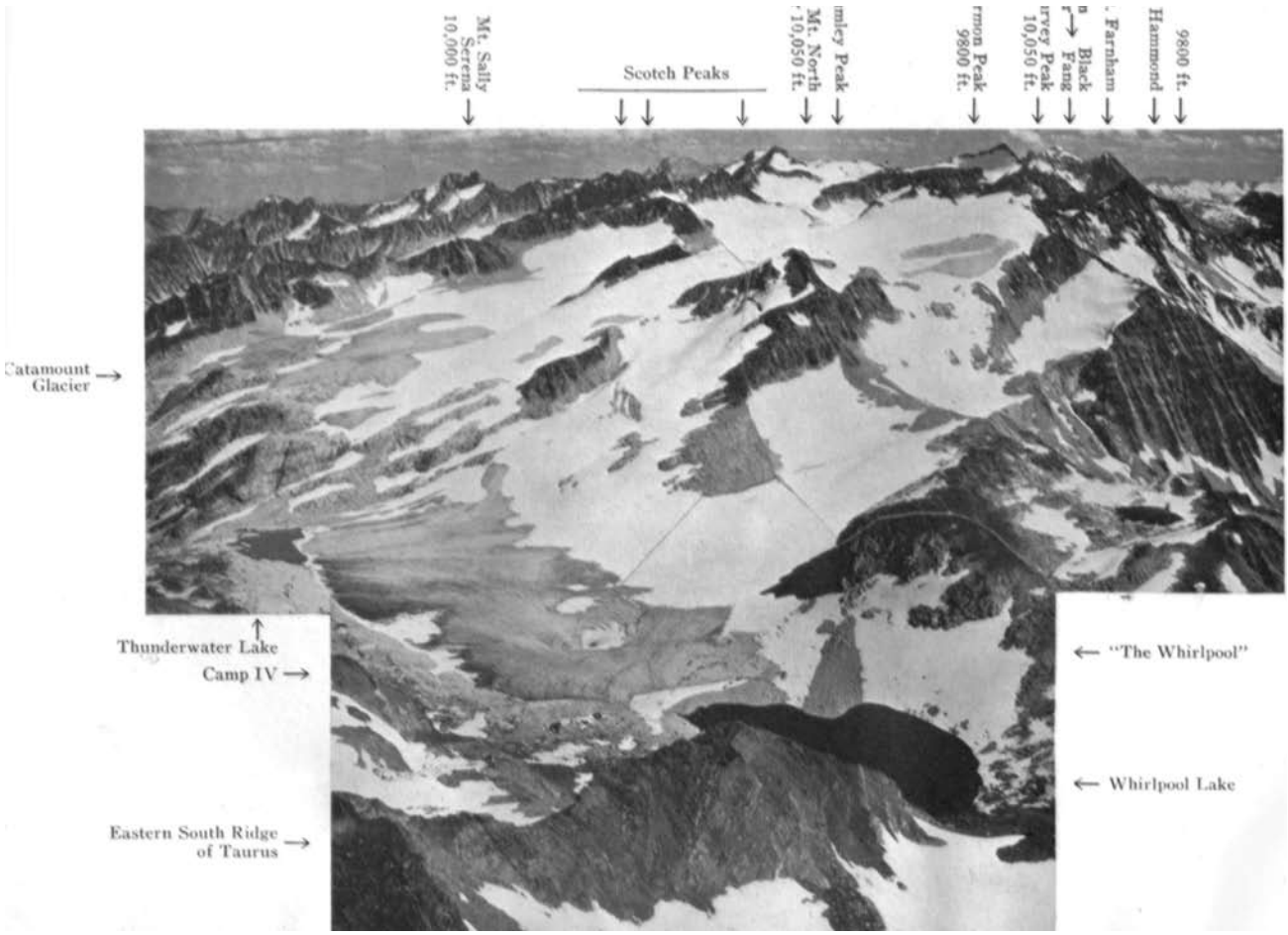
5 Altitudes were estimated assuming Mount Stockdale 10,100 feet as shown on the Windermere Sheet (1926).

The Virgin From Camp II.
Photo Peter Robinson

The Scotch Peaks From The N.E. Ridge Of Survey Peak.
Photo Peter Robinson

Taurus From Camp III.
Photo Peter Robinson

Ridge of ascent on the right skyline. Taurus Notch is above the tent peak.



View Toward the S.E. From the Summit Of Taurus.
Photo Peter Robinson

interested in mountaineering, stayed to set up the tents. The south flank of Taurus contains three cirques separated by two sharp ridges. The western ridge, considering the rottenness of the rock, looked like a poor route, but the eastern ridge looked climbable. Its ascent would put us on the long east-west summit ridge. We roped up and traversed across the first cirque, through a notch in the western ridge, and across the second cirque to a long shoulder of the eastern ridge. The notch in the western ridge, through which we passed, is on the East-West Kootenay Divide and is the only feasible route across to Forster Valley, the pass having high cliffs on its west side.

Pausing only to leave our ice axes, we climbed along the narrow crest of the shoulder to a shallow notch from which a sharp arête rises steeply. Forty-five minutes of somewhat rotten but enjoyable rock climbing brought us to a wide, comfortable gap in the east ridge. At the foot of the north face below us stretched a band of crevassed ice draining into Frances Creek with the bulky peaks of Mt. Ethelbert and the Septets looming beyond. On the north side of the Frances Valley could be seen the road which leads to the Lead Queen and Steele claims.

Climbing toward the west over an easy slope of shattered rock we reached the summit of one tower beyond which rose a second and higher tower. Leaving a cairn on the first summit, we climbed down steeply into the notch and up additional shattered slopes to the second peak. Across a steep cleft guarded by a most efficient-looking gendarme lay the summit tower. Fortunately the rock, which had hitherto been very rotten, improved somewhat. With the help of an unsuspected fracture in the south side of the gendarme and the best climbing of the day, we reached the base of the summit tower. The ridge above was clearly unclimbable as were the faces on either side. However, leading gently upward around the otherwise vertical south face was a smooth three-foot sidewalk which reached the ridge west of the summit and gave a two-minute scramble to the cairn. The second ascent of Taurus had taken three hours and a quarter from Camp III. In a tin was found the record of the first ascent on July 28, 1946.3

During our hour on the summit we became fascinated by the vast number of nearly unknown peaks to the south which the 1946 party had apparently confused with the Horsethief Group. These peaks are all part of a large granite block, bearing three or more parallel glaciers two to three miles long which drain to Forster Creek. At the southern edge of the block, which falls steeply into the Horsethief-Stockdale Valley, stand the highest peaks. They are from east to west: Mt. Sally Serena (10,000 feet)5, Mt. North Star (10,050 feet), and Survey Peak (10,050 feet). From Taurus, Mt. Farnham, highest in the Purcell Range, looms behind Survey Peak. Between the glaciers are long ridges of fine granite pinnacles, while on the western edge of the block is a high dome of ice (9400 to 9500 feet) supported by two rock peaks.

From the western south ridge of Taurus the East-West Kootenay Divide crosses Forster Pass and part of the ice dome, then swings sharply to the southwest to cross a pass between Howser River and the small North Fork of Stockdale Creek without passing over any of the important granite peaks. Beyond Stockdale Pass the divide is composed of low jagged sedimentary peaks trending toward the giant snowy pass of Eyebrow Peak. A glacier on the NE side of Eyebrow Peak appears to be the source of the main stream of Stockdale Creek.

Directly below Taurus a small glacier pushes into the Forster Valley from the south, blocking off a large green lake below the pass and forming a smaller lake at the glacier snout. Midway along the glacier's smooth, snow-free surface, a huge whirlpool-shaped mill hole disappears into the blue depths of the ice. We named it Whirlpool Glacier, and the lakes Whirlpool and Thunderwater Lakes respectively.

As we left the summit we looked at Mount Assiniboine in the east, our constant companion

for the next few days, and the Virgin (9500 feet)5, our objective for the morrow. At 6:35 p.m. we pulled back to Camp III, which John had completed with stone walls around the tents.

The four of us didn't leave camp until 8:25 a.m. and John was as eager as the rest to ascend this virgin summit. Crossing the cirque west of camp we scrambled up loose rocks for three hundred feet to a level shoulder on the southeast ridge and cached two of the four ice axes. An evenly sloping (30°) rock ridge sprinkled with small pieces of shale plus two steeper pitches rose for about 150 yards to an intersection with the main northeast arête. The rope was soon put on since the going was slippery and the exposure considerable. By climbing the southeast ridge we avoided the lower two-fifths of the main ridge which contained two vertical pitches of dubious nature.

The next hour was enjoyably spent climbing over or traversing around numerous low, rotten towers. It was interesting to notice that both on this mountain and on Taurus, towers which would not succumb easily to a frontal attack could always be traversed on the south side. At many places the north face was overhung by beautiful cornices, all of which could be avoided via the rocks to the south. Two stretches of easy snow brought us to the base of the summit block, the crux of the climb.

While Bill and Bob stood back to puzzle out a route from a distance, John and I moved in for a closer look. The summit block is synclinal in structure with a north-south axis and the cliff-forming layer is a solid quartzite more than a hundred feet thick. Five minutes were consumed in getting to the top of a large chunk just below the vertical part. When a traverse to a sort of escalator on the north face failed to work out, an interesting and safe eighty-foot lead brought me to a series of three-foot steps, one of which served as a belay position. After a brief pause while Bill, with a belay from above, conquered his variation, an open chimney capped by an overhang, we scrambled two hundred feet to the top (11:25 a.m.).

The highest point was an undisturbed low mound of rock in long bars described by John as a phyllite. Standing one bar on end we surrounded it with a structure not unlike a council fire, thus forming a unique cairn.

The panorama around us was too vast and impressive to describe in detail. Making up much of the western view, with the Selkirks in the distance, was the great range of the Four Squatters, massive mountains about 10,000 feet, which richly deserve exploration. In the south was Eyebrow Peak, always dominating, with great stretches of mountains farther west. One of these in particular, a great white barn of a peak with a cupola at the southern end, caught our fancy. It must have been twenty-five or thirty miles away. From our summit the configuration of Howser River showed to advantage, the forks being perhaps six miles distant.

The early afternoon was spent in leisurely descent by the same route to Camp III. where plans were made for moving over to the Forster Valley next morning.

Two hours got us through the Taurus Notch and past Whirlpool Lake to a campsite in a few trees on the north bank of the Whirlpool Glacier. We had cached some of our extra supplies and equipment at Camp III. At Camp IV, we had the advantage of ample firewood, but the sun set much sooner in the evening.

At 1:25, we started across the Whirlpool Glacier toward a rock wall which leads to the westerly of the large parallel glaciers. After some difficulty on the wall, we all roped together and started up the northeast slopes of the great ice dome. That day being John's birthday, we sanctioned his naming the nearest prominence Plumley Peak (9300 feet) in honor of an old drinking companion (alias "The Plum"). The point stands on the northern edge of the dome, the slope falling away steeply to the north.

Due south from Plumley Peak is the highest part of the ice dome with the two 9,800-foot peaks. The easterly of these adjoins the ice dome directly and has a long, partly snow-covered northeast ridge bearing two granite pinnacles and with a steep, flat-topped granite tower at the southwest end. We struck out for this peak immediately, leaving a cairn on Plumley Peak.

Heading onto the northeast ridge at the nearest point, we encountered snow waist-deep, but eventually got out onto the rocks. At this point John decided to wait for us. With Bill in the lead we scrambled past the pinnacles to the base of the summit tower. Then Bill climbed two delicate pitches: first a traverse onto the north face and up for ten feet; then fifty feet straight up on crumbly granite. Twenty feet more of scrambling brought us to a rather small, flat and cairn-less summit.

We called our mountain Harmon Peak[6] in honor of Byron Harmon, a professional photographer who accompanied Longstaff and Wheeler to Bugaboo Pass in 1910[7] and took movies of the Lake of Hanging Glacier in 1922.[8] The long jagged line of peaks to the east we called the Scotch Peaks (or The Coolin) because of their resemblance to the mountain of Skye.

During our long mush down the rock wall at the glacier snout we noted the softness and depth of the snow and the lack of crevasses. Because of its high altitude this area would make excellent, safe skiing even in late August.

When we were descending the lower part of the rock wall onto Whirlpool Glacier, someone spied a large black animal frantically sniffing our tracks across the ice. It soon saw us and fled straight across the ice for the far bank. John identified the tracks as those of a cougar or catamount. So we named the glacier above Catamount Glacier.

During the day, Bob had developed a very bad blister on his ankle so a day of rest was proclaimed next day.

An hour after brunch John and I took a rope and strolled onto the Whirlpool Glacier to make a "descent into the Maelstrom." From the east an easy slope ran down to the flat bottom one hundred: feet below the glacier surface, the other sides being overhanging. The water drains out at the bottom through large fissures. Then we took a walk down the bare ice surface and along a recent moraine to an area of polished "sheepbacks" on the east shores of Thunderwater Lake. Beyond these a series of rumbling cascades falls 500 feet into the green, wooded bottom of the Forster Valley while from a steep granite cliff to the right the main stream from Catamount Glacier plunges nearly 800 feet to the valley floor. In a northerly direction stands an unusual white pinnacle formed probably by the outcrop of a member of the Mount Nelson formation8 on the ridge between Forster and Frances Creeks.

The swelling in Bob's heel had not gone down enough for him to risk the long trek up the Catamount Glacier, so Bill and I planned to start early next morning in order to get back by mid-afternoon and return to Camp III. A thunderstorm without rain passed over in the wee hours, but at 5:55 a.m., the weather was not bad enough to keep us from going.

Following the route of two days before to the snout of Catamount Glacier, Bill took the lead on the rope on the theory that he could be pulled out of a crevasse more easily than I. In truth crevasses were almost non-existent, making the rope hardly necessary.

Trudging for two miles diagonally across the glacier and upward on the west flank of the Scotch Peaks, we reached the level rock of the long northeast ridge of the westernmost of the highest peaks. On the other side of this ridge and parallel to the Catamount Glacier is the even larger North

6 Our original name "Rye Peak" was changed to something more acceptable.

7 T. G. Longstaff, *C. A. J.,* Vol. Ill, pg. 26: "Across the Purcell Range of British Columbia."

8 Conrad Kain (Edited by J. M. Thorington): *Where the Clouds Can Go.* The American Alpine Club, 1935. Pg. 383

Star Glacier and Mt. North Star (10,050 feet) on the far side, a half mile away. We named these features for a steamer which once navigated on the Columbia River. Conrad Kain may have climbed this peak alone.[9] From this position the Scotch Peaks looked most impressive and some may give the sportiest climbs between the Leaning Towers and the Bugaboos although the rock is slightly crumbly. Edge on, Survey Peak (10,050 feet) looked more difficult than we had expected but thirty or forty minutes of unroped scrambling brought us to the summit. At the highest point was a tall, expertly-constructed cairn which a message in a bottle showed was built by the Geological Survey in 1912.

We were on the summit forty years to the month after the first ascent, made during surveys for the Windermere Sheet, led by K. G. Chipman and H. G. Haultain.

Ten feet southwest of the highest point a sheer precipice drops into the North Fork of Stockdale Creek. Not far distant were the two massive peaks of Mt. Stockdale (10,100 feet; the west peak somewhat higher) with the icefields of the Horse-thief Group dominated by Jumbo Mountain (11,217 feet) beyond. So straight into the sun that they couldn't be photographed were Mt. Sally Serena and the Farnham Group including Mr. Farnham (11,342 feet), highest peak in the Purcell Range. There was no trace of the fabled Aurora to the west. The two of us agreed that as a unique mountain it does not exist. In the east many of the Rockies were visible but a billowy dark cloud was clamped on Assiniboine.

On the north end of a high curving spur encircling the head of Catamount Glacier, northwest of Survey Peak stands a sharp Black Fang thrusting up through a huge drift of snow. Having noticed this striking eighty-foot pinnacle from the glacier below, we determined to attempt it. After scrambling back 200 feet to our ice axes we floundered down through the very deep northwest snowfield and climbed along a mixed snow and rock ridge to' the south base of the fang. One moderate but exposed rope length on lichen-covered granite led us to the tiny summit where there was just enough room to have lunch. The Black Fang, second highest peak (9,850 feet) on Catamount Glacier, is one of the most unusual peaks I have ever seen. Its north side falls in a steep ice face to a bergschrund 600 feet from the summit, while east of the Fang there is a thick cushion of ice perhaps 100 feet lower, which helps to account for the strange aspect of the peak.

Heavy storm clouds were moving in from the west as we climbed from the Fang and heeled down a long 45° snow slope to the head of Catamount Glacier. We greeted Bob and John, and then we all shouldered our packs for the climb to Camp III. Everyone agreed the weather was turning for the worse and that we should head for Bugaboo Creek the next day.

While eating lunch on Phacelia Pass next day, we weighed the relative merits of a first ascent of Quintet No. 5 plus another night in the open against the comforts of the cabin. The lusts of the flesh won out as they usually do. Below Camp I we descended via the alder slide instead of the waterfall. Our feet were well soaked by the creek crossings and then mosquitoes tormented us all the way back to the cabin.

Next day I formulated a list of the southern peaks in order of height and later estimated the heights, assuming Mt. Stockdale 10,100 feet.

		Scotch Peaks (highest)	9,830
Mt. Stockdale	10,100	Mt. Taurus	9,820
Survey Peak	10,050	Unnamed (S.W. of	
Mt. North Star	10,050	Harmon Peak)	9,800+
Mt. Sally Serena	10,000	Harmon Peak	9,800
Black Fang	9,850	The Virgin	9,500

9 Ibid. pg. 450

I now want to offer my answer to the question "Where is Mount Aurora?" In 1910 Eyebrow Peak and Mt. Aurora were first sighted and named by Wheeler from near Bugaboo Pass.[10] From photographs Wheeler calculated the altitude of Eyebrow Peak as "11,489 feet", while Aurora was described as a massive mountain bearing large glaciers, one of which drains through a hanging valley into Howser River near the forks. Now Mt. Farnham (11,349 feet) is the only summit in the Purcell Range within 250 feet of Wheeler's Eyebrow Peak. In the same way the present Eyebrow Peak is the only mountain which fits the description of Aurora in every way.

If the above inferences are correct Aurora must have received the present name of Eyebrow Peak in the following manner. In 1913, Ellis and Harnden saw a high peak on the north side of the Starbird Névé and thought it might be Wheeler's Eyebrow Peak. However, they were not willing to commit themselves and marked the peak "unnamed" on the map[11]. The next year Harnden made the first ascent of this Eyebrow Peak and became convinced it was the peak referred to by Wheeler. The following confusion seems to have resulted. We have Mt. Farnham (alias Mt. Bolivar), called by Wheeler Eyebrow Peak, and Eyebrow Peak (alias Mt. Bruce), called by Wheeler Mt. Aurora.

II. FROM BOULDER CAMP

After two days' rest, during which the weather alternated between rain and shine, we packed up to Boulder Camp below Snowpatch Spire on August 9th. Carved on a tree were found the names of four members of the Canadian Alpine Club, who had come and gone during the perfect weather while we were over Phacelia Pass. After supper it rained hard and next morning the clouds were hanging low at about 9100 feet. Nevertheless we climbed up through Bugaboo-Snowpatch Col to see if it was clear enough to cross the Warren Glacier. As it turned out the clouds obscured only the tops of the peaks so we could travel safely toward the Eastern Bobbie Burns Group. As we started down through the first crevassed area the clouds blew off Mt. Conrad (10,300 feet) and some of the eastern peaks. Pushing up a tributary ice lobe we reached the rocks on the long western spur of a prominent peak. This is the fourth and last peak on a sharp ridge (Thorington's No. 5 probably) which extends southward from Centre Peak (No. 2).

From our resting point, the peak, which we had expected to be a walk, appeared quite formidable with a gendarme, and steep snow on the south face fringed by cliffs at the bottom. As it was already nearly eleven o'clock, all hope of climbing more than this first peak was abandoned. We climbed to the top of the west shoulder and started unroped along the fractured ridge, leaving John to await our return. Although the arête was narrow, it was level or gently sloping so that we didn't have to rope up until we reached the base of the gendarme where Bob led up a 100-foot crack in a 50° slab. A stretch of level snow led to 200 feet of smooth ridge where layback and friction were used. Then 300 feet of easy going over huge blocks was followed by two final chimneys of moderate difficulty, the second of which could have been easily avoided to the right. As on other peaks in the Eastern Bobbie Burns there was a large tabular rock at the summit.

The ascent had taken two hours and could be classed as slightly easier than Pigeon Spire. The spire is about the same altitude as Brenta Spire (9600 feet) and we mistakenly named it Black

10 *Geology of the Region:* G.S.C. Publications by J. F. Walker.

a. Reconnaissance of the Purcell Range, West of Briscoe, Kootenay District, B.C. Summary Report, 1925A, pgs. 222-229.

b. Geology and Mineral Deposits of Windermere Map-area, B.C. (1926). Pg 36, 37

11 S. W. Harnden, C. A. J.. Vol. VI, pg. 108; "Exploration of the Southern Selkirks" (1913), pg. 204, note (1914).

Wallace when Black Douglas was intended. However since there is already a Black Douglas in the Rockies, Wallace will have to stick. Prominent in the view are the northern aspect of Bugaboo Spire, Mt. Conrad and two unnamed 10,000-foot peaks southwest of it, the Four Squatters and a wild sabre of rock on the northwest slopes of Howser Spire. To the north are the three main peaks of the Eastern Bobbie Burns, and in the foreground the three unclimbed spires on the same ridge as Wallace. To the east is a great crescent of alpine meadows between Bugaboo and Vowell Creeks.

On our return trip to Boulder Camp we passed by the glacial lake mentioned by previous parties. Bob and John had had enough climbing and agreed to walk out to Spillimacheen after taking inventory at the cabin. They were to send McClain in for us on the 15th. Leaving letters for the outside world with Bob, Bill and I went up the north lobe of Bugaboo Glacier next morning to tackle Pigeon Spire (10,050 feet). The climb was fun, but easy, the jam crack offering the only strenuous bit. The so-called "finger traverse" involves using a crack only as a hand rail. The view delighted: us. We took special interest in the deep valley of East Creek and a particularly sharp spire west of Flat-top Peak which has been nicknamed Snaffle Tower (9300 feet).

Back at the base of Pigeon and somewhat anxious for a tougher rock climb, we spied the western of three sharp pinnacles just to the southwest and headed for it. The east and south pinnacles, which we call Pigeonfeathers, abut on the glacier, but the West Pigeonfeather is separated by a deep notch which took some good climbing to reach. The crux of the route up the vertical, exposed east face was a real finger traverse followed by underholds for eight feet. On the large flat summit, Bill constructed a cairn while I gaped at the south face of the Howser South Tower. Pigeonfeather West is about 9400 feet high and takes three-quarters of an hour from the head of Bugaboo Glacier.

We didn't get started for the Eastpost-Crescent Col until almost noon the next day. On a long southern ridge from Brenta Spire stands a rather sharp peak which is just outside the granite stock. Crossing numerous boulder fields and passing several small lakes, we reached the col north of this peak. From here we climbed the delicate, dangerous, and rotten north face to the northeast ridge and thence easily to the virgin summit. Just northeast of this peak between it and Northpost Spire is a brilliant green-blue lake at least a half mile long with its east shores opening onto the alplands.[12] The Blue Lake Spire, as we referred to our peak, is about 9,150 feet. Its first ascent was worthwhile if only to behold the rich color of the lake and Bugaboo Spire from the most impressive side.

The following day we decided against Bugaboo Spire because there were only two of us far from help. Our last days back at the cabin were prolonged since Dick didn't get in until August 16th, and every moment was enjoyed.

A three-foot vein of rich ore has been found on old claims at Bugaboo and the company is planning to take over the cabin, reroof it, and rebuild the road from Spillimacheen. Both the road and the cabin will be open to mountaineers who do not abuse their privilege. In recent years certain groups have given "Alpiners" a black name in the upper Columbia Valley.

On the 16th Dick arrived and we were off for Spillimacheen. Seven miles out from the Columbia River we came across Mr. Randall of Montreal and a packer, camped beside the road. They were on their way toward Rocky Point Creek to ascend to the great alplands which Mr. Randall has visited eight times. He told us, "I have been all over the Canadian Rockies and never have I seen anything so beautiful." We agreed.

12 Conrad Kain (Edited by J. M. Thorington): *Where the Clouds Can Go.* The American Alpine Club, 1935. Pg. 440

In the morning Dick showed me a mining map of the Spillimacheen River drainage. It clarified many things which I had seen on the aerial photographs and prompted me to make the following statements concerning the divide.

1. The western drainage of the Bugaboo Group north of Thimble Peak is to East Creek, which flows to the Duncan River in the Purcell trench. This puts Howser Spire on the divide as maintained by Conrad Kain.[13]

2. The source of Vowell Creek is Warren Glacier, Warren Creek having no connection with the glacier. From its source Vowell Creek skirts the north side of the Bobbie Burns Group, then turning north to join Bobbie Burns Creek. The aerial photographs show several very large glaciers (bigger than the Warren) flowing northward from the Western Bobbie Burns Group and draining to Vowell Creek.

We left for New England convinced that the Purcell Range will offer many more summers of exploration to those who seek the beautiful and the unknown.

13 Ibid. Pg. 410

THE NORTHERN MONASHEES

By Sterling B. Hendricks

A lot of country is left for mountaineering exploration in interior British Columbia. Last summer we tried a part of this in the blank spot on the map between the North Thompson, the Canoe, and the Columbia. The Revelstoke-Golden sheet has "The Malton Range" printed there, but others know the region as the northern Monashees, and perhaps "Malton" is corrupted from "Milton". Extensive snowfields with mountains rising to about 10,500 feet are to be found. One of these is to the north at the head of Moonbeam and Serpentine Creeks that flow westward into the North Thompson below Gosnel. The named peak of this region and the control point for elevations is Mt. Lemprière (10,525) on which the Geodetic Survey established a station in 1939. Another snow field area about twenty miles to the south is at the head of the Foster Creek that flows eastward to the Canoe and Mud Creek flowing westward. Here is Mt. Hallam (ca 10,500) with its south face rising precipitously from the head basin of Encampment Creek.

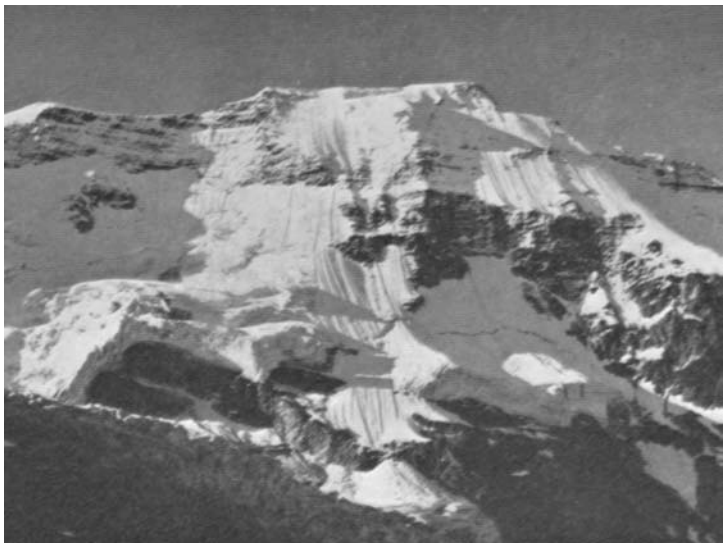
The Geodetic Survey party, according to local sources, struggled for two summers with the bush of Serpentine Creek to establish the station on Mt. Lempriere. Raymond T. Zillmer and Lorin Tiefenthaler (*American Alpine Journal* 14, pp 406-420, 1942) back-packed into this region along a ridge between Moonbeam and Dominion Creeks in 1941. They had bad weather and a tough time in general, taking eight days to reach the snowfield—an experience from which we profited, as well as from their sketch map.

Our party was three—Arnold Wexler, Donald Hubbard and I, who by repeated contacts with British Columbia bush are now beginning to look like *Echinopanax horridum*. The base of operations was Kamloops, from which a flight was made to drop supplies on the northern snowfields and on a glacier about two days travel further south. We then went by train to Gosnel at the mouth of Albreda Creek and set out up Moonbeam Creek with 35 pound packs. Timber line at the Moonbeam icefall below the north wall of Mt. Lemprière was reached two days later, one of these days bringing an unrelenting struggle in a steady downpour with slide alder and all the other adornments of the bush.

The air drop on the high snowfield south of Lemprière was regained the next day and we were set for climbing. The first ascent was of Zillmer's No. 4, at the head of Dominion Creek, which he thought might be the highest peak of the region. It was an easy stroll of about five hours from camp up the south ridge and across the subsidiary summit, with descent down the S.E. face. The peak is about 10,200.

Zillmer's No. 18 to the S.E. of Mt. Lemprière looked to be the highest of the region, so we set out to climb it after a day's rest. There was a long trudge over the snowfield and across the divide (9,500-ft.) leading to Serpentine Creek. The actual ascent was by the North face with only a tricky passage of 20 feet above the bergschrund. The peak (ca 10,650) is surely the highest of the region and probably of the entire Monashee range. As such it merits a name, which we suggest as Mt. Monashee. On the descent, No. 19, which is possibly 10,200, was traversed.

From the top of Mt. Monashee a first view was had of Mt. Hallam, way to the south over ridge after ridge. Alex Fabergé, who at the last moment had to give up a trip toward Mt. Hallam from the south, had sent a map sketched from aerial photographs of this intervening country. With this map as a guide and stocked up with four days' provisions, we headed down the icefall leading to Pyramid Creek and a narrow pass just below timberline, that took us across to alps above a creek



Mt. Lemprière, N.E. Face. *Photo A. Wexler*

Hallam Peak.
Photo A. Wexler

Mt. Torri And Mt. Monashee.
Photo A. Wexler

of the Canoe drainage. We will long remember this spot with its little lakes set in heather opposite a sheer 5000-ft. mountain wall framed across an alpland with a glacier leading down into the trees. On the second day we reached the subsidiary air drop and then loaded up for eight days and left provisions cached for the return. A pass at possibly 9000 feet led over into the drainage of Foster Creek, a tributary of which was followed down to a tangle of bush and box canyons at perhaps 4000 feet before access was gained to the tributary leading to the tongue of the Foster Glacier. This tongue which descends to about 4500 feet was reached on the evening of the third day. Here a camp was established for the attempt on Mt. Hallam, which was still miles away over ice.

An early morning start was made up the glacier tongue. The eastern moraine was climbed (about 200 feet) and the base of the large icefall was soon gained. Connections were found to the top which led out on the smooth névé. This was crossed toward the S.E. to a pass leading over to the eastern part of the snowfield. Mt. Hallam was hidden from view so we started climbing up a moderate snow slope and raised the mountain just as the slope ended in a precipice. There was no alternative but to climb two intervening mountains, which we set about doing. The second of these was a long snow ridge the east end of which descended steeply into a col below Mt. Hallam. The descent demanded care, but soon the actual base of the objective was reached. The summit rocks had looked steep from the distance but they proved easy and we were soon on top. Smoke from forest fires near the mouth of Wood River obscured the view of the northern Selkirks but the view to the southwest, down the extension of the Monashees, and back to the north, held our attention for an hour or more. The descent was varied slightly which led to some trouble with crevasses, but camp was reached by dark.

The remoteness of the country was bearing down on us. A minor mishap might have been a catastrophe for we had no gun to dispatch a laggard, or stomach to sit out a period of bad weather on short rations. So we rested a day and started back. The intermediate food cache gave us stomach, if not heart, and another gem of a valley called for a halt. From this valley, which is a tributary of Pyramid Creek, a 9,600-ft. rock peak was climbed. This peak is on the Pyramid-Foster divide and its firm metamorphic rock is typical of the region. It is the easternmost of two peaks below the main one of the divide which probably reaches 10,000 feet.

After this venture the retreat to the north was resumed and again the way was varied to follow a long ridge westward. This led to a steep descent, involving two 30-foot rappels with full packs, to the pass beside the Pyramid Glacier. Here again beauty won and a halt was called for a day just to revel. Then we climbed back to the home snowfields and to the flesh-pots of the first air drop. Mr. Lemprière was so close at hand that its ascent could not be denied. This took about two hours, after which the march was resumed to the camp at the head or Moonbeam Creek. Since the objectives were realized and little first class climbing remained, we broke camp. The journey back to Gosnel took about a day and a half.

The region is definitely a secondary one, but a traveler has it to himself, and it is beautiful. The climbing is easy and none of the peaks presents a challenge. A good summer's travel could be had, however, in the region between Mt. Hallam and Turn-Turn Lake. Don Hubbard says let someone else try it; he's through with these bunion derbies, a statement that I doubt.

THE SOUTHGATE ADVENTURE

Historical Data By Dr. Neal M. Carter, F.R.G.S.

Story By Alan Melville From Elfrida Pigou And Ian Kay

Mounts Gilbert and Raleigh in the lower Coast Range of British Columbia were named by Capt. R. P. Bishop, B.C.L.S., in 1922 while conducting triangulations in the range, during the course of which work the names of several other worthies of the Elizabethan era were bestowed upon peaks triangulated but not visited. The names Gilbert and Raleigh appear to have been first indicated on official public maps when the four-sheet map of British Columbia published by the Provincial Government in 1941 (?) showed them at 50° 52'N 124° 16'W, and 50° 55'N 124° 16'W, only some 6½ miles east of the deep Southgate River Valley, and gave their heights as 10,200 and 10,100 feet, respectively.

This created for Mt. Gilbert the interesting apparent distinction of being Vancouver City's nearest mountain over 10,000 feet elevation north of the International Boundary. The airline distance of the peak is 119 miles about N.N.W. of Vancouver. No contender for this distinction has since been officially located, though some as yet unmeasured peak in the heavily glaciated areas north and west of the source of the Lillooet River[1] may be a contestant.

Of the Elizabethan peaks named by Capt. Bishop, Mt. Sir Francis Drake (8800 ft.) above the head: of Bute Inlet, was ascended by Bishop for survey purposes in 1930; Mt. Grenville (10,200 ft.) by the Mundays' mountaineering party in 1941[2]; Mt. Queen Bess (10,700 ft.) by the Munday-Hall party in 1942[3]; Mt. Monmouth (10,470 ft.) by a party of eight A.C.C. members in 1951[4]; but as far as was known, Mts. Gilbert and Raleigh by the beginning of 1952 still remained unapproached. They both had been mentioned from a mountaineering standpoint in 1933 as seen to the northwest from Mt. Dalgleish[5]; Mt. Gilbert in 1939 as seen to the north from Portal Peak[6]; and both were objects of interest as seen to the east on several occasions by alpine parties climbing or flying in areas near the head of Bute Inlet.

It was the view of Mts. Gilbert and Raleigh, 25 miles to the W.S.W. as seen from Mt. Monmouth and nearby peaks in 1951 that finally crystallized plans in the minds of several of the party that something should be done about exploring and climbing these two mountains. Two of that party, Carter and Kay, had been interested for some time in utilizing government air photos for privately mapping some of the alpine regions to the south for which no official1 maps showing details of the mountains, glaciers and drainage had as yet appeared. During the winter of 1951-52 they redoubled their efforts and made good use of newly available high-altitude vertical air views taken under the auspices of the R.C.A.F., as well as vertical and oblique air views taken earlier by the Provincial Government. The area for 10 to 15 miles surrounding Gilbert and Raleigh was given

1 "Exploration in the Lillooet River Watershed", C. A. J., 1932, p. 14.

2 "Beyond Bute Inlet", C.A.J., 1941, pp. 21-32.

3 "Mt. Queen Bess", C.A.J., 1942-43, pp. 159-169.

4 "The Tchaikazan Story", C.A.J., 19S2. pp. 102-109.

5 "The Source of the Toba River", C.A.J., 1933, p. 59. (The names Gilbert and Raleigh as set in type above the peaks in the panorama illustrating this article are unfortunately transposed. They are correctly shown on the sketch map in the article).

6 "'The Mountains West of Filer Creek", C.A.J., 1939, p. 23.

particular attention[7]; and their work was accepted by the Provincial Government for inclusion in the new 4-miles-to-the-inch Sheet 92K ("Bute Inlet") to be published in 1953. The only logical approach to Gilbert and Raleigh, other than by helicopter, seemed to be from the head of Bute Inlet, thence up the Southgate River[8] valley for a distance of about 18 miles to the junction of Raleigh Creek[9] that flows in from the east, draining Raleigh Glacier[10] and the névés between Mts. Gilbert and Raleigh. There is a dearth of lakes in this area, the largest being only 24 miles long at the head of Icewall Creek[11], ten miles southwest of Mt. Gilbert, so an approach by plane nearer than to the head of Bute Inlet was not feasible. The navigability of the Southgate River by canoe for any useful distance was questionable, but it was known that there existed a currently used logging truck road to a point just above the junction of Elliott Creek, about 6 l/2 miles from tidewater.

The Southgate River valley, known also by various names on early charts and maps, was regularly used as a trade route between the Coastal and the Interior (Chilkotin) Indians, for it and its large tributary, the Bishop River, are connected by three non-glacial passes to the headwaters of short streams flowing into Chilko Lake. Presumably the first white man to explore the Southgate Valley was Major Wm. Downie, who in 1861 travelled it for some distance and reported a canyon about 20 miles from its mouth[12]. During the 1890's a small white settlement flourished at the mouth, land was pre-empted for a few miles up the valley, a trail was cut up the north and west side as far as the junction of the Bishop River, and timber licenses were located as far up as this fork, though the upper ones were not logged. Logging was confined to the lower part as far as the junction of Elliot Creek and a short logging railway was built along the south bank at one time. When Major R. C. Farrow was completing in 1930 his surveys for possible development of water power from Chilko Lake1[13], he travelled down the west side of the Southgate while surveying for a possible railway location. Few traces of the old trail were found.

This story deals mainly with rivers, valleys, swamp and bush, for this is the Coast Range, and before a summit can be attempted, one must first attain the bottom.

Six of us from the Vancouver Section decided to visit the Gilbert and Raleigh area of the Coast Range, and elected Neal Carter as leader. Complete with our personal kit we took off in a Q.C.A. Anson at 8:30 A.M. on Saturday, July 19, and headed for Comox. Aboard were Miss Elfrida Pigou, Messrs. Fred Rogers, Ian Kay, Tom Marston, Alan Melville and Neal Carter from the Vancouver Section, and Dave Young, a member from Portland.

At Comox we transferred to a waiting charter Norseman, skippered by capable Gordon Laing, and at 10:40 took off for the mouth of the Southgate River at the head of Bute Inlet, but before we landed we prevailed upon our pilot to fly us a few miles up the river for a quick preview

7 Vertical photo (35,000 ft.) No. 70 of flight strip A13251 (National Air Photo Library, Ottawa) and vertical photo (20,000 ft.) No. 9 of flight strip B.C.419 (Air Photo Library, Dept. of Lands and Forests, Victoria) are taken from almost directly over Mt. Gilbert; corresponding vertical photos No. 26 of A13324 and No. 12 of B.C.1221 are from almost over Mt. Raleigh; oblique view X208R:1 (B.C.) shows a very picturesque view of both peaks and their approach from the west.

8 Named during coastal surveys by Capt. G. H. Richards, R.N. in 1862, after Capt. J. J. Southgate, member of the B.C. Legislature.

9 These names, plus others in the area mapped by Carter and Kay, were suggested by a small committee of A.C.C. members early in 1952, and have been adopted officially.

10 Ibid

11 Ibid

12 Early Explorations in the Coast Mountains", C.A.J., 1941, p. 79.

13 Search for Power in the B.C. Coast Range". The Geographical Journal, Sept.-Oct., 1945, pp. 115-116.

of the terrain. Icewall Creek, which we had to cross, looked discouragingly swift and wide, but we were relieved to find the footbridge across the Southgate intact.

Mr. J. E. Liersch of the Powell River Co. Ltd., a personal friend of Neal's, had arranged for water transport from plane to shore and truck transport to this bridge at the end of the Moh Creek Logging Camp road, some 6½ miles upriver, just beyond Elliott Creek.

At the float where the Norseman landed we were met by a Mr. Johnson. A rowboat shuttle-service swiftly transferred us to shore. We divided the community supplies and food into seven equally weighty portions without favouring Elfrida, and each of us then divided his load into two parts for relay packing.

After lunch we boarded a truck and were driven to the road's end, where we shouldered packs, and, led by Mr. Johnson, crossed the bridge and started up an abandoned logging road. This road soon dwindled to a track, then vanished in a jungle of swamp and devil's club and at this point Mr. Johnson, who now knew our proposed routes and had our emergency rescue plans, left us. With high hopes of completing the 12-mile walk up the River to Raleigh Creek in approximately four days, we forced a route through difficult bush and swamp to our first camp site, by an oasis of tall cedars, with a fine waterfall visible in the west.

Sunday started well, though lack of fresh water necessitated long relays. Hoped-for gravel bars revealed themselves in tantalizingly inaccessible places—such as the other side of the river We crossed our first major creek on a suitable log and finally made camp at the edge of a slough, whose mud, and moss-draped trees suggested alligators.

Monday's trek through the bush was highlighted by the little incident of the sandbar which proved to be quicksand. Fortunately Ian is quite tall! Another time we beheld a fine sandbar on an island, a welcome substitute for the vile bush which obstructed our route, and so we marched joyfully into the river, but found it deceptively deep and swift. Joining hands we staggered across, although we suspect that Elfrida's feet left the ground more than once, and after squishing down the sandbar for a short distance, we navigated back to shore in a similar manner. Very refreshing indeed!

On Tuesday, well behind our schedule, we reached Icewall Creek, the negotiability of which had loomed as a large question mark in our minds from the outset. A glance at this roaring torrent satisfied us that to ford it was impossible. We made our way along its bank searching for a log by which to cross and soon came to a place where the "creek" boiled through a gloomy canyon, filled with noise, spray and giant moss-covered boulders, and found an old log which crossed the main water mass in the canyon. Its roots rested on our bank and its tip at the foot of a huge boulder in the creek. But it was high above the water on the brink of a fearsome waterfall which constantly bathed it in spray. One member, at least, resolved never to entrust himself to its dubious support. We decided to improve on nature and returned to the less awesome lower reaches of the creek.

We felled a large cedar snag with two small hand axes, but as it fell across the creek the tip broke off, and the snag swung around parallel to shore. We forced the butt into the current which seized it quickly and jammed it, partly submerged, in a stump on the far side. Fred and Dave, both of whom had cool nerves (and feet), crossed this bridge and felled a fir with a butt of 30-inch diameter. This tree also spanned the creek, but deeply submerged. We returned, disgusted, for our second relay packs and bedded down near the river, the roar of which was even greater than that of the "winged beasties".

On Wednesday morning all crossed the creek via the snag, after it had been made safe by nylon handrail, and as our route now turned to the north a high forbidding wall appeared across the

valley. Glacial outposts of the mighty Homathko Snowfield could be seen emerging from high clefts. There was some rain, but the "jungle" gave way to occasional sandbars, much tracked by bears, though no bears were seen. There was, however, other wild life, namely hornets—swarms of them!

Thursday provided a good day's travel with improving sandbars. By this time we were all versed in the art of extricating feet from quicksand and paid no attention to the nasty stuff. By late afternoon the clouds lifted, revealing Mt. Blackwall behind us. There was a faint trapper's trail which occasionally appeared, but like the Cheshire Cat's grin (the cat was missing). It was good only when we did not need it. We camped on a little island and prepared a large brew of mixed vegetables, including dehydrated beets. The brew became blood red and photogenic, photographers rushed to record its gorgeous hues and in so doing neglected their culinary duties. For supper we had burned beet goulash!

On Friday the faint trail finally culminated in a trapper's cabin located on a wooded outwash formed by Raleigh Creek. We had finally reached the bottom of the mountains we hoped to climb and our altitude was approximately 250 feet.

We decided to proceed with single packs and after re-distributing the remaining supplies and leaving a cache at the cabin we started off up Raleigh Creek and into new country.

The creek was high and wild and plans to cross it at the mouth were hastily revised. We decided to stay on its true left bank and cross wherever a suitable bridge appeared. The going was slow but at least it was uni-directional and by nightfall we were at 1650 feet in a new and wonderful country. Typical of this country was a slide of about half a mountain, and individual rocks, the size of a small house, were all but concealed in a maze of slide alder. Visual contact was replaced by voice. By our side, the "creek" entered a cleft in granite walls and formed a spectacular smoking cauldron. Above us a magnificent waterfall foamed against the sky, while by our feet darted tiny shrews, "clockwork mice" oblivious of the grandeur around their home.

Saturday was more eventful. First there was the subsidiary creek, rushing with all the force of its 700 ft. fall. Neal waded in but had to return, yet after an exciting hour we crossed, partly by wading and partly by a fortuitous log which we had worked across a deep channel.

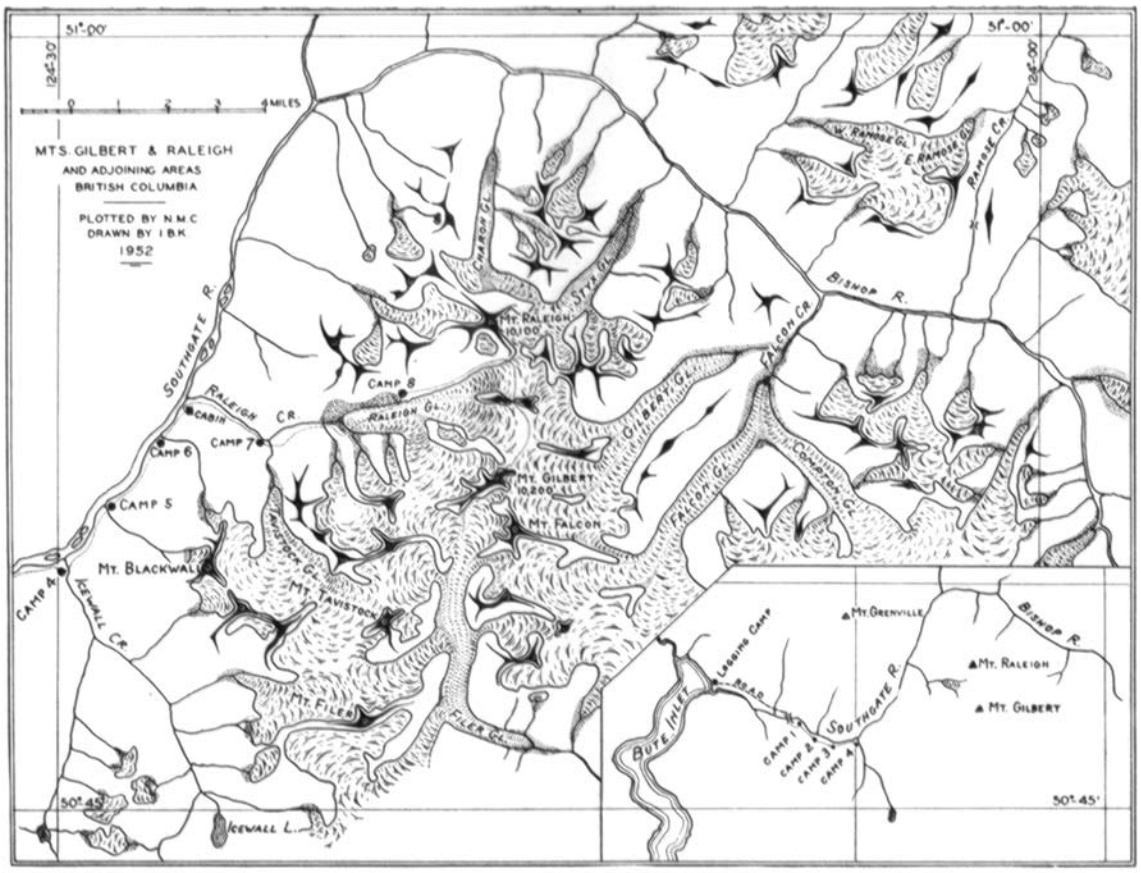
The steep and tiring moraine was followed by a session of bushy side-hill travel, and some hours later we came to a rock slide covered with slide alder. In the middle of this mess, we came to the banks of yet another roaring creek beyond which appeared smooth granite cliffs over which Raleigh Glacier must have poured in a spectacular ice fall until recently. An easy route up was visible, but not accessible, across Raleigh Creek.

Our only choice was between smooth slabs and nearly vertical pack-grabbing bush, but in the end we reached the top of the cliffs. At our feet lay Raleigh Glacier and our eyes travelled up its length to three magnificent icefalls. A high lateral moraine formed the far bank, and in its fold we hoped to establish our base camp.

As the rain-clouds dispersed we crossed the glacier and climbed the unspeakable moraine, which left us strength only to light a fire and prepare tea, after which we set up base camp in a small meadow with a brook. To the rightful owner, a bear, Ian said courteously "Beat it!" which it did. A fine billy-goat, however, perched on the moraine and returned our stares.

Our situation was most pleasant. A large ice fall descended to the glacier opposite our camp and beyond it could be seen the summit of Mt. Gilbert. Mt. Raleigh also appeared, although largely hidden by a satellite peak. North of us rose a sharp rock summit.

On Sunday, which was a fine, sunny day, we decided to rest. We had come to the reluctant conclusion that we could spend but two days at base camp, on Tuesday we must start for home. We


MTS. GILBERT & RALEIGH
AND ADJOINING AREAS
BRITISH COLUMBIA
PLOTTED BY N.M.C
DRAWN BY I.B.K
1952
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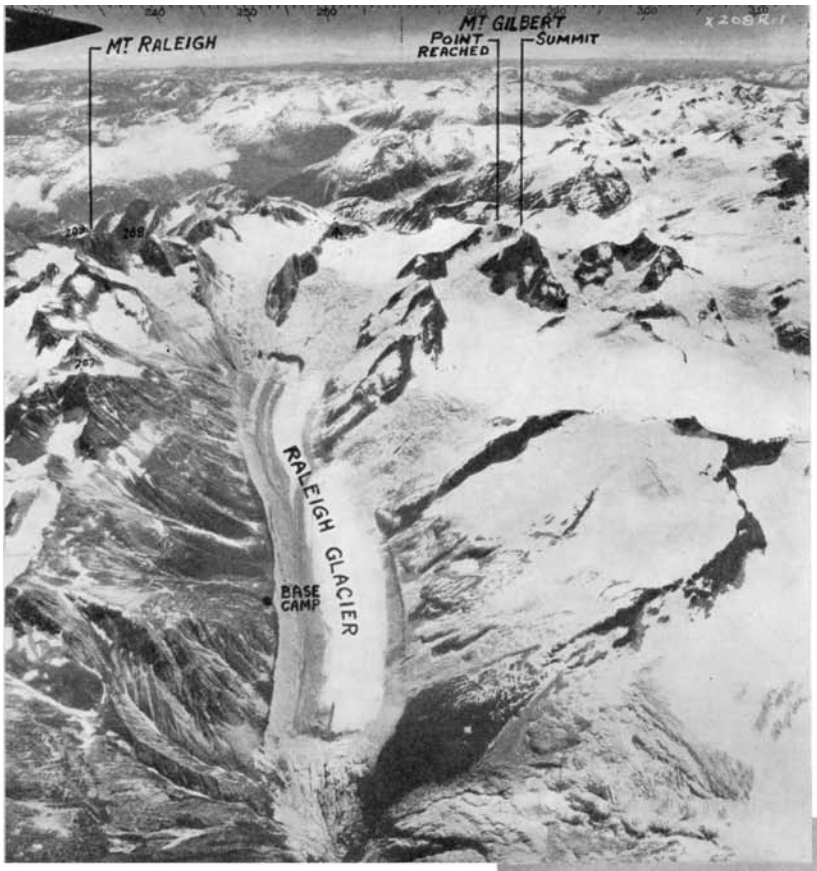
51°-00'
50°-45'
124°-30'
SOUTHGATE R.
RALEIGH CR.
CABIN
CAMP 6
CAMP 7
CAMP 8
CAMP 5
CAMP 4
MT. BLACKWALL
KEEWALL CR.
KEEWALL L.
MT. TAVISTOCK
TAVISTOCK GL.
MT. FILER
FILER GL.
MT. RALEIGH 10,100'
RALEIGH GL.
CHARON GL.
STYX GL.
MT. GILBERT 10,200' ±
MT. FALCON
GILBERT GL.
FALCON GL.
FALCON CR.
COMPTON GL.
BISHOP R.
W. RAMSAY GL.
E. RAMSAY GL.
RAMSAY CR.
BUTE INLET
LOGGING CAMP
ROAD
CAMP 1
CAMP 2
CAMP 3
CAMP 4
SOUTHGATE R.
MT. GRENVILLE
MT. RALEIGH
MT. GILBERT



Oblique Aerial View From Above The Southgate River Looking East.

Photo By Courtesy Of The Air Photo Library, British Columbia Department Of Lands And Forests

Summit Ridge Of Mt. Gilbert.
Photo Elfreda Pigou
Steep snow slope above bergrschrund leading to summit.

Tom And Elfreda Crossing A Roaring Creek.
Photo Alan Melville

Crossing Ice Wall Creek.
Photo Elfreda Pigou

would attempt an ascent of Mt. Gilbert on Monday. Four of us rested by scrambling on a fine rock peak above camp, others spent the day in reconnaissance of tomorrow's route.

Monday dawned bright and clear, and we were on our way at 5:50 A.M. Our route took us to the north side of the smallest of the three great icefalls, passing at first along bluffs starred with many alpine flowers where we disturbed a family of goats. We crossed a névé above the fall to the crest of a cleaver which descended from a fine satellite peak. It was now noon and very hot. The snow had a breakable crust which destroyed our climbing rhythm, but the weather was clear and the views magnificent.

Neal went to recce a route down the far side of the ridge upon which we sat and came back with a glum face. Gloom dissolved after lunch when he divulged an easy route down the cliffs in front of us. We walked across a large snow bowl for perhaps a mile, in somewhat jerky fashion due to the horrid crust, and reached a pass. From this pass we beheld yet another snow-field, which sloped sharply down for many hundreds of feet to our left, but on our right was level or slightly rising. As the summit was to our right, we decided to keep high. This decision cost us the peak.

We negotiated several crevasses and proceeded across the soft snow. Suddenly we came to the top of a rock wall which dropped vertically for a great distance. At the foot of this a reasonable snow slope led directly to the summit. It was too late to descend and go round its base so we turned right and headed for a subsidiary summit in the hope that there might be a connecting ridge. We reached this summit in a tired condition and checked the altimeters. They agreed at 9800 ft. Just beyond us a second and higher snow dome lay between us and a rock ridge leading to the peak. Some of us started up this. Near the top my probing ice axe struck air. We were over some kind of hole. In places the smoothly-rounded snow was only an inch or two deep and particles under the probing axe could be heard dropping, it seemed, to eternity. It was spine chilling. We crossed on what we fondly hoped was a bridge and attained the summit. The altimeter read exactly 10,000 ft. based on a barometer reading of 30.2 inches at sea level on a fine day, a reasonable assumption. The previously described rock wall now rose above us and led directly to the main peak, but it was broken into a series of fierce-looking gendarmes which would require hours of difficult climbing and our watches read 5:10 P.M. We were defeated.

Neal took bearings while the rest erected a cairn and photographed the panorama. It was still hot. The cloudless view was spectacular. Nearby Mt. Raleigh's rock walls looked, from this angle, nearly impregnable. Mt. Grenville presented a snow and ice profile, while the Waddington group could be seen to the north-east. The Compton Névé was a magnificent and unforgettable panorama of ice. This wild scene, closer to Vancouver than our neighbour city, Seattle, repaid all our petty labours. At 5:40 we started down and reached camp by carbide lamp at 11:30 P.M., celebrating not a victory but a wake with a midnight feast.

On Tuesday at 1:30 we started for the Southgate River and home. It was decided to descend Raleigh Creek by the true right bank, in the hope that it might be better, and could not possibly be worse than the route up. We knew there was a flimsy log crossing at the mouth of the creek. This proved a wise decision. There were no major difficulties and we camped exactly opposite "clockwork shrew" camp, a stone's throw away across the cauldron. Tricky granite slabs above a canyon lay ahead, so the evening was spent scouting a safe route.

On Wednesday Dave and Fred went ahead to investigate and, if possible, to improve the shaky log crossing, but meanwhile the rest of us discovered a safe crossing in a canyon and surprised them by meeting them on the left bank. Back at the cabin a huge "Tchaikazan Milk Shake", made with powdered milk, chocolate, and heavily silted glacial water, was introduced to

outraged tummies with no apparent ill effects. We shouldered packs and started down the Southgate Valley.

The big worry, Icefall Creek, was reached at 11 A.M. on Thursday and confirmed our worst fears. The snag bridge was gone and the broken nylon trailed two forlorn ends in a raging, heat-swollen torrent. We felled a big fir, but it caught in the constant wind that came down the creek and fell the wrong way. We felled a second fir and it broke its tip fifteen feet from the far bank. We dropped a third fir upstream. It caught in the current, swung across the creek and promptly submerged. Night was approaching, and small hand axes are not made for felling giant trees. We retired to the accompaniment of a fiendish watery roar of glee.

On Friday morning, the creek having dropped a scant eight inches, we returned to the gloomy canyon. Water was pouring over the previously mentioned log crossing. Axemen, belayed by ropes, felled a tree growing at the edge of the canyon, breaking one axe in the process. The tree disappeared in the white waters and was seen, a moment later, suspended vertically in a waterfall. We returned sadly to our first attempts.

A long pole was cut. Neal and Fred made a precarious trip to the end of the broken-tipped fir with it. The pole was inched ahead until it reached the far bank, and was then lashed in place. Larger poles soon followed, and thus we spanned the creek.

Seven weary climbers, complete with innumerable blisters travelled for hours down the trail, leaving it only where rising waters made its use impracticable. We did not make camp until sure that the distance left allowed a safe margin of time to reach our rendezvous. Early next day we met Mr. Johnson, and after a final unexpected bushwhack reached the truck by noon, and were soon following a black bear down the road at a speed of 25 miles per hour. The bear made a left turn into the bush without signalling and an aircraft circled the truck. The plane was at the float when we reached the inlet, so we said goodbye to the Johnsons and took off.

Not the least fearsome moment of the trip was our arrival in Comox after being baked in a flying oven, at the same moment as a hundred or so spruce naval cadets who must have been thirstier than we, since they beat us to the only cafe.

So ends the Southgate adventure. Although no summits were attained, we reached the bottom and pioneered the approaches. It was a never-to-be-forgotten experience in a wonderful country.

SOME CLIMBS ON THE COAST RANGE

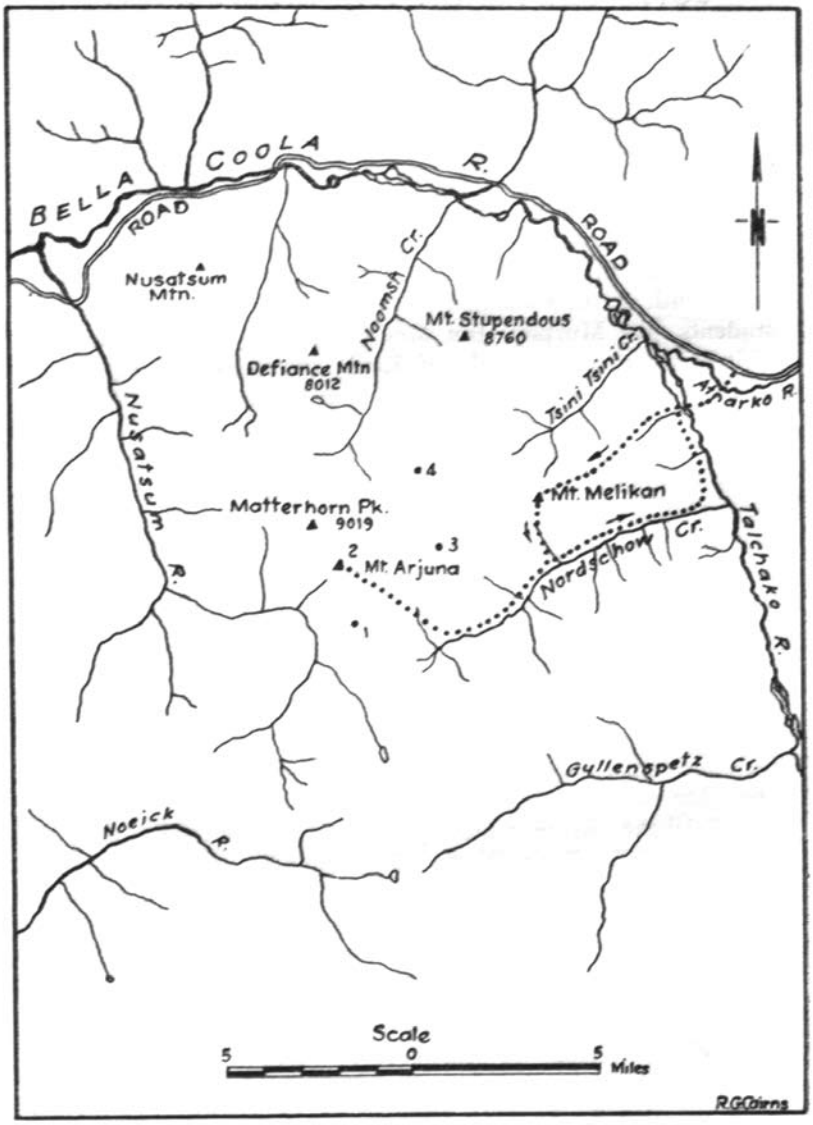
By Thomas A. Mutch

The Pacific Coast Range holds a peculiar attraction for climbers because it is one of the few mountain regions in the United States and Canada that still contains countless unnamed and unclimbed peaks. This attraction is doubled by the actual beauty of the range—tumbling glaciers fronting dark forests and jagged peaks rising from glistening snow fields. Lured on by glowing but vague reports of a spectacular array of mountains south of the Canadian Bella Coola River, three Princeton students, Joe Murphy, Jim McCarthy, and myself decided to visit this area during July of 1952. Instead of taking a boat to Bella Coola, we decided to drive in from the east. For two long days we jolted over an unpredictable dirt road which wound through 200 miles of rolling plains and ranch land from Williams Lake to Anahim Lake. From there we were forced to back pack about 40 miles along a horse trail which followed the Hotnarko River to its junction with the Atnarko River.

We had gone only a short way along this trail when McCarthy tripped and suffered a badly twisted knee. Stopping at a near-by ranch we decided that McCarthy, incapacitated by his swollen knee, should remain at the ranch while Murphy and I continued. Two days later, with sore backs and blistered feet, Joe and I arrived at a small ranch one mile east of Stuie. Our plan now was to leave the trail and turn south, following the Talchako River which joined the Atnarko at Stuie to form the Bella Coola River. Our immediate objectives were two snow tipped peaks that rose directly to the south of Stuie. From the tops of these outlying peaks we figured that we could look further south into the maze of peaks and glaciers drained by the Talchako River.

Our first task was to cross the clear Atnarko River. No boat being available we attempted to wade across, but several abortive efforts convinced us that we would never be able to ford this rushing torrent. Instead, we sought the widest and most placid portion of the river and floated ourselves and our equipment across on a plastic air mattress. Once on the south shore we hiked a short distance to the Talchako River. Here we were fortunate enough to discover a tenuous log jam which bridged the milky stream. Once on the far shore we began to climb up the forest-clad flanks of Mt. Melikan which we had seen from Stuie. That night we camped high on the slope beside a tumbling stream which drained the saddle between our two peaks. As we cooked our supper, we had to contend with a host of flies, mosquitoes and ants that perpetually swarmed around us. Pacific Coast mosquitoes are a hardy breed and can operate equally well at sea level or eight thousand feet. They enjoy snow fields as well as swamps and can make almost any camp a place of misery.

The next morning we followed the stream bed which terminated in a small snow field and by early afternoon had reached the saddle which joined the two peaks we had seen from Stuie. To the south, a ridge of broken rock and snow led to one of the summits, which appeared to be about one thousand feet higher than the saddle. Leaving our packs, we climbed to this summit for a better look at the surrounding mountains. The view from the top was spectacular but to describe it in words is difficult. To the east, west, and south we were surrounded by glaciers and peaks. Having no point of reference we could only look and point as we noticed one peak after another. The most heavily glaciated region lay to the south. In the far south a group of towering snow pyramids glistened in the late afternoon sun. Closer we could see a large glacier which was heavily crevassed and cut up by rock and snow summits. But our attention centered mainly on a sheer peak of black rock which lay to our southwest, a summit which appeared to be among the highest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in our area. We hoped that we could approach it by descending into Nordschow Creek. Following this stream should bring us to the base of the peak. Having formulated this plan we returned to our camp in the saddle where we spent a cool and mosquito-free night. The next morning we climbed the peak north of the saddle, following a sharp and jagged ridge which provided some good rock climbing. From the summit we could now look down into Tsini Tsini valley which ran from Bella Coola to the northeast face of Mt. Stupendous. After recording our ascent, we retraced our steps to the saddle, climbed again the southern peak, and then started our descent over broad snow fields. Continuing down through a steep gully we encountered a treacherous shell of ice and snow which covered a rushing stream. Using crampons and keeping well to the edge we finally reached timber line from where we slipped and slid to the floor of Nordschow Creek. After discovering a spot that was relatively free of brush and rocks, we pitched camp for the night. From our campsite we could easily see our objective "Mt. Arjuna" (so named for a character in the Bhagarad-Gita, a book of Hindu mysticism that we had brought along to read in the evenings). We had not overestimated its grandeur. As we looked upstream it was clearly etched against the sky, dominating the whole valley. To view-the peak from afar was a delight—to reach it was sheer misery. We had to fight our way up a surprisingly steep-sided valley which was covered with a maze of alder, devil's club, and tangled brush. At each step forward: the dense branches pushed us back and down, and our slow progress was punctuated by frequent falls and muffled curses. The first day we made little better than two miles, next day we hiked far enough upstream so that we would be in a position to climb "Mt. Arjuna" the following morning. Climbing up through groves of pine and scrubby brush, we finally rose above the tree line.

Directly above, there rose a steep band of cliffs, about 200 feet high, which we climbed before we could reach the eastern shoulder of the mountain. After climbing up a short chimney of steep, wet rock the angle grew more gradual and we shortly-stood on top of the shoulder. From this point we could look south towards a scrambled glacier which cascaded down the opposite side of the valley. Our own route lay along the eastern ridge of "Mt. Arjuna". The ridge dropped off shortly on the right, but by keeping a short distance below the crest on the left, we could follow it with little difficulty.

About 1000 feet below the summit we were forced to traverse along the southern slopes to avoid a precipitous cliff which protected the east side of the summit tower. Crossing steep snow fields and sloping islands of rock, we worked our way around to a southerly rock ridge. From here a series of sloping chimneys led to the small summit platform, which was protected on all sides by steep rock. While we built a cairn and ate a hurried lunch we made mental notes of the surrounding peaks. To the north we saw what must have been the ridges of Stupendous Mountain. Across the valley to the south-west we had a closer view of the heavily glaciated area that we had first seen several days before. This glacier contained a number of beautiful peaks which would provide good climbs, but the route of access looked difficult. Although the day was clear, the lateness of the hour and a cold wind drove us from the summit and hastened our descent. We retraced our steps down the chimneys and across the snow which had grown soft during the day and required additional care. Half expecting to spend a night in the open we fortunately reached camp just before dark. By way of celebrating our day's climb we baked a fruit pie over an open fire.

By now our supply of food was growing slim and we thought only of returning to civilization. Three days of laborious back-packing brought us to the junction of Nordschow Creek and the Talchako River. The next night we camped on the shore of the Talchako near the log jam over which we had first crossed the river. We started across this jam the following morning and came

to an abrupt dead-end — the middle section of logs had been completely washed out. This was a devastating blow for we realized that the chances were slim of finding another natural bridge. The only sure way of getting across would be a bridge which spanned the Bella Coola River fifteen miles downstream, but after hiking less than a mile in this direction we were ready to accept an alternative plan. Descending to the river bank we once more hunted for a log jam. As we slugged through marginal marshes and small side eddies I held little hope but luck was with us. We discovered a substantial network of logs which bridged the main stream and were soon standing on the other side of the Talchako River. A short walk brought us to the Atnarko which we crossed on our air mattress which had already proved its value as a wet but adequate boat. Once over this stream we had only to walk several hundred yards before coming to the pastures behind Stuie Lodge.

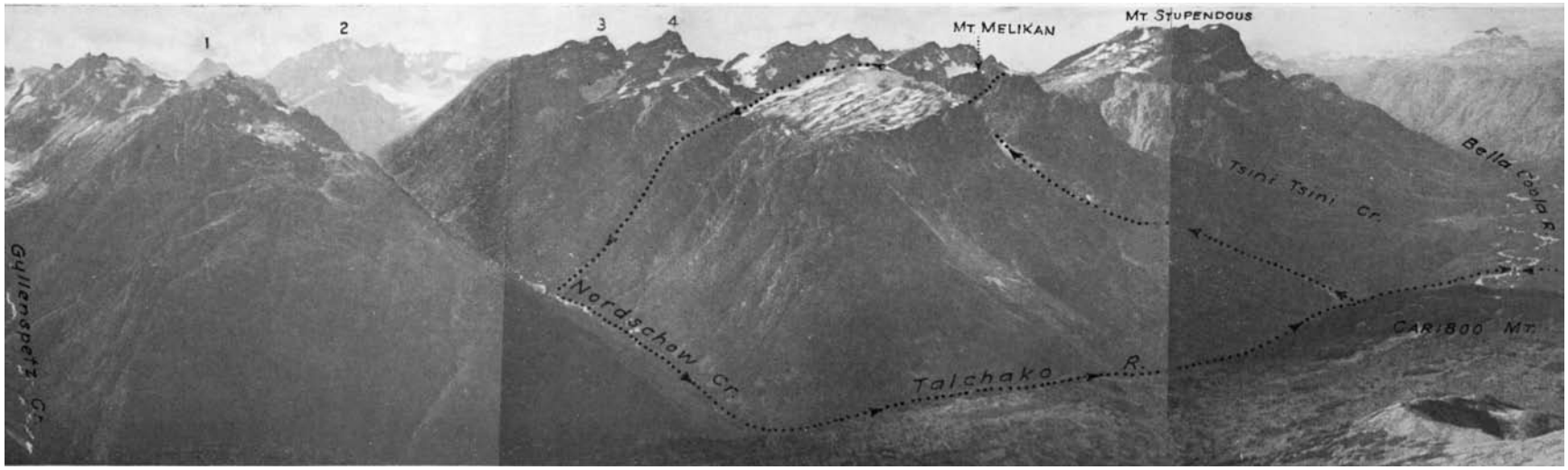
From there our troubles were over. Four days later we arrived at Anahim Lake, footsore and weary, but satisfied that we had achieved all that we had set out to do. We had seen for ourselves that the Coast Range was an area of unsurpassed mountain scenery, containing scores of unclimbed peaks of spectacular beauty—we had also seen why so many of them were unclimbed. The area in which we climbed cannot be approached by either pack train or plane. The only route of access is by foot and pack board and each thrill is offset by hours of painfully slow hiking, hours of unpleasant work that have no glamour even in retrospect.

After many days of cutting through tangled brush our clothes were slashed, tattered, and next to useless. Hours of wading in glacier streams caused our boots to deteriorate completely—the soles came apart and the stitching rotted. One of our greatest disappointments was that our camera was dumped in the water and rusted together after the first few days. In a trip of this sort one must assume (as we failed to do) that all one's equipment will be completely submerged in water at some time or another.

We were fortunate in having three weeks of cloudless weather, for a few days of rain would have literally dampened our spirits beyond repair. In addition we were lucky to be able to make three first ascents. On the last of these climbs, "Mt. Arjuna", route finding could have been a real problem and might even have meant failure. Led on by luck as much as by any deliberate plan, we were able to avoid the sheer northern slopes as well as a series of steep hanging gullies on the south side. We estimated the height of "Mt. Arjuna" as approximately 10,000 feet but had no way of measuring it exactly.

While it must be admitted that much of the climbing in the Coast Range is tedious work, there certainly are rewards which more than compensate for the hardships. To be able to gaze around at a sea of cascading glaciers and sharp peaks—none of them climbed and none of them named—is reward enough.

EDITOR'S NOTE: Mt. McCarthy is considered one of the two summits of Mt. Melikan. See map.



Belle Coola Mountains From Cariboo Mountain.
Photo the late Don Munday

Panorama Of Head Of Noomst Valley From Ridge Of Defiance.
Photo Mrs. Don Munday

"The Horn," "Blanchtip."
Photo William Long

Summit Of Mt. Defiance. Mt. Noosatsum In Background.
Photo Richard Long

WITH BELLA COOLA PEAKS

By William E. Long

The mountains of the Coast Range are wild and little known. They are beautiful and take the best that climbers have to offer both in endurance and technique. It is no wonder that such people as the Don Mundays have devoted so large a portion of their lives to the exploration and climbing of this grand range. One of the most beautiful sections of the British Columbia Coast Range is the Bella Coola area.

Desiring once again to visit the Coast Range, I was greatly inspired by Don Munday's descriptions of his activities which had taken them to the Bella Coola area for three seasons. So it was that Robert Skinner, my younger brother Dick and I made our plans for a month's trip to Canada. The month of August rolled around and finally Bob Skinner and I received a leave from the Air Force survival school where we now spend our time. Joined by my brother we drove to Vancouver from whence we sailed on the Union Steamship ship Catala.

The beauty of the town of Bella Coola and the Bella Coola Valley amazed us as we disembarked at the small dock. After the first few minutes of gazing about we turned to the business of meeting some of the village inhabitants and discussing the mountains and how to reach them. Great was our surprise when we learned that most of the population was quite uninformed as to the high places that border the valley, especially the glacier covered peaks. Mr. Kopas, proprietor of the local dry goods store, proved to be of most assistance and from him we learned that the peaks among which we desired to climb lay at the head of Noomst Creek. With the help of the friendly citizens we were taken up the Bella Coola Valley for thirty miles in automobiles. Here we shouldered our packs and discovered that the three weeks food and equipment were just a bit more than we cared to haul on our backs at that time. So we modified our plans.

Our first climb would be Mount Noosatsum, perhaps the most impressive peak from the Bella Coola Valley. The summit tower of Mount Noosatsum is about 9,600 feet in elevation and the northern flank of the mountain makes one plunge of at least 9,000 feet to the valley below. This mountain plays a large part in Indian legends, as during the days of the great floods Mount Noosatsum's summit tower was the rock that protruded above the water level; allowing a dugout full of Indians to make fast their craft. As the waters lowered the Indian group descended, once again to carve their life from the lovely valley below.

Caching all but five days' supplies, our party started to pack up Cahootin Creek which divides Mount Defiance from Mount Noosatsum. One day up the creek and one day laboring up the canyon wall and we had established a camp at timberline and were ready to make our bid for the summit. The weather had other ideas—next morning it was snowing. There remained nothing to do but wait and hope that the conditions would pass quickly.

The storm lasted only a day and next morning found us away from camp at seven. Completely blue sky and a cool breeze from the north made the going most enjoyable and we progressed rapidly to the snout of the glacier that lies on the north east face of the mountain. Once on the ice we traveled to the north ridge. The difficult climbing was just ahead of us. We planned to cross the northeast face diagonally upward so as to reach the eastern ridge slightly below the summit. The fresh snow of the previous day's storm made the holds on the face somewhat difficult to find and quite uncomfortable to use, but with numerous pauses to warm the hands under the arms we finally reached the east ridge. The entire face had required the use of the ropes and

belaying, one man moved at a time. Three hundred feet below the summit the ridge rose steep and smooth. Within an hour we had negotiated the ridge and were eating our lunch out of the wind just below the summit.

Success that day was more than the ascent of a peak because we were given a view of the mountain wonderland of the Coast Range. At the head of Noomst Creek we could see the towers, crags and mountains in which we hoped to climb. Directly across Cahootin Creek stood Mount Defiance which was our next objective. Our route would be from the other side above Noomst Creek. Little did we realize what lay ahead of us, before we would stand above the zones of lush growth below.

Again in the forest, the work began. With ninety-pound packs, and brush thicker than we had imagined could exist, it took us two days to cover the six miles between the mouth of Cahootin Creek and the mouth of Noomst Creek. This was easy compared to the traveling up Noomst Creek itself, along which we searched for a trail rumored to exist. - The weight of our packs, the steepness of the terrain, and the denseness of the brush made us realize that our plans would have to change. It had taken us three days to do six miles.

It was here that we started up the canyon to timber line just below Mount Defiance. Difficult going such as we had just experienced makes one appreciate your companions. Bob Skinner was experienced in wilderness life in the Wind River Range of Wyoming where he was a hunting and fishing guide. His constantly ready hand and fine sense of humor make him the best of companions. Dick is a wiry and ambitious lad, ready to do his best. For his age Dick is a fine mountaineer showing much promise. With companions such as these we were ready for most any thing the mountain could offer. My experiences had twice before brought me to Canada; once to the Bugaboo group and in 1950 to the Mount Waddington area where our group made the ascent of Mount Waddington and about twenty-five neighboring peaks. To be again climbing in the Coast Range was quite a thrill.

Ahead of us now was the snout of the glacier that arcs down the east face of Mount Defiance. We cut steps for two hundred feet before reaching the main surface of the glacier, then worked our way through an ice fall to reach the rock cliffs at the head of the glacier. These rocks lead to the summit tower, and at four-thirty in the afternoon we stood on the summit of Mount Defiance.

The hour was late. Night would catch us on the glacier unless we could find a route that by-passed the glacier. Luck was with us, and as the darkness of the night closed in our camp was at hand. Thus ended the second successful climb of the stay with the Bella Coola peaks.

Time grew short so we could only climb one other peak. Across Noomst Valley and back near the head of the creek stood a mountain that had caught our eye from our first glimpse. The name we had given this beautiful shaft was “The Horn.” So we moved camp to somewhere near the base of this peak. Storms were again hampering progress so we made camp far short of The Horn. Here we waited for a clear day and when it came we left camp realizing that this would be our only chance at a peak that had become one of our favorites. By noon we reached the bottom of the glacier that flanks The Horn on the North. We realized that attaining the summit was not for us this day, but we kept on climbing until we were standing at the head of the glacier looking up at the ice-choked rock that rose above. The time of day dictated that we turn our backs to this challenge and start for camp. Our last attempt to climb a peak had failed and now we must begin the journey to the Bella Coola Valley.

Rain made the going most miserable and it was with great relief that we found ourselves once again beside the Bella Coola River. Here we experienced quite an adventure in fording the

river. At one time Bob and I were nearly washed down the fast-moving torrent when testing a prospective crossing. By the use of poles after much trial and error in locating the ford all three of us were across the river and had saved ourselves two days' fight with the brush. All that remained from here was thirty miles of road to Bella Coola and our ship.

Our minds hold many fond feelings for the Coast Range of British Columbia, the villages that nestle therein and the grand people that make up the villages. Never have we traveled in the mountain areas of Canada that we were not accepted and given the best of hospitality and assistance. Such relationships combined with mountains of a most beautiful nature create one of the most satisfying experiences in which a man may participate. We look forward to the next opportunity to be with the Bella Coola peaks.

Whirlpool River, Looking Up Simon Creek To Needle Peak.
Photo E.R. Gibson

Main Icefall Of Scott Glacier. Mt. Hooker On Right.
Photo E.R. Gibson

Whirlpool River. Left To Right: Mts. Hooker, Evans And Kane.
Photo E.R. Gibson

THE WHIRLPOOL RECONNAISSANCE

By E. R. Gibson

Because all the reconnaissance work done in 1951 proved abortive, it was with some trepidation that I agreed to undertake a "recce" up the Whirlpool River in July, 1952. We had two main objectives, namely to visit the historic Athabaska Pass region and to look over the Scott Glacier and Hooker Icefields climbing area.

Apart from the Interprovincial Boundary Survey who went over the ground very thoroughly in the early 1920's, the only purely climbing expeditions which had visited this area during this century were those led by Dr. J. Monroe Thorington in 1924 and 1928. These two trips and the climbs which were then made are well and fully described in his book "The Glittering Mountains of Canada" chapters XI and XII. He also has some most interesting chapters on the early history of Athabaska Pass and it is worthy of note that the ascent of Mount Brown by David Douglas in 1827 is the earliest recorded ascent of a major peak in the Canadian Rockies.

Our party for the 1952 recce was a representative one, with four Canadian and four American members. From the States came Henry Hall, Brad and Jean Gilman and Polly Prescott. The Edmonton Section representative was Dr. Joe Kato, and the Victoria Section supplied Cyril Jones, Ethne Gibson and the writer. Our packer was once again our old friend Frank Wells of Athabaska Falls and he had his son George along.

July 10th saw us under way and it was most thrilling to realize that we were following one of the most historical trails in the whole of Jasper Park, for the Whirlpool Valley approach to Athabaska Pass was first pioneered by the great explorer David Thompson in the winter of 1810-11. He had been obliged to seek out a new route to the Columbia as his former route over Howse Pass was denied to the fur brigades by the actions of hostile Indians.

The Whirlpool is a very beautiful valley and those who attend Camp in 1953 will be well advised to make the trip in two days and take time to enjoy the scenery to the full. A halfway camp will be pitched at the site of the historic "Encampement du Fusil", which is about eleven miles from the end of the side road at Moab Lake, to which point cars can be taken. Moab Lake itself is four and one-half miles from the main J. B. Highway. The turning on to the side road is immediately north of the Whirlpool River Bridge, on the west side of the main road.

A stop-over of one night at the halfway camp leaves an easy and exciting seven miles for the second day. Main camp will be located on an excellent level site about one mile from the tongue of the Scott Glacier. These gravel flats were formed originally by the main stream flowing from this glacier, but this stream has now taken a new course and all the glacial water is now carried further east in a new channel. We were most fortunate in finding two fine clear water streams running through the camp site, so that a good water supply is assured.

The view of the main Scott Icefall from the Camp site is magnificent. The true right bank of the glacier is the main line of approach to all the major climbs from the Hooker Icefield itself. We made a successful trip up onto this Icefield on July 17th to the 9500-foot level and found a good site for a high camp right on the Divide and just east of Mount Hooker (10,782 feet). Climbs of Mounts Hooker, Serenity, Scott, Ermatinger and Oates can all be made from here, and will also be very useful for those wishing to make a two-day round trip over the Hooker Icefield and down to Athabaska Pass and on down to Camp.

The hike up the main Whirlpool Valley from Scott Creek to Athabaska Pass is a fine one

with Mounts Evans and Kane, both over 10,000 feet, towering above one on the left hand. As one progresses up the valley it bends to the south and historic Mount Brown, once thought to be 17,000 feet high, comes into view. Alas, modern survey methods have revealed the true story and has reduced it to a mere 9,156 feet! Nevertheless it was named and climbed in 1827 by David Douglas, the renowned botanist, whose name is perpetuated in the Douglas Fir (pseudotsuga Douglasii).

Our whole party, with the exception of Jean, climbed Mount Brown on July 14th, a glorious sunny day. Like most medium-sized mountains, Brown proved to be a superb viewpoint and we heartily confirmed David Douglas's opinion of the panorama as described in his Journal—"nothing as far as the eye could perceive but mountains such as I was on, and many higher, some rugged beyond description . . . ." The Clemenceau Group showed up especially well and they are quite close, being just across the trench occupied by Fortress Lake and the Wood River. We made a traverse of Mount Brown and came down along the Divide joining Jean at the Committee's Punch Bowl. She had ridden up there with George Wells from our overnight camp at Kane Meadows. The Punch Bowl is a most interesting little tarn which sits squarely on the Divide and actually drains both ways. One quite obvious stream forms the headwaters of the Whirlpool and we proved that it drains to the west as well, forming Pacific Creek, by watching pieces of stick drift that way and disappear under the rocks at the western end of the lake. The Interprovincial Boundary Survey had solved the problem of where to place the Divide by building their concrete monuments one on each side of the middle of the lake.

From the climbing point of view this is an exceedingly interesting region and there are still quite a number of unclimbed peaks, including a 10,000-foot rock peak, adjacent to Mt. Scott. This rises right above main camp site and hides Mount Scott from view. With the exception of Mount Brown, all the other peaks have only been climbed once and none of them have been ascended by ladies. Another interesting feature is the rapid changes which are taking place in the Scott Glacier, as revealed by a comparison of Dr. Thorington's pictures taken in 1924 with ours of this summer. The erstwhile flat ice tongue, which was about three-quarters of a mile long has now entirely disappeared and is replaced by quite a considerable lake. We carried out a survey of the present position of the ice tongue and left a marker fifty feet from the present ice front. This survey should be repeated in 1953 and any further changes noted.

Our trip out was made in leisurely fashion with a stopover of one night at the "Encampement du Fusil", and the good weather which we had enjoyed just lasted us out. We all feel that, given reasonable luck with that ever unpredictable element, this area has everything that a good camp site calls for—fine glaciers, a good high camp site, good two-day trips, fine snow and ice peaks, interesting rock climbs and best of all a sprinkling of unclimbed summits.

IN MEMORIAM

MAJOR W. J. SELBY WALKER

Major W. J. Selby Walker died on the 2ist of July, 1952, and in his passing the Club has lost not only one of its earliest members, but one who in past years devoted a great deal of time and thought to the well-being of the Club. He became a member in 1906, the year in which the Club was formed, and graduated the following year on Mt. Aberdeen. He was Honorary Treasurer from 1914 to 1922 and for many years served on the House Committee having charge of the management and operation of the Clubhouse. He generously gave to the Club its first medicine chest and replenished and maintained it through the years. He was a keen and enthusiastic mountaineer, a true nature lover, and found great happiness in the out-of-doors. On his estate at Inglewood he established many years ago the Inglewood Bird Sanctuary and maintained it at his own expense until his death. It is now known far and wide and visitors are received from all over the world. He was always willing to give his assistance to any worthy cause, and unhesitatingly agreed to serve on the Advisory Council of the Canadian Youth Hostels Association in its first struggling years. His later years were devoted to the work of the National Parks Association of which he was a founder, and, as secretary, the moving spirit. He was unalterably opposed to the spoliation of the Parks by power development and to any other kind of encroachment on the Park areas by industry, and did an immense amount of work to bring his protests and those of the Association which he represented most forcibly to the notice of the authorities concerned. He held the rank of major in the 15th Light Horse Company for many years, and upon his retirement was awarded the Long Service Officer's Medal. Although his mountaineering days were over when the Sky-line Trail Hikers of the Canadian Rockies was formed, he became an original member of that organization and attended its first and some subsequent hikes. He was a native son of Alberta, his father, Colonel James Walker, having been one of that band of the North West Mounted Police who in 1874 set out from Manitoba on their famous 1000-mile march across the uninhabited plains to the west. He is survived by his wife Ruth and one daughter. He will be much missed by his friends, who will always remember him for his staunch and kindly qualities. —S. R. V.

MISS H. E. JACKSON

1868 -1952

Miss Henrietta Jackson, a subscribing member of the club since 1916, died in Winnipeg on April 15th, 1952, at the age of 84. She came to Winnipeg in 1879, and spent 40 years on the staff of the Winnipeg Public Library, retiring as assistant librarian in 1928. She was born in Lanark, Ontario.

Endowed with excellent health and a comfortable home, she enjoyed the years following her retirement in an active fashion. She was a member of many organizations such as the Natural History Society, The Women's Canadian Club, Dickens' Fellowship, Historical Society of Canada, Holy Trinity Parish Guild, Grenfell Labrador Medical Mission and the Professional and Business Women's Club.

Miss Jackson was a faithful attendant at the meetings of the local section of the Alpine Club of Canada and her cheerful presence will be greatly missed. —E.H.G.

DAVID HENRY LAIRD, LL.D., Q.C.
1875 -1952

On February I5th, 1952, the Alpine Club of Canada lost through death one of its original members, David Henry Laird. He was one of its makers; he attended the inaugural meetings in Winnipeg of the newly organized club; he was its first honorary treasurer and he was present at the first camp. During the early formative years, his legal advice was of great benefit to the club. The publication of the Journal was an annual event which stirred his interest and on these occasions too, his advice and suggestions were of valuable assistance to the editorial staff. During the years 1938-1939 he acted as chairman of the Winnipeg Branch. Although pressure of duties prevented him from attending many camps he constantly manifested a lively interest in the varied activities of the club.

He was born in Malpeque, Prince Edward Island, on November 28th, 1875, the son of the Rev. Robert and Barbara (Campbell) Laird, and the grandson of the Hon. Alexander Laird, M.L.A. He was educated at Queen's University where he received the degree of Master of Arts in 1898. Shortly afterwards his eyes turned to the prairie west, at that time blossoming into a spacious and dramatic era of unparalleled achievement, and he proceeded to Winnipeg, which was destined henceforth to be his home city. There he joined the legal firm later known as Munson, Allan, Laird and Davis, of which he eventually became the head. He was called to the Bar of Manitoba in 1902. In 1916 he was created King's Counsel. Mr. Laird married, Louise, the daughter of the Hon. David Laird of Winnipeg, who with two daughters survives him. He was a counsel of outstanding ability; a sound and painstaking lawyer. In the exercise of his profession he presented cases in all the courts of Western Canada and appeared before the Privy Council in England. He was a President of the Manitoba Law Society.

Besides the Alpine Club, Mr. Laird's interests outside his own profession were many. For a period of twenty years he was a member of the Council and Board of Trustees of Queen's University, and in 1945 received the degree of honorary Doctor of Laws with his alma mater. He was a member of the Manitoba Historical Society; the Manitoba Scientific Society; the Manitoba Club; the Winnipeg Winter Club; and the St. Charles Country Club, where he enjoyed the pastime of golf.

David Laird was a gentle and unassuming man of great gifts and great character; a deeply religious man with a warm hearted capacity for friendship, and a perceptive and discriminating outlook upon the world. He was a man of integrity and high ideals; fair and generous in all the ways of life. Endowed with great industry, infinite patience and a penetrating and analytical turn of mind, he was recognized as a distinguished member of the exacting profession to which he devoted his life. Nothing was ever too much trouble for him, he gave unsparingly of time, effort and kindness. To cultivated tastes and diversity of interests he united a quiet sense of humor which was all the more irresistible for being quiet.

"How would you describe David Laird ?" was the query put recently to one of his life-long friends. Back came the answer, quick and decided: "He was the salt of the earth."

One likes to think that in this day of tumult and shifting values, there are those for whom the verities and values of life are real and constant; those in whose innate fineness and quiet strength other lives may find affirmation, re-assurance and example.

Of that rare company, David Laird was one.

—I. E. G. and M. D. F.

AL GAETZ

The Club lost a valued friend, March 17th, when Al Gaetz, manager of Inter-Mountain Airlines, Banff, died following a highway accident.

Mr. Gaetz had flown many members among the Rockies, and did good work at last year's camp. The Club sent condolences to his wife and her two children.

The accident happened at Baker's Creek. The truck he was driving skidded on ice, throwing him through the door, then rolling on him.

EDNA CAROLINE KELLEY

Members of the Edmonton Section were deeply shocked to hear of the sudden death of Miss Edna Caroline Kelley on March 7th, 1953. She was born in London, Ontario, and had lived in Edmonton for forty-three years.

Edna joined the Alpine Club of Canada at the Assiniboine Camp in 1935. He last camp was the 1951 camp at Lake O'Hara. None too robust in health for the climbing, Edna enjoyed every phase of camp life, the friends she met there, the Alpine flowers, animals, and the comradeship of the camp fires. The membership at large will remember her gracious and thoughtful solicitation of their comfort, when she acted as Tea Hostess on a number of occasions at the camps.

She particularly enjoyed the out-door life; was an enthusiastic golfer and skier, being one of the first lady skiers to Marmot Basin in Jasper.

She was a member of the Business and Professional Women's Club, The Edmonton Art and Sketch Club, and the Order of the Eastern Star, also an ardent worker in groups of All Saints' Anglican Cathedral.

We who knew and loved her best, will miss her cheery disposition from our campfire circle for a long time.

I bow my head and silently reflect,
On those who walked the trails of long ago;
I think of them with love and deep respect,
Who reached "Trail's End". They wait for me I know.

—C. M. S.

REVIEWS

MOUNTAINEERING HANDBOOK

published for the Association of British Members of the Swiss Alpine Club by the Paternoster Press, London, 1950; 168 pages, 90 illustrations.

A translation of "Bergsteigen" published by the S.A.C. This is a very valuable volume for study by the climber and both the beginner and the more experienced mountaineer will find it useful, though one may be a little amused at the characteristic modesty of the British translators who frequently presume to correct the Swiss, occasionally incorrectly as at the top of page 73 where their advice on how to kick steps downhill is entirely wrong. The remarks on rope control are excellent and this, one of the biggest problems for beginners, deserves a great deal of attention and practice. On step kicking, page 72, the advice, "Avoid turning the foot out of the general line of advance," is commended to all step kickers. Nothing is said in the snow-craft section about the arrest except a mention without explanation on page 78 and this is a most important point. The translator's note on page 87 that smaller steps are needed when climbing in crampons must be considered with reserve. On steep ice, great care must be taken that the crampons do not split out the step and it is your reviewer's opinion that, in general, when steps must be cut wearing crampons, they have to be larger rather than smaller.

The method of belaying advocated on pp. 61 to 63 is largely outdated by modern methods and the direct belay is now severely frowned upon as pointed out in the translator's note.

There is a good deal of valuable information for skiers as well as for mountaineers and some worthwhile remarks on route finding, though skill at the latter seems to be born, not learned. In all an interesting and useful edition to the mountaineer's library.

—R. C. H.

ON SCOTTISH HILLS

by B. H. Humble, with a foreword by G. Winthrop Young; pp. 127; 75 photographs by the author; 3 map-diagrams; published by Chapman & Hall, London, 1946.

Primarily a book of mountain photographs, this volume is described in the foreword as "the first collection of Scottish mountain views to be produced by a mountaineer who is himself a native of Scotland." The author's intimacy with his native hills and with those who climb them is at once apparent in his pictures. Scottish mountains, lacking glaciers to provide an exciting foreground and too frequently dimmed by overcast skies, are notoriously difficult to photograph. Of unusual quality despite this difficulty and the spartan simplicity of his photographic equipment. Mr. Humble's pictures are by no means a typical collection of ''salon prints." Some are informal depictions of such incidents as a bivouac round a campfire or a bathe in a mountain stream. The inclusion of such scenes, which we often recall with pleasure when all details of the climb itself or of the prospect from the summit are forgotten, enables the reader to share the author's experiences in a way which would be impossible had the pictures, however artistic, all come under the category "Mountain Scene." A brief outline of the principles of Gaelic pronunciation would have helped the non-Scottish reader with some of the place-names. Lacking it he would perhaps do well to avoid reading the book aloud. The feeling of participation is enhanced by the human figures which appear in the majority of the photographs.

The author's lively commentaries form an agreeable complement to the pictures. The narrative is arranged in geographical rather than chronological order and takes us throughout the

length of highland Scotland from Arran and Ben Lomond to the northernmost hills of Ross and Sutherland. The mountains of Skye are inexplicably omitted; perhaps Mr. Humble plans to make them the subject of another book. No breathtaking ascents are recounted and the author feels quite as happy on the summit of Dun T (el. 332 feet) as on the ridge of Ben Nevis.

—I. B. K.

HIGH ADVENTURE

by Norma and Patricia Spring, illustrated by Bob and Ira Spring. Published by Superior Publishing Co., Seattle, 1951. 115 pages 11½ by 9 inches, 95 illustrations.

Bob and Ira Spring are professional photographers who specialize in mountain photography. Their wives, who often accompany them on their assignments have written a humorous account of their lot as wives of mountaineers. This account, which is full of valuable information, serves as an excellent outline for the exceptionally fine black and white illustrations.

The first chapter introduces the Spring families and then describes a typical trip into base camp. The illustrations are of wild life, sub-alpine scenery and of Norma and Bob's three-year-old son appropriately nicknamed "Valley Pounder." Chapter 2 describes the base camp. Photos around Berg Lake at Mt. Robson are used extensively in this chapter. Aluminum foil cooking is well described and illustrated. This method is seldom used as yet in Canada and should be given more attention. , The food used however, seems a bit luxurious and heavy for all except short trips. The next chapter deals with artificial aid climbing. The text is accurate and instructive with the exception of the description of rappelling. The photographs, excellent as usual, are of such notable climbers as Beckey and Schoening. The succeeding chapters deal with the ascent to high camp, high camp and finally the climb to the summit. The illustrations are mostly of the high volcanic peaks in the Cascades. Photos in these chapters are exceptionally fine. The appendix gives technical data on each photograph. The method of reading an exposure meter at high altitudes is explained. Most readers will be surprised to find that no filters are used. The only criticism that can be found of the photographs is the absence of detail in many of the dark areas notably in human figures.

This book would be valuable to photographers and is certainly recommended to new climbers.

—B. McL.

NO PICNIC ON MOUNT KENYA

by Felice Benuzzi. Published by William Kimber & Co. Ltd., 22 Rowland St., London W. I., April, 1952.

We have read several books about mountaineering and have heard many stories of difficult mountain climbs but this book has an entirely different kind of a reason for tackling a challenging peak.

The author had been taken prisoner by the British forces in the last war and eventually was deposited in a prisoner-of-war camp within sight of Mount Kenya. The depressing monotony of camp life led him to plan an escape and an ascent of the mountain. He could not do it alone so he had to take two others in the camp into his confidence and persuade them to go with him. Considering how few resources they had it was no mean accomplishment to get two ice axes in a P.O.W. camp in the heart of Africa together with extra climbing rations, tent, ropes, etc., but the book tells you how it was done.

They then had to escape from the camp and wander for several days through tropical

jungles with no weapons to protect them from the wild beasts, before they reached the foothills of the mountain. In their first attempt they were unable to get up the highest peak but in a later attempt two of them did manage to get up the second highest peak. The third member had to stay in camp because of a heart attack.

All their food was used by this time so they had to return through the jungles and sneak back into the camp as there was no place else to go. During the war it would have been most unpatriotic to read this book but it should be alright to do so at this late date provided you sing "God Save the Queen" immediately after reading it.—M. W.

ANNAPURNA

by Maurice Herzog translated from the original French by Nea Morin and Janet Adam Smith; pp. 288 with 27 illustrations (three in colour) and 8 maps; no index. Jonathan Cape (London) 15/6 and Clarke, Irwin $3.75.

This is the very vivid and arresting story of the conquest of the first 8000 metre mountain, Annapurna. The book is exceptionally well put together leading off with a brief and congratulatory introduction by Eric Shipton followed by a foreword by the author —dictated, as was the book, in the American hospital at Neuilly while Herzog was recovering from the loss of his amputated toes and fingers—and a preface by M. Lucien Devies, President du Comite de 1'Himalaya et de la Federation Francaise de la Montagne. Annapurna is 26,492 feet in height (Survey of India) and is one of the twelve highest summits in the Himalayas, possibly the world. It is the first summit over 26,000 feet to have been conquered. It lies a few miles east of the better known Dhaulagiri (26,795 feet) in the heart of Nepal and is about 180 miles west of Everest and 250 southeast of Nanda Devi, hitherto the highest summit attained in the region, 25,645 feet, by Eric Shipton in 1936. Kamet, a little northwest of Nanda Devi and 25,447 feet, was climbed by Frank Smythe in 1931. M. Devies' orders to the expedition were to climb Dhaulagiri if possible; otherwise, Annapurna. They found Dhaulagiri impregnable at least without much more time and reconnaissance than they could spare; and settled for Annapurna. The story of their double reconnaissance, Herzog's decision to concentrate on Annapurna and their ultimate victory is fascinating.

The expedition was a very strong one. All members had much Alpine experience, as well as in other regions. Three were members of the famous Company of Guides of Chamonix. But none had had more than superficial experience of Himalayan travel and mountaineering and the way they adapted themselves to it—and to the vastly greater scale of the Himalayas both in distance and height—makes very good reading, well described as it is. The description of the relaying of loads to high camps, once the objective had been decided upon, is graphic. In the words of Eric Shipton: "The brilliant manner in which they succeeded in rallying their forces from the confusion and perplexity of groping through unknown country to concentrate on the final gruelling effort, is a measure of their resolution, their superb skill and their driving force."

All maps are sketch maps; there is no formal map. The main one at the end of the book is in colour and in "relief" and, coupled with the general sketch facing page 28 is entirely adequate. Small sketch maps are introduced at strategic points in the book making it easy to follow their progress and their troubles and difficulties. The black and white illustrations are good and the colours very good, the main colour picture being that of Annapurna massif and the "Sickle"; it must be recognized that this is a telephoto and foreshortened. It is nearly impossible in ground of the magnitude of the Himalayas to give a true impression of height and steepness, except in much

localized photographs.

The reader is led, by the hand almost, due to the arrangement of the book, its maps and illustrations, all the way to Dhaulagiri and thence to Annapurna and to the summit of Annapurna; to the crevasse where they spent a terrible night only 200 yards from camp and safety; back down the mountain in atrocious monsoon weather and through, many days later, flooded gorges with primitive bridges or no bridges and flooded plains; and told of the suffering caused by the amputation of many toes and fingers, without anaesthetic, in a rocking train. And, finally, of the visit to Katmandu, the capital of Nepal, by part of the expedition, including Maurice Herzog minus nearly all fingers and toes.

It is a most fascinating story of a tremendous mountaineering achievement.

—E. O. W.

THE SCOTTISH HIMALAYAN EXPEDITION

by W. H. Murray; published by J. M. Dent & Sons, London; pp. 282 including glossary, appendix and index; 4 colour and 34 monochrome illustrations, II sketch maps and I pictorial map (cover). First published 1951, price 303.

I have often wondered what will happen when there is another "national" expedition to some region; how it will be described. The second, or a second? Or just another expedition? Are mountaineers nationalists—or merely mountaineers, all good comrades together?

The author of this book was a member of the Mt. Everest reconnaissance of 1951 and describes briefly, but vividly, that reconnaissance in the *Alpine Journal* for November 1952, in which his book is also reviewed.

The Scottish Expedition, of which Mr. Murray was the leader, did not seek to conquer high summits. It sought to travel in high and relatively unknown ground, to conquer such summits as it might and above all to pass on to others its experience not only of mountaineering difficulties and the means of overcoming them, but also its experience and knowledge of coping with Himalayan travel problems, geography and monsoons; and the fundamental equipment required to that end. The glossary of terms, both mountaineering and Hindustani, the appendix giving in great detail requirements and costs for an expedition of four over a period of five months and the book as a whole make what, to me, is one of the best books of reference about the Himalayas that I have ever seen; and the illustrations, excellent and profuse, are very fine.

The expedition sought to show, and did show, that private and small expeditions, travelling light, can accomplish very much; not only in actual climbing but in terrain covered and in enjoyment. Of nine summits attempted, five were achieved, the highest being Uja Tirche, 20,350 feet. On all their mountains, technical difficulties loomed large and actual climbing that is perhaps beyond the realms of possibility at very great altitude was severe. By a shrewd plan, they avoided the main difficulty of a five months expedition to such high country, the monsoon. Or at least avoided it in part. They made a circuit of ground that is fairly well known in general, little in detail, the great mountain group that lies in Garhwal to the north of but including Nanda Devi. They forced the Rishi gorge and looked on Nanda Devi; and they forced other gorges as formidable. But, very wisely, they confined their attention to the lower yet (apart from altitude) not less formidable peaks.

They covered much ground, they had some fine climbing and Mr. Murray has reported their travels and their climbs in a fashion that makes it seem possible for any small expedition to emulate them. But those who seek to emulate are advised—and this is by me—to read his book

first. A vast amount of information is there, for the reading and the study.

—E. O. W.

TREES, SHRUBS, AND FLOWERS TO KNOW IN BRITISH COLUMBIA

by C. P. Lyons. J. M. Dent & Sons (Canada) Ltd. $3.25.

This attractive little volume achieves its stated objective as a non-technical pocket guide to the common plants of British Columbia.

Descriptive everyday language has effectively replaced technical botanical statements. Black and white sketches which accompany the discussion of each plant are accurately and often delightfully executed. In fact, they approach the fine quality and fidelity of those appearing in technical volumes such as Abram's *Illustrated Flora of the Pacific States*.

Undoubtedly the finest section is that on the native trees. The key and the range maps of this part are the best of the reviewer's acquaintance. The section on the shrubs is complete and easy to use, although botanists might find the scattering of a "natural" group such as the genus *Vaccinium* somewhat disconcerting. However, the book was not written for botanists. With few exceptions the treatment of the herbaceous plants is restricted to the conspicuous or the colorful, and the groupings here are made according to the usually satisfactory criterion of flower colour.

The appendix offers short descriptions and sketches of the native ferns, phenological (time of flowering) tables and a list of edible plants. Elsewhere in the book, the author's appreciation of the role of climate and elevation in the plant communities of a mountainous province is shown in his graphic presentation of the life zones.

Errors, factual and typographical, are infrequent and only a few statements are misleading; for example, the range of the shooting stars (*Dodecatheon* spp.) is given as "lower elevations throughout B. C." although, in fact, many are found at high elevations.

This comprehensive and useful everyman's guide is the product of an enthusiastic and informed young man, C. P. Lyons, now a senior officer in the Parks and Recreational section of the B. C. Department of Lands and Forests. It will be very useful to a wide group of beginning naturalists, mountaineers, tourists, Scouts and Guides, and others who work or play out-of-doors in Canada's Pacific Province.

—V. C. B.

THOUGHTS OF A MOUNTAINEER

by R. B. Frere; published by Oliver and Boyd Ltd., Edinburgh, 1952, pp 177, 8 illustrations.

There are mountaineering books that win a reader's attention gradually, there are those that capture it at once, and finally, there are others that never claim it at all. *Thoughts of a Mountaineer* belongs to either the first or the last category, depending upon the mood and attitude of the reader. It does not belong to that select group which command immediate attention because it does not command immediate belief.

For the reader used to conventional mountaineering literature perhaps the reason for this lack of immediate belief lies in the book's unsaid major premise: that the thoughts and reflections of a mountaineer are of more concern than the physical aspects of climbing. The philosophy behind such a premise is not new in literature but mountaineering as a sport, or even as a science, does not lend itself readily to metaphysics.

This book, therefore, does not conform to the British tradition of understatement in mountain writing and thus will not please those whose resulting instinct is that it is "bad form" to bare one's

innermost thoughts in open, critical introspection.

To a reader conditioned to this unwritten precedent in mountain literature, Mr. Frere's book sometimes gives one a strange feeling of climbing in a mental and spiritual world without any solid objects. In many places one seems beset by mountains of phantasy and valleys of despondency between which are long slopes of subjective idealism in a country of the mind where the compass of logic refuses to function.

Thus at times it is hard to believe that the locale is Scotland and that most of the climbs related take place in the areas of Glencoe, Ben Nevis, the Cairngorms and Skye.

The highlights of the book are in some fine passages describing the actual climbs. These portions of the book demonstrate that Scottish mountains produce hidden and worthwhile treasures for the climber. Much of the climbing done by Frere and his friends was of a distinctive character, sometimes pioneering new routes. However, these achievements are used more as a slate upon which are traced the ten-year development of a boy-man's sensations and inhibitions concerning travel upon high hills

Two of the chapters deal with climbing in Skye, sometimes known to climbers and local inhabitants as the Isle of Mist. Whatever the name, Frere has captured some of the peculiar charm of climbing in that savage yet tender area of weird and shattered summits that is the Black Cuillin. He has done this even though few will have attempted to force a passage through Bhasteir gorge by swimming part of it and then climbing a waterfall. Similarly, Bhasteir Tooth is forbidding enough in itself but few vary it by a little known chimney that leads to an inward and upward tunnel from which Frere emerged through a tiny rock-choked opening onto the very summit.

The few illustrations are tantalizing in that one would like to see more of the same sort. Two of them do not bear credits in the list of illustrations so presumably were taken by the author who certainly has no cause so to hide his ability as a photographer.

Most books that leave a permanent impression have a structure and purpose which can be seen or at least felt. In them the wheel comes full circle and the original object is re-affirmed, the second time to a different and usually more forceful aspect of the initial purpose. Mr. Frere's original purpose is uncertain. He seems to be content with describing his own changes in consciousness and sensations in ten years of climbing. Perhaps it is summed up in one of his epilogue sentences; "I sensed the mutability of life, its triumphs and its failures and, in the final failing of its flow, its inevitable end."

It is to be regretted that Mr. Frere resolved his purpose into a personal one. He has the literary essentials necessary to make a good case for mountaineering as a way of life, a philosophy in itself.

The publisher's note on the dust cover disarmingly announces "Here we have a most refreshing change in mountaineering books." That it is a change from most mountaineering works cannot be denied. That it is a refreshing change is a more dubious assertion. In any event it is to be hoped that it will not prove so refreshing that it will set a new pattern for climbing literature.

—W.B.G.

ALPINE NOTES

STANLEY PEAK

By Jim Tarrant

Each time I have driven along the Windermere Road from Banff, my eyes have always turned with fascination up towards the ice-hung peak of Mt. Stanley. This 10,351-foot peak lies slightly southeast of Marble Canyon, west of Storm Mountain and immediately north of Mt. Ball. After thinking about the mountain a great deal, a party of four consisting of Bob Hind, Walt Sparling, John Manry and I decided this would probably be a good peak with which to wind up our climbing activities for the 1952 season. Accordingly at 8:15 a.m. on Saturday, October 25th, we left the highway at a point a couple of miles east of Marble Canyon and bushwhacked our way up to a high valley on the west side of the peak. Between the main summit and a minor peak at the north end of the north ridge (overlooking the highway), there is a high col, and we worked our way up towards this.

Above the scree slopes we started up a water course, encountered a short cliff on which was a short pitch with rather thin holds. At this point we donned the rope. We travelled in two ropes of two, Bob and I on the first, Walt and John on the second. Above this there were slopes of loose scree of the larger variety and several minor pitches which brought us to the col shortly before noon. After lunching, we continued on up the north ridge. At first the slope was gentle and snow-covered, but before long we were confronted by a vertical step. Here Bob led up the corner of the ridge for a few feet, then traversed to the right on a seemingly vertical wall which boasted few hand and foot holds in varying stages of insecurity in very awkward positions. Following across the wall for about twenty feet, he came to a section of firmer rock having more satisfactory holds. He then climbed straight up and then disappeared around a corner. He soon shouted for me to follow, and after struggling awkwardly with the first part of the pitch, I slowly worked my way across the wall and up around the corner to where he had gained the top of the wall. To save time, the other rope found a different route up this section of the ridge. They had found a way up to the left of the main ridge. The ridge from here on was fairly straightforward; we traversed somewhat on the west face to avoid some difficulties. However, a cliff band soon forced us to find our way back on to the ridge where we were confronted by another very steep step.

Bob led off up a short chimney and reaching the top of this disappeared around a corner. Then the rope stopped running out. For a long time nothing happened, then the rope ran out a few feet and stopped again. I imagined Bob had run up against a very interesting pitch. After a long time the rope again began to run out; a few inches at a time, very slowly at first and then more steadily until finally I heard him calling for me to follow. I climbed the chimney with no difficulty, but when I stepped around the corner at the top of the chimney I must admit that what I saw made me gulp. Bob's comment was that the next pitch was rather thin. It was a fairly steep wall about 25 feet high, all covered with an inch or two of snow. I started up and reached a point about halfway up without too much difficulty. Here a little pinnacle or rock was leaning against the wall. This appeared to be the only foothold at this point, so I stood on the top of this with my left foot, and then took another step up with my right foot. Then I stopped. I had another six or eight feet to go to reach the top of the wall. Below me I could see one of the steep glaciers that hang on the northeast face of the mountain and which seem to plunge right down to the valley floor. I surveyed the last piece of the wall but could find no foothold worth mentioning and but one snow-filled crack for a handhold, and on this I could not keep a firm hold. After several unsuccessful attempts to step up on to a small wrinkle with

my left foot (it kept slipping off the hold each time), I told Bob I would need some assistance on the rope as I could not confidently make the next move. Bob gave a good pull on the rope and jamming my left foot sideways against the wrinkle in the rock, I made a desperate lunge up the remaining piece of the wall and managed to arrive at the top feeling very inferior for my poor efforts. At this point I should state that all the way up the ridge the rocks were coated with an inch or two of snow; and although the weather was not cold, one's fingers became numb and strengthless on the more difficult pitches from grasping the snow-covered rocks and jamming them into snow-filled cracks. However, the snow was very dry and very little melting took place.

A short scramble over large boulders and some short snow slopes brought us to the first summit on which was a large cairn. We found an old wine bottle in the cairn containing two records. We could not extract these records, but I could read one through the bottle, and it recorded a guided ascent made by three A.C.C. members in 1912. There was a slightly higher summit a few hundred yards farther on and we crossed over to this peak. Bob and I reached the summit at 3:15, the second rope arrived at 4:00. They also had difficulty with that little section of wall and had had to find another way up a little farther around to the left.

We then hastened to make our descent and followed down the west ridge, which although it was not difficult had a habit of blocking our progress with short overhanging cliff bands down which we had to find a way. We skirted a minor tower and at 6:00 p.m. reached the top of a col where we stopped a few minutes for some food. The upper part of the col was filled with some very hard snow and after some difficulty in starting, we got down this and onto snow-covered scree. We got off the mountain just as it was getting dark. The other two, who had lingered on the summit were about an hour behind us and had to descend this unpleasant place in the dark. Bob and I made our way as far as the trees without the aid of flashlights. From time to time we looked back and could see the carbide lamps of the other two flickering at the top of the col. Upon reaching the trees we wound our way endlessly down through them with the aid of our flashlights, and reached the road at 8:15 p.m. At this season of the year, at this altitude the nights get quite cold, and we kept ourselves warm by putting on all our spare clothing and walking up and down the road until the others arrived at 10:00 p.m. Upon reaching the trees, their carbide lamps had become plugged and they had had to grope their way down through the bush in absolute darkness. We then hurried back to Banff where we satisfied our appetites at a restaurant and then drove to the clubhouse where we were soon all tucked in our sleeping bags and sleeping dreamlessly. We were all of the opinion that this mountain was a first-rate climb.

MT. VERENDRYE

By Jim Tarrant

Near the south eastern end of the Vermillion Range, standing at the head of an unnamed side valley west of Vermillion Crossing, are three prominent peaks which have long caught the eyes of members of the Calgary section. Two of these peaks stand on the north side of a high col. The most southerly of these two is a pyramidal rock peak which is unnamed. The other, a higher peak approximately 9,750 feet, although it has no official name has been dubbed Whitetail Peak by Calgary climbers owing to the facts that Whitetail Creek rises on its western slope, and a small gleaming white glacier hangs high on its northern eastern face. On the north of the col rises the highest peak of the three, Mt. Verendrye, 10,125 feet. This account deals with an ascent of Mt. Verendrye by its southwest ridge, by five members of the Calgary section: John Dodds, Jim Duncan, Hans Gmoser, Milt Hicks and me.

After two previous attempts had been turned back by snow and rainstorms, a third attempt was launched on the weekend of July 12. On Friday evening we drove from Calgary to Vermillion Crossing where we spent the night. At six o'clock Saturday morning, full of high hopes, we started up the trail which leads up the side valley. A hike of an hour and a quarter brought us to some lush open meadows, blue with clusters of wild larkspur, waving and bobbing in the breeze. Here we left our tents and sleeping bags, as we expected to spend the next night at this place. We continued on our way and the trail soon ended in the gravel of the creek bed. We followed the creek bed for a short distance and had visions of having to climb up its steep banks and do endless bushwhacking above. However, within a very few minutes, we found the small canyon into which we were entering, and the creek bed beyond, were choked with the snow of avalanches which had cleared the slopes above earlier in the spring. This snow formed a satisfactory highway to open country above. We toiled up gravel and scree and slopes of old moraine and finally reached the high col between Mt. Verendrye on the north and Whitetail Peak on the south. We started up the southeast ridge which for some distance is very broad and covered with large angular stones composed of alternating layers of orange and black-colored rock, giving the slope the appearance of being strewn with liquorice allsorts. The ridge was one of those annoying efforts that wander on endlessly from peak to peak, with small breaks between summits, and the succession of minor summits seemed interminable. The climbing, however, was quite easy, the rope being required on only two or three pitches during the entire ascent. After some eight hours had elapsed since we left Vermillion Crossing, we were approaching what we were sure must at last be the main summit, when we again came up onto a small minor summit. The ridge dropped about 50 feet on the far side of this peak and ran into the base of a wall of the main peak. Our hearts sank as we examined this obstacle and it seemed as if the climb would end here. However, Hans tackled it and slowly worked his way up to the left and over a bulge; then traversed back to the right and climbed diagonally across and up the seemingly holdless wall until he reached the right hand edge of the wall. Overlooking a drop of about 2000 feet to the glacier, he climbed up the very edge of the wall and finally gained a secure position on the top. We all followed up, Hans belaying each in turn. The wall was approximately 60 feet high. A short scramble along the ridge brought us to the heavily corniced summit, from where we had fine views in all directions; we could even see the peaks of the Bugaboos.

The ascent had taken us nine and a half hours and to climb back down the ridge would take a great deal of time. We therefore decided to try and find a quick way off the mountain. We descended the west ridge (by which the first ascent had been made) for a few hundred feet and turned off on to a large snow slope on the south side of the ridge. The snow on the upper part of this slope was soft and we sank in it to our knees. However, as we descended, it became harder and we were soon able to glissade and skate down the slope which led up in three-quarters of an hour after leaving the summit, right on to the high meadows at the head of Whitetail Creek on the west side of the mountain. We had certainly avoided the long climb back down the ridge.

However, we now had to climb back several hundred feet to cross the high col between Mt. Verendrye and Whitetail Peak. This we accomplished easily and in a very leisurely fashion by utilizing a goat trail across the scree. From the col we retraced our route of the morning back to the meadows of larkspur. Here we pitched our tents, cooked our evening meal and spent a very peaceful night. Sunday morning saw us packing our equipment, photographing the mountain and its neighbors and making our way back to Vermillion Crossing from where we proceeded to Radium where we rewarded our efforts by enjoying a swim in the pools there.

NEW ROUTES IN THE KANANASKIS

By R. C. Hind

The Calgary Section starts its climbing season in April and at this early season only the outer ranges are in reasonable condition for climbing. Several of our early expeditions therefore are usually up the Kananaskis Valley. Last year we tried the impressive south ridge of Mt. Lorette but our party was large and we abandoned the attempt after some spectacular climbing. This year on the first day of a two-day outing a smaller party returned to the attack on May 10th. Barbara Richardson, John Dodds and I made up one rope while Len Keeling led the second with John Manry and Collin McAllister.

The going was straightforward to the point reached on the previous attempt but from there the situation changed. An overhanging and very difficult crack, a bit to the right of the ridge, took us past an impasse onto the ridge again. Len found this not to his liking and made a variant which he said was easier but on which I cannot commend as I had already gone the only way I could see to go. The climbing continued steep and exposed on a very narrow ridge but with good rock. A hand traverse of eight feet under a huge block on the ridge, followed by a short vertical step, brought us to a fine, level grassy spot for lunch.

One hour from here, on steep rock nearly all the way, brought us to the summit at 12:40, five and a half hours from the car and over three hours of good stiff climbing. Descent was by the east ridge to the col and down easy scree and boulders to the car in two hours and forty-five minutes. Some fast moving was called for when a small cornice broke off while three of the party were underneath it.

Wind Mountain (or Mount Lougheed as it now is, officially) has four peaks. As long ago as 1946 from Sparrowhawk I had admired the south ridge of the south peak but it was not until May 24 of this year that we were able to look into the matter further. Jim Tarrant, Ray Cook and I made up one rope while John Manry led the second rope with Stan Larson and Joan Shaxon.

We left our camp at Ribbon Creek Forks at 7:40 and travelled up the north fork by old logging road and game trails. The base of the ridge was reached at 10:50 and a stop made for lunch. We roped at 11:15 and started up. The climbing was mostly steep, occasionally difficult and frequently spectacular. Steep slabs, excellent for bramanis but tough for nails, added to the fun. Ray was in nails and on his first climb. He will not soon forget it! I also heard murmurs of "Never again," from the tail of the second rope but the two men are very big and Joan is small so there was no choice but to follow.

Near the top we climbed a steep slab with a huge boulder sitting in a slight hollow with no visible means of support whatever. We were forced to move close under this unpleasant object and I hope it will be gone before I pass that way again. The summit was reached at 2:45. We believe this to be the second ascent of this peak and the first of the south ridge.

The descent by the west ridge and southwest face over steep slabs and snow slopes was made laborious as we wallowed thigh deep down the snow and later plowed over and through masses of soft avalanche debris. An hour and a quarter resting on the first heather revived us and we reached camp at 7:30.

These two routes are excellent rock climbs for good parties and add two fine ascents to those available in the outer ranges before the big peaks are ready.

THE FIRST ASCENT OF EIFFEL TOWER

By Thomas A. Mutch

In the summer of 1951 while climbing Eiffel Peak, I noticed a spectacular tower to the north of the peak and separated from it by a deep gap. In an area where all the major peaks had been climbed, I had heard that this was one pinnacle that had turned all attempts to failure. From what I saw I could easily imagine why this was so, for it looked as if all the walls were overhung and piled high with rotten rock.

During the later winter months I happened to show Joe Murphy (both of us are students at Princeton University) a picture of the tower. From what little the photograph showed, we idly speculated about possible routes. One thing led to another and before long we decided on a trip to Eiffel Tower. We first arrived at Moraine Lake during the last days of June. Our attempts to reach the tower were foiled by a combination of bad weather and poor luck in route finding. We circled Eiffel Peak, hiking up to the Larch Valley, over Sentinel Pass, and returning again to the Valley of the Ten Peaks. Attempting to gain the gap between Eiffel Peak and the Tower from Wastach Pass, we were turned back by wet and rotten bands of cliffs. Just before leaving we climbed Eiffel Peak and decided that the only way to reach the gap would be to rope down from the summit of the peak.

Later in the summer, when the weather was warmer, and drier, we returned to Moraine Lake for a second try. Carrying bivouac equipment we climbed Eiffel Peak and set up a 200-foot rappel from the summit. This brought us to a narrow sloping ledge. From here we figured that another 200-foot rappel would deposit us at the saddle. All went well until I started to lower the equipment from the summit. I foolishly attached the rappel rope only to my packboard and the insecurely anchored pack sack suddenly slipped out, bounced once off the wall, and then followed a long slow arc until it disappeared from sight. In a split second we had lost our sleeping bags and half our food. While we still had a small stove, our fuel was gone, so that most of the remaining food was useless.

Although our spirits were crushed, we still decided to continue. Almost all our climbing equipment was intact and we had enough cheese and chocolate for one good meal, at least. A second rappel brought us to the crest of the saddle between the peak and the tower. On the right was a chute of ice and snow down which our pack had slid. On the left was a more hospitable slope of broken rock where we decided to spend the night. After building up a level rock platform and eating a sparse meal, we huddled together under a poncho and prepared to pass the night as best we could. With a cold wind moaning through the gap and the dark walls of the peak and tower literally hanging over us, sleep was next to impossible. After an eternity of tossing and turning the sky gradually began to grow light around the horizon, and the distant peaks were visible through the early morning mist. As we looked across the saddle to the east the delicately lighted slopes of Mt. Temple and a range behind it were framed against wisps of crimson clouds floating across a sharp sky of pale blue. It was a wonderful sight and compensated for the cold night we had spent.

As soon as it was light, we started to climb the tower itself, thankful for the opportunity to move around and get warm. The only route that looked at all feasible was a prominent chimney on the south west side. The first 30 feet of this chimney was an easy scramble, but then our way was barred by an overhanging wall of wet holdless rock, perhaps 20 feet high. Joe led this extremely difficult pitch, using a double rope, pitons and expansion bolts. The width of the cleft, at this point, was too great to use a chimney technique and both walls were devoid of any solid cracks or holds. Both pitons and expansion bolts pulled out easily from the soft and rotten rock. By putting in a host of both pitons and bolts, thus distributing the pull on the individual anchors, Joe was finally able

to surmount this face after two hours of wet, cold, cramped work. Above this point the chimney continued vertical, at times overhanging a bit. The two sides were ideally situated so that it was possible to use a back and knee technique, and, after the first difficult pitch, we used pitons only for protection. By keeping well to the outside we were able to avoid the back of the chimney which was choked up with ice, snow and loose rock. Three leads brought us to the top of the chimney and from there it was only a scramble, a completely unexpected surprise. Unroping, we clambered up to the summit platform, climbing from north to south.

We had arrived at the top so quickly that it was difficult to believe. As we basked in the warm sun and ate the remainder of the food we piled together a cairn of sorts. Although it was only two o'clock thought of the civilized comforts awaiting us at Moraine Lake caused us to cut short our rest on the summit. Climbing down to the top of the chimney we set up a 100-foot rappel. As we started down we were amazed to see two people at the base of the tower, near our bivouac of the previous night. Setting up a second l00-foot rappel we arrived at the lower portion of the tower, from where we were able to climb down to the base. There we met our visitors, a couple from California who had travelled here to make an attempt on the tower. Since we had already made the climb they decided to turn back. They had gathered together our bivouac equipment for us and treated us to a delicious meal. But best of all they showed us an easy way to get off the saddle, thus making unnecessary a rope-down_over the buttresses which protected the west side of the saddle. Skirting around the tower on the north side, we were able to reach the saddle between Eiffel Peak and Pinnacle Mt. From there we quickly slid down to the Larch Valley and were back at Moraine Lake by 6 o'clock, an unhoped-for luxury.

Although the general appearance of Eiffel Tower is enough to discourage any climber we had found it to be an enjoyable climb. I imagine that previous parties had been turned back by the overhanging pitch at the bottom of the chimney. If a fixed rope were placed on this spot, the rest of the chimney would provide a wonderful climb—one of the best rock climbs in the Canadian Rockies.

TWO UNCLIMBED PEAKS IN GLACIER PARK

By Robert West

Two unclimbed peaks in Glacier National Park, in the Selkirk Range of British Columbia, were climbed in August by my wife and myself. The mountains, Corbin Peak (8897 feet) and the unnamed peak two miles to the southeast (ca. 8400 feet), were ascended from the cabin recently constructed by the Park Service near Bostock Pass. The cabin is accessible via the Bostock Creek trail from the Warden's cabin at Flat Creek. The unnamed peak, for which the name "Pyrite Peak" is suggested, was climbed on August 27 by way of the jagged north arête in 6½ hours from the cabin. The return via the Corbin-Pyrite Valley was made in 3 hours. Corbin Peak was climbed on the following day by way of the northeast arête, in 5 1/4 hours. The return required 4 hours, descending a steep couloir in the south face, thence by way of the Corbin-Pyrite valley.

The same party also made an unsuccessful attempt on unclimbed Mt. Shaughnessy (9390 feet) in the Hermit Range of the Selkirks. Following the long east ridge, we attained a point about two hundred feet from the summit before they were forced to turn back by icy rock.

CLIMBS IN THE MIDDLE WEST

By J. L. Dudra

Mountaineering is understood to be a sport which takes one into the mountains for recreation, enjoyment or sheer determination to answer the challenge that certain summits seem to fling down upon the striving climber. However, it also covers many different aspects which pertain to the love of mountains and climbing.

Spire climbing is but one of these many branches that comprise this great sport. In many instances these climbs are done at lower elevations than climbs to mountain tops, but there is nothing so awe inspiring as the sight of a sheer tower rising up into the sky as though it had a black soul of its own, forever striving to reach the clouds that look down upon it.

With this feeling of emotion and anticipation we set out for the Cathedral Spires of South Dakota and also to try our luck on Wyoming's famed Devil's Tower.

After making the second ascent of the Devil's Tower by Fritz Weissner's original route, we drove to the Black Hills and established ourselves at Sylvan Lake camp ground near the Cathedral Spires.

The Spires are located in one of the most colourful areas on this continent, an area which has no rival in its grandeur for the technical rock climber, but is ironically situated in the Black Hills of South Dakota. Even though encompassed by flat prairie the Black Hills Needles boast granite crags that seldom find an equal in the mountainous country of our western Canada and U.S.A.

The hills are dotted by rock needles of every size and shape ranging from lo-foot dwarfs to 200-foot monoliths that are absolutely unclimbable. The whole area assumes almost fantastic possibilities and truly deserves the unofficial title of the Future Dolomites of America. The rock is excellent, climbing being unlimited for novice and expert alike. A modern highway right through the heart of this scenic wonderland truly makes it a mecca for those who desire the best in rock climbing without long back packs.

The backbone of this region is formed by the Cathedral Spires which stand proudly above the rest, certainly giving credit to the name they bear. The spires themselves are broken up into eight groups, separated by deep couloirs that reach their very core, isolating each group and giving the whole massif a saw-tooth appearance. Previously, no particular names had been given to any spires or groups, they have always been referred to in a numerical system from No. 1 to No. 8.

At their base lies a pleasant forest of pine and aspen with a cool brook running through it while grass grows in abundance right up to the rock. Unbelievably, just to make the setting perfect, as though Mother Nature did not want to miss the smallest detail, mountain goats roam at large. (I won't guarantee the origin of these goats, whether they be domestic or imported from the mountains, but the one I met unexpectedly looked wild enough to startle me).

From Sylvan Lake camp ground we conducted daily forays to the Cathedral Spires which lie two miles off the Needles highway. In order to accomplish more, my three companions H. Staley, W. Grande, F. Beckey and I split in two climbing parties. Fred Beckey and I centered our main attention on two interesting spires across the valley from the main group. We named the two spires Diana and Andrew. After climbing both the next day we found them to our delight to be first ascents. Since more daylight remained another spire in the valley was chosen and climbed. Twilight descended upon us before the rappel rope was retrieved and total darkness enveloped us by the time we reached the highway.

The Persians, our name given to No. 2 group because of our constant quoting of Khayam

Rubaiyat during the climb of it, was to be our next goal. The three largest towers in the spires form this group, making it a spectacle never to be forgotten. The highest (Omar), and the middle one (Khayam) had been climbed by Fritz Weissner and his party in 1934 but the lowest remained unclimbed.

The next day Fred and I were preparing for a climb on Khayam when Herb Conn joined us to be a third man for our venture. To the best of our knowledge this was the second ascent of Khayam, certainly a worthwhile climb.

Herb and his wife Jan had made numerous first ascents in the Black Hills Needles, this proving them to be good rock climbers.

The Rubaiyat, though situated lower than its upper brothers, is the tallest of the three and certainly the most formidable. Fred and I vowed that if we could only climb it we would ask for nothing more. The prospect, however, appeared impossible. Most of the spire was broken up by vertical and exceedingly exposed cracks which might be climbed if we could only reach them. The key to the whole tower lay at its base where the first forty feet were overhanging and unclimbable. Direct aid was out of the question as our lack of time would not permit it.

Finally after four hours of hard work we managed to gain the first crack by an unorthodox method which I am in honour bound not to divulge. We used two pitons for safety, one on the exposed upper face and the other on the unclimbable pitch below. No bolts of any type were used. Upon reaching the summit, I let out a war whoop that completely startled Fred below me and brought our two mates running from their climb, expecting to see me hanging on the face by a rope.

With deep satisfaction we built a small cairn, and mutually agreed that it was well worth it. Now we were ready to go home.

On all these combined climbs three rawl drives were used for direct aid and four pitons for safety.

IN DEFENCE OF A PITON

By J. L. Dudra

Many people condemn the philosophy of a man simply because he believes in something of which the majority do not approve. Numerous instances of this are found in mountaineering just as in everyday life. The users of climbing hardware are one group receiving a great deal of criticism lately.

Many words have been written in mountaineering literature condemning the piton and its user, but I have yet to read one for its defence. However, the piton has its definite place and use. This and the fact that I am one of the so-called fanatics who pound steel into rock walls when necessary, is my reason for championing the cause.

In climbing, the term "artificial aid" has a very wide meaning, not fully understood by all people, especially those not pioneering new mountains and routes. A man may look down on pitons, bolts and all other paraphernalia that the fanatics are supposed to carry, but never stop to ponder that he himself may be climbing in boots which have tricouni or vibram soles, or using an ice axe or crampons to help him move freely over ice. These and many other things are aids, artificial though not considered so, which help the climber to make his ascent easier and safer. Where are we to draw the line? If we were to take away all aids we would be tackling a mountain with bare hands and feet regardless of circumstances or conditions.

It is my belief that the main reason why most mountaineers frown on "hardware climbers" is that they think of them as being unsportsmanlike, especially if pitons are being used for direct

aid. How can this be true, as all climbs requiring direct aid would then be impossible without it.

Most hardware climbers are excellent mountaineers, certainly better than the average hill-rambler. Their use of pitons is not due to any inability to climb properly without them. On the contrary, they can do as much and more, without aids as the average climber is capable of. Then why do they bother with artificial aids?

The answer lies in the climber's desire to scale the unclimbed and the unexplored. Quite often a whole climb can be accomplished without any difficulty or the use of hardware. At other times one bad spot may end the day's outing where a piton can be a deciding factor between success or failure. Some climbs require direct aid for a considerable distance but those are few and the climber who tackles them certainly pays his own penance in the amount of hard work he is forced to do.

English climbers are among the foremost of those who denounce the use of aids, especially in the British hills, but not without a good reason. Very little of the rock in England warrants the use of pitons and it is true that a more disgusting sight cannot be seen than an "ironed out" route than can be done without steel. It is interesting to note that several well-known English climbers such as Smythe, Odell and Barford had used pitons while climbing in other lands and were not ashamed to admit it. Yes, indeed, the margin of safety has to be far greater on an isolated 10,000-foot peak, than on a short rock climb which is likely to be only a short distance from civilization.

During the past years the Alps have seen the use of pitons extensively until finally, the last face has been climbed. It is needless to say that a great score of those breath-taking routes would not be in existence today without the aid of pitons. All this brings us to our own continent and the problems confronting future climbers. First ascents of virgin peaks are slowly dwindling, until within a few years there will not be an unclimbed mountain left on the whole face of North America.

Most people will be content to go up mountains the easy way as some do today, but there will be others who feel that unclimbed faces should be explored and vertical spires climbed regardless of their forbidding appearance. It is simply a matter of mountaineering evolution, or that which has happened in the Alps will in due time happen here. All ridicule, sarcasm and contempt that has been heaped on a technical mountaineer cannot stem the tides of time. The steel peg will survive until it is replaced by something different, or else mountaineering will undergo a drastic change.

OUR PARKS

"The cooperation of all members is requested in conserving natural beauty and scenery in our Parks and in assisting Parks authorities in whatever way lies in our power. Above all, avoid fire; see that your campfire is dead out before leaving it and that it is built in conformity with Parks regulations on properly cleared (mineral soil) locations only; and watch that match or that cigarette or other form of smouldering material—make sure they are dead out and never smoke on the trail in dry weather ; glowing ash can fall from a cigar or cigarette unnoticed. If you want to smoke, call a halt at some stream, or on some mineral-soil flat, have your smoke and before you leave make sure your match, your cigarette, is dead out. Never throw down a lighted or glowing match or cigarette. Never forget that fire can travel, unseen, for hundreds of yards, even miles, under the matting of moss in dry weather. Pinch out your match or cigarette; if it hurts, your match or cigarette is not dead out. Make sure it does not hurt. Then there is no danger. But pinch it, in bare fingers. "Litter of all sorts is not only a source of fire hazard but also an unsightly mess. Keep the

trails, the picnic places and the camp sites clean. No rubbish, no cutting of brush unnecessarily, no cast off lunch bags or orange peel or cigarette packets or chocolate wrappers. Put them in the rucksack—they weigh little—and dump on the camp-fire or in the refuse pit, in camp. Or bury them, like cans. Leave no cans about; bury them.

"In many regions, comprehensive fish stocking programmes have been instituted. In our National Parks, fish census cards are readily available. It is highly important that these cards be completed and mailed (post free) to Ottawa to enable the authorities to assess the value of stocking programmes; negative information is just as important as positive, possibly even more so; members are requested to cooperate, whenever they fish in any National Park, by submitting a census card irrespective of whether fish are caught or not."

OUR HUTS

A list of the Climbing Huts owned by the Alpine Club of Canada will be found in the "Red Book"—the booklet defining our constitution and listing our members.

Too much stress can not be placed on the necessity for keeping huts in good shape, clean, tidy and thoroughly presentable to the public. For the information of members and with the request that all will do their utmost to cooperate in this most important matter, the report of the Hut Committee is republished here:—

REPORT OF THE HUT COMMITTEE, 1952

The use of the Huts has increased considerably and while this has resulted in increased revenue it has also meant a great deal of extra work as well as increased wear and tear on our property.

The Parks Department is becoming more strict regarding the appearance and surroundings of our huts which also means extra work.

Your committee would like to make the following suggestions and requests to all members. It is felt that only with the full cooperation of all members should we be able to carry on.

1. Each user of the huts should do a little maintenance work where required; try to leave the hut a little better than you found it.

2. Report to the Hut Committee fully on anything that needs to be done and which cannot be done at once. In this connection the report should include all necessary details. If a lock does not work please tell us why: Is it broken or has the door shifted? What kind of lock is it, Yale or ordinary door latch, etc. If glass is needed, what size, and so on.

3. If there is no garbage pit please bury your garbage anyway. We are gradually getting pits dug but there is a lot to be done.

4. Do not break into your cabins. It should not be necessary to ask this but all our cabins have been broken into, frequently by members. When this is done it opens the way for someone else as well as damaging your property.

5. Please do not send your non-member friends to the huts or to the hut committee for keys. It is very embarrassing to have to refuse the use of the huts but our rules are clear and it is largely our own members' fault that so many break-ins are taking place. This is a most urgent request.

Shutters at the Yoho have been fitted and fastened on the inside. All windows have been removed and planed so that they slide and all doors planed and fitted to shut and lock properly. Twelve years' garbage scattered around the building has been collected and buried and a new pit dug.

Shutters have been fitted on the inside of all windows at O'Hara fastening on the inside and members contemplating breaking are recommended to ask for a key. The stove in the small hut has been removed as the Parks Department will not permit its use with the present chimney. Some repairs have been made to the exterior of the small hut and the property generally cleaned up.

Operations are still under way to move the Red House and we hope that this move will be completed and some renovating done before Winter.

—R. C. HIND.

NEW ASCENTS AND VARIOUS EXPEDITIONS

Rocky Mountains, Main Range
French Military Group

Mt. Castelnau (9,800 feet). First ascent, August *1952.* Ann and Gerry Cunningham, Jerry More.
Mt. McCuaig (9,300 feet). First ascent, same day. Same party.
Mt. Joffre (11,316 feet). Third ascent, August 1952. Same party.

Howse Pass Group

Aiguille Peak (9,840 feet). First ascent, August 3rd, 19S2. John and Ruth Mendenhall.
Mt. Synge (9,700 feet). First ascent, August 4th, 1952. Same party.
Midway Peak (9,570 feet). First ascent, same day. John Mendenhall.

Mummery and Freshfield Group

Mt. Barlow (10,320 feet). Second ascent, July 4th, 1952. Andy and Betty Kauffman, Jane Showacre, Ken and Pim Karcher.
Unnamed peak on ridge between North Peak of Mummery and
Mt. Nanga Parbat *(ca* 9800 feet). First ascent, July 6th, 1952.
Same party.
Unnamed peak on same ridge *(ca* 10,000 feet). First ascent, July 6th, 1952. Andy Kauffman, Jane Showacre, Ken Karcher.
Mt. Mummery, South Peak (10,918 feet). Second ascent, July 7th, 1952. Andy Kauffman, Betty Kauffman, Jane Showacre.
Mt. Mummery, North Peak (10,800 feet). First ascent, July 7th, 1952. Ken and Pim Karcher.
Mt. Cairnes (10,120 feet). First ascent, July 8th, 1952. Ken and Pim Karcher, Jane Showacre.

Whirlpool Group

Mt. Brown (9,156 feet). July 14th, 1952. Brad Gilman, Henry Hall, Polly Prescott, Joe Kato, Cyril Jones, Ethne and Rex Gibson.

Northern Monashee Range Canoe River -
North Thompson Angle

"Zillmer No. 4" (10,200 feet). First ascent. Sterling Hendricks, Donald Hubbard, Arnold Wexler.
"Mount Monashee" (Zillmer No. 18) (10,650 feet). First ascent. Same party.
"Zillmer No. 19" (10,200 feet). First ascent. Same party.
Mt. Hallam (10,560 feet). First ascent. Same party.
Unnamed Peak (9,600 feet). First ascent. Same party.
Mount Lemprière (10,525 feet). Second ascent. Same party. (No dates given but presumably during July, 1952.)

Coast Range - Chilko Lake Group

Subsidiary Peak of Mt. Gilbert *(ca* 9,800 feet). First ascent, July 28th, 1952. Elfrida Pigou, Fred Rogers, Ian Kay, Tom Marston, Alan Melville, Neal Carter, Dave Young.
Subsidiary Peak of Mt. Gilbert (ca 10,000 feet). First ascent, same day. Same party.

Coast Range - Bella Coola Group

Both summits of Mt. Melikan (9,500 feet). First ascent, July 8th and 9th, 1952. Joseph E. Murphy, Thos. Mutch.
"Mt. Arjuna" (10,000 feet). First ascent, July 12th, 1942.
Mt Noosatsum (9,600 feet). August 29, 1952. William and Dick Long, Robert Skinner.
Mt. **Defiance.** September 4, 1952, same party.

N.B.: In previous list date to Eiffel Tower ascent should be amended to August 1st, 1952.

Cascade Mountains, Manning Park Region, B.C.

"The Twin Moles" (6,290 feet). First ascent, June 14th, 1952. John Dudra, Howard Rode.
South Peak of Mt. Slesse *(ca* 8,000 feet). First ascent, July 26th, 1952. Fred Beckey, John Dudra, Herb Staley.

Red Mountain Pinnacles *(ca* 7,200 feet). Six summits. First ascents, September 20th, 1952. Dwight Baker, Fred Beckey, John Dudra. —E. R. Gibson.

Lake Louise Group

Eiffel Tower *(ca* 10,000 feet). First ascent, July 195Z Joe Murphy, Thos. Mutch.

Ball Mountain Group

Stanley Peak (10,351 feet). Third ascent, October 25th, 1952. Bob Hind, John Henry, Walt Sparling, Jim Tarrant.

Vermillion Range

Mt. Verendrye (10,125 feet). Second ascent, July 12th, 1952. John Dodds, Jim Duncan, Hans Gmoser, Milton Hicks, Jim Tarrant.

Kananaskis Range

Mt. Lorette *(ca* 9,000 feet). First ascent, May 10th, 1952. Bob Hind, John Dodds, Barbara Richardson, Len Keeling, John Manry. Collin McAllister.
Mt. Lougheed (10,190 feet). Second ascent, May 24th, 1952. Ray Cook, Bob Hind, Jim Tarrant, Stan Larson, John Manry, Joan Shaxon.

Selkirk Range

Corbin Peak (8,897). First ascent, August 28th, 1952. Mr. and Mrs. Robert West.
Unnamed Peak *(ca* 8,400 feet). First ascent, August 27th, 1952. Same party.

Northern Purcell Range

French Mountain *(ca* 7,600 feet). July 29th, 1952. Bill and John Briggs, Bob Collins, Peter Robinson.
Taurus Mountain (9,820 feet). Second ascent, July 31st, 1952. Bill Briggs, Bob Collins, Peter Robinson.

Virgin Peak *(ca* 9,500 feet). First ascent, August 1st, 1952. Complete party.
"Plumley Peak" *(ca* 9,300 feet). First ascent, August 2nd, 1952. Complete party.
"Harmon Peak" *(ca* 9,800 feet). First ascent, August 2nd, 1952. Bill Briggs, Bob Collins, Peter Robinson.
Survey Peak (10,050 feet). August 4th, 1952. Bill Briggs, Peter Robinson.
"The Black Fang" (9,850 feet). First ascent, August 4th, 1952. Same party.

Bobbie Burns Group, and Bugaboo Group

"Black Wallace Peak" (Thorington's No. 5) *(ca* 9,600 feet). August 10th, 1952. Bill Briggs, Bob Collins, Peter Robinson.
Pigeon Spire (10,050 feet). August 11th, 1952. Bill Briggs, Peter Robinson.
"Blue Lake Spire" (9,150 feet). First ascent, August 12th, 1952 Same party.

Yukon Territory St. Elias Range

Mount Augusta (14,070 feet). First ascent, July 4th, 1952. First party—Vic Josendal, Bob Yeasting, Verl Rogers, Gibson Reynolds. Second party—Pete Schoening, Tom Morris, Dick McGowan, Bill Niendorf.

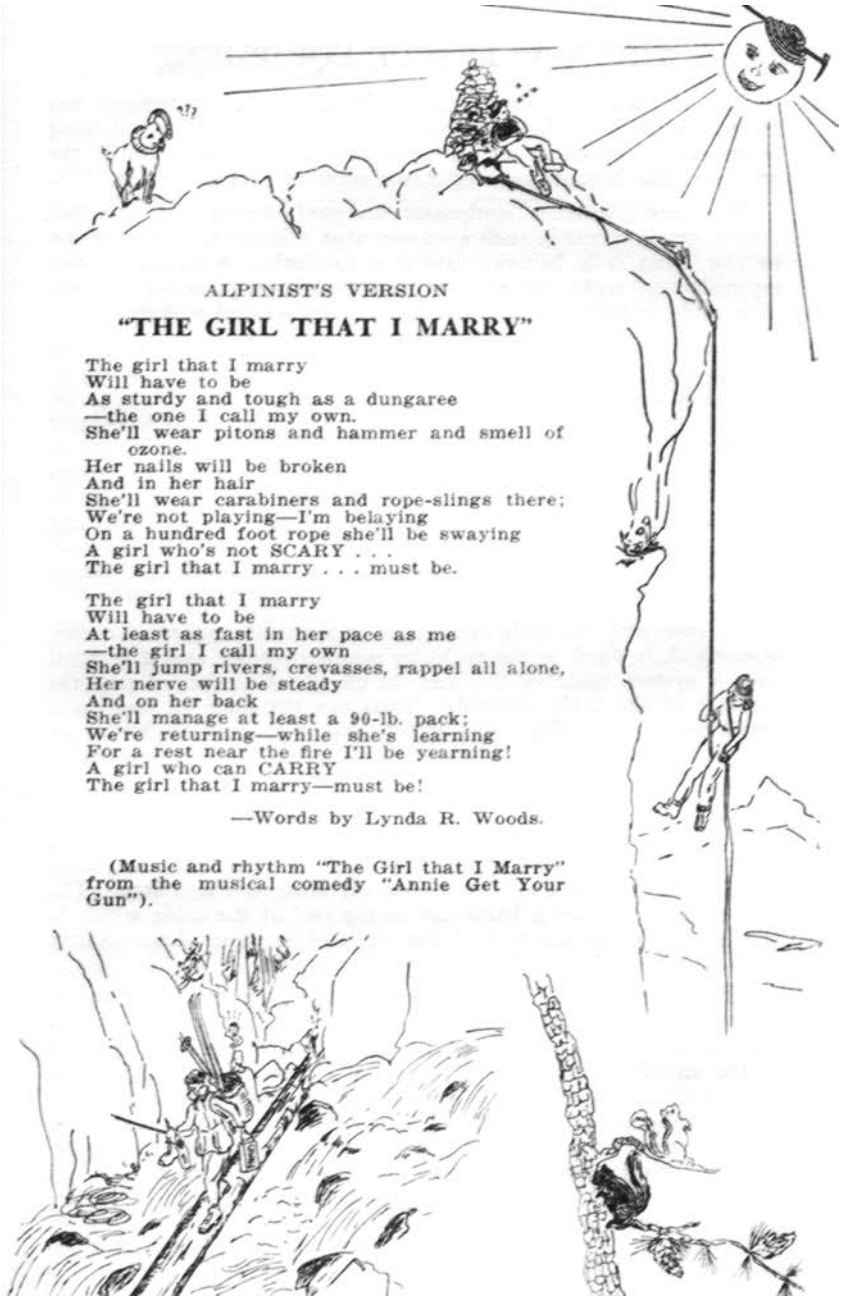
King Peak (17,130 feet). Second ascent, July 23rd, 1952. Gibson Reynolds, Peter Schoening. Third ascent, July 24th, 1952— Dick McGowan, Bill Niendorf.

Northwest Territories
Selwyn Range - Logan Mountains

"Amphitheatre Peak". First ascent, July, 1952. Dudley Bolyard, George Yntema.
"Marble Mountain". First ascent, July, 1952. John Bailar, Dudley Bolyard.
"Plymouth Peak". First ascent, July, 1952. Howell Martyn, Harry Nance.
"Snow-Chute Peak". First ascent, July, 1952. Bolyard and Yntema.
"Redwing Peak". First ascent, July, 1952. Bolyard and Nance.
"Ice Dome Peak". First ascent, August, 1952. Bailar, Bolyard Yntema.
"Die Eis-Spitze" *(ca* 9,000 feet). First ascent, August, 1952. Bailar, Nance, Yntema.
"Mt. Ida". First ascent, August, 1952. Bolyard and Martyn. "West
Cathedral Peak". First ascent, August, 1952. Bailar, Bolyard, Martyn, Nance, Yntema.

N.B.: For all of the above, except where mentioned, no estimated heights were given. The exact dates on which the various climbs were made were also not mentioned.

—E. R. Gibson.



ALPINIST'S VERSION

"THE GIRL THAT I MARRY"

The girl that I marry
Will have to be
As sturdy and tough as a dungaree
—the one I call my own.
She'll wear pitons and hammer and smell of ozone.
Her nails will be broken
And in her hair
She'll wear carabiners and rope-slings there;
We're not playing—I'm belaying
On a hundred foot rope she'll be swaying
A girl who's not SCARY . . .
The girl that I marry . . . must be.

The girl that I marry
Will have to be
At least as fast in her pace as me
—the girl I call my own
She'll jump rivers, crevasses, rappel all alone,
Her nerve will be steady
And on her back
She'll manage at least a 90-lb. pack;
We're returning—while she's learning
For a rest near the fire I'll be yearning!
A girl who can CARRY
The girl that I marry—must be!

—Words by Lynda R. Woods.

(Music and rhythm "The Girl that I Marry" from the musical comedy "Annie Get Your Gun").

NOTES

Collected By Elizabeth Brett

THE NEW RESCUE EQUIPMENT

Mr. Egmond d'Arcis, the well-known alpine writer, has recently made a special study on mountain rescue. The following is an extract from an article he wrote for Mountain Craft, the organ of the Mountaineering Association of Great Britain.

The new Austrian equipment invented during the war has since been perfected in such a manner that it is not an exaggeration to say that it is bringing about a revolution in alpine rescue, especially on rock mountains. The Austrian equipment consists of a cable, a pulley, a pack saddle, a stretcher and a sledge.

The main difference between the old and the new system is that the latter employs metal cables instead of common ropes. The cable made of special steel alloy, is produced in sections 80 metres long with a diameter of 5 millimetres. Two important features of the cable are (1) its weight is only 4 kilograms (8.81 Ibs.) and (2) it offers a resistance of 1,800 kilograms (3,960 lbs.) to an impact test. Another very important point is that thanks to a special joint several sections of the cable can be put together to give it a total length of at least 300 metres; this length being used in a rescue action on La Meije in France, last year.

At each end, the cable runs twice in a wooden pulley of a new type which is fixed to the rocks by means of bolts, and it is fitted with a system enabling the man in charge to brake or stop the running of the cable smoothly. Thus can the cable be used as a single or as a double rope, which makes it easy to lower an injured man down a rock wall or to transport him across a ravine or a gorge.

When his condition is not too serious the casualty is carried on the back of the rescuer in a sort of saddle pack, called tragsitz. It is a sort of strong linen rucksack in which the casualty, maintained by straps, is sitting with his arms and legs free. The rescuer is hooked by a karabiner to the end of the cable which is slowly paid out by the men at the top, and he comes down exactly as if he was making a double rope descent.

When the cable is doubled any good stretcher can be employed so long as it can be hooked to the cable and kept in a horizontal position and also so long as the casualty can be securely fastened to the stretcher itself. But, for serious casualties, the Austrians have evolved and adopted a new type of stretcher very superior to the existing ones. It is the Mariner Stretcher, so named after the inventor. It is made of steel tubes and therefore very light, and is so built that the injured man can either be completely laid flat or kept half-sitting. It can be carried by two men as any other stretcher or suspended from the cable and slid along it. Another possibility is to fix one of its ends to the cable used single and to have it lowered by the men at the top while another attached to a second cable descends along the rock wall, as in a double rope descent, holding the lower part of the stretcher with both hands and keeping it in the position required by the injuries of the casualty. Once the injured climber has been thus lowered down to the foot of the cliffs, the stretcher can be fitted with a small wheel with a tire and the man is comfortably wheeled down on a path, even on rough ground and transported to the nearest road.

The main advantage of the Austrian system is first, that it makes it possible to negotiate a rock wall of 300 metres in one single stage while with ordinary ropes the lowering operation has to be repeated eight to ten times according to the length of the ropes. Secondly, the complete equipment, cables, pulleys, tragsitz and Mariner Stretcher, can be carried upward very quickly;

they are not heavy and take up no great space. Two men are enough for transporting the cable to the place where the casualty is lying and to work it up there; a third man carries the tragsitz and descends with it as soon as the cable is fixed. When the Mariner Stretcher is to be employed, it is not carried up the mountain on a man's back, but simply brought to the foot of the rocks and pulled up by the cable to the top.

Another advantage of the system is that its working requires a minimum of hands; six operators are sufficient in most cases, two at the top (or even one) for fixing and paying out the cable, one man for accompanying the tragsitz or Mariner and two (sometimes three) men at the foot of the rock wall. —E.B.

ALPINE RESCUE

An international commission on alpine rescue has been created at a recent U.I.A.A. (Union Internationale des Associations D'Alpinisme) assembly and received with great enthusiasm. Thus a closer co-operation between interested organizations will ensue in methods of alpine rescue. The principal goals of this commission are: to bring together the experts on rescue; exchange of ideas; the study of means and co-ordination of rescue proceedings and the test of new equipment.

The Swiss Alpine Club recently organized a course in mountain rescue, a group of forty experts attended. —E.B.

TOUR OF MONT BLANC

It is gratifying to note the revival of interest in mountain hiking. The Alliance Internationale du Tourisme would like to see many new trails created and particularly to restore the classic trail of the tour of Mont Blanc which was so popular long ago.

—E.B.

MATTERHORN TELEPHERIQUE

The news came out recently that the Swiss Federal Government is opposed to any transformation or construction on its territory on the Matterhorn. It thus precludes all possibility of erecting structures on its summit.

Last year's petition against the project reached the 90,000 mark, coming from every part of the world. Officials of the Italian Alpine Club are of the opinion that the interest is waning because of economic reasons. It is hoped that the Italian Government will follow the Swiss Government's lead.

—E.B.

SCIENTIFIC SECTION

GLACIER STUDY FOR THE MOUNTAINEER

By W. H. Mathews

Mountaineers have long observed and recorded the recession of our glaciers. Their studies have been prompted, as a rule, by a curiosity in the behaviour of the glaciers themselves rather than by a desire to solve the more abstruse problem—why are they vanishing? But scientists in recent years have found in these records of ice retreat, as in other records of shrinking desert lakes and of improved navigability in arctic waters, the evidence of a widespread warming of our climate which affects, generally favourably, the growth of our forests, the production of our farmlands, and the yields of our fisheries (Carson, 1951, pp. 177-187). The full effect of the change in climate on our economy is still to be evaluated. Its fundamental origin is still a mystery. Before a final analysis can be made of its cause and effects more information is needed from our mountains as well as from our lowlands: when did the change first take effect in different places? Is the change still going on, hastening the retreat of our glaciers, or is it coming to a halt, so that the névés can swell again with newly added snow ? Has the change been as drastic, and are the glaciers shrinking as rapidly in the Rockies as in the Coast Mountains, in the southern latitudes as in the arctic? Some of these questions are already partly answered by the published reports of ice retreat and by the observations of our weather stations, though these are all too few in the mountainous regions and their existence all too brief. It is only right to look to the mountaineer for more of the answers in the form of additional, and better, records of our glaciers.

Few are left among us who can recall the times when it was unnecessary to stumble across great stretches of barren rocky moraines to reach the ice tongues. Even at the start of this century most glaciers were withdrawing from the land they had formerly buried. However a photograph of Illecillewaet glacier taken in 1887 (Sherzer, 1907, PL 36) shows a strip of moraine only about 10 feet wide between the ice tongue and an alder forest which needed decades to develop. The retreat of that glacier began at about that time and has continued almost without interruption to the present day; the change in climate which led to the retreat must have occurred here no later than 1887. Perhaps other photos of well established date may be found in old collections to show when glaciers elsewhere lost contact with the forests which had developed along their fronts. Such photos, it is feared, must be rare, for exploration of our mountains had scarcely commenced by the time the glaciers began their retreats, but such photos are especially valuable and, if found, should be brought to the attention of the person studying that glacier or a member of the club's glacier committee.

All record of the place where the glaciers began their retreat is not lost even should the testimony of eyewitnesses or photographs be lacking. The alder forest which existed at the edge of Illecillewaet Glacier in 1887 still survives though it is now partly disguised by the growth of new and longer-living species. The sharp boundary or "trimline" between this forest and the barren moraine uncovered by the retreating ice may still be recognizable amid the jungle of trees which has sprung up since. Beyond the trimline can be found trees a century or more in age, but toward the glacier not a single living plant dates back to 1887, and few if any of the trees had germinated until the moraine had been exposed for fully a decade. Similar trimlines separating forest from barren or freshly overgrown moraine can be readily detected in front of most of our glaciers, and their continuations up-valley can often be seen a few hundred feet above the ice as a

sharp boundary between heather or lichen-covered slopes above and bare rock below. Illecillewaet Glacier, incidentally, possesses two trimlines, one already mentioned, and another, 800-900 feet farther from the ice, which separates the alder forest of 1887 in which trees l00 years old can now be found, from a still older coniferous forest in which trees several centuries old exist. This second trimline marks the limits reached by the glacier at some earlier stage which preceded the appearance of the oldest tree in the alder forest.

It is thus possible to recognize in the trimline the position from which a glacier began a retreat; it is something else again to tell the time at which the retreat began. Occasionally dated photos can help us; at other times the accounts and maps of early explorers can also be of aid. Captain Vancouver, for example, in his exploration of the Alaskan coast in 1794 reported a great wall of ice at the head of a shallow bay some 5 miles from Icy Strait. From Vancouver's description the botanist W. S. Cooper (1939) was able to establish that the ice lay then close to an old forest, much as the Illecillewaet did in the 90's of the last century. Since Vancouver's time the great ice tongues of the southeastern St. Elias Range have withdrawn as much as 60 miles revealing a great branching fiord, the modern Glacier Bay, from which one arm now extends to the Canadian boundary. Here at least it is possible to determine from historic records that retreat had begun prior to 1794, though, judging from the nearness of the ice at that date to the trimline, recession had started not long before.

Trees at the trimline may sometimes tell us when the ice reached and then withdrew from their neighborhood (Lawrence, 1948, 1950). On rare occasions the ice in its final advance to what is now the trimline, thrust against some tree and tilted it but failed to uproot and kill it. From one such tree in front of Saskatchewan Glacier, W. O. Field (1949) was able to determine, by counting the number of annual rings since this tree was tipped, that the glacier reached its present trimline in 1894. More commonly, however, when a glacier invades a forest the trees are completely uprooted or broken off and killed. Even so it may be possible to tell when the destruction took place from the tree rings if the pattern of thick and thin rings in the outer part of the fallen tree can be matched with the pattern well within some living tree of the same species in a nearby undisturbed locality. The number of rings not represented in the fallen tree but added to the living tree since the death of its counterpart will tell us when the ice had attained the position of the trimline. It also appears that when the ice front lies close to a forest the growth in nearby trees may be retarded, possibly because of a local draft of cold air spilling from the glacier. If the ice advances, the trees responding in such a way are destroyed, but if the ice halts, the trees at the trimline can record its continued presence as a zone of narrow rings, and when the ice finally withdraws, tree growth may be restored to its normal rate. If only one tree at the trimline shows a zone of narrow rings a former association with nearby ice may be uncertain, but if several of the trees at the trimline and none of the trees in the forest well away from it show this feature the evidence is strong. By this method it was found that one of the glaciers leading from Mount Garibaldi reached its maximum advance about 1725 (Mathews, 1951); as the trees began to grow on the moraine shortly thereafter, the oldest taking root about 1748, the withdrawal of this glacier from its trimline was not long delayed.

The measurement of the rate at which glaciers are currently retreating presents its problems. Past observers have generally measured, year by year, the increasing distance between the outermost part of the ice tongue and some point or line of reference on the moraine. Such measurements, though giving us a rough idea on the rate of retreat, are difficult to evaluate and compare; the shape and surface slope of the ice tongue and the shape and slope of the ground on which it lies have an influence on the figures obtained. The relatively rapid retreat of the Illecillewaet Glacier, for

example, can be attributed in part to the fact that it flows over a rocky ridge and terminates on a steeply sloping convex surface. As a rule the measurements of retreat of the ice tongue are useful only if the glacier terminates on a gently sloping gravel plain and itself maintains a uniform shape and slope. Much more significant is the rate at which the glacier thins; indeed it is the melting over the whole surface of the glacier that is ultimately responsible for the recession of its margins. Were this not so, all shrinking glaciers would terminate in perpendicular ice walls. Measurements made at the foot of Sentinel Glacier, Garibaldi Park, by the Dominion Water and Power Bureau between 1947 and 1950 indicate an average annual loss in thickness of about 19 feet. The rate of melting of the ice surface farther from its margin is probably considerably lower, and the long term average (1928-47) for two nearby glaciers (Mathews, 1951) is from 6 to 12 feet a year. One low lying ice tongue at Glacier Bay has lost on the average 26 feet a year in its thickness for a period of at least 50 years (Field, 1947, p. 382). Obviously the amount of shade offered; by nearby hillsides or by debris on the ice itself, the amount of heat radiated from nearby sunlit cliffs, as well as the elevation above or below the snow line will make a difference to the rate of melting on a glacier. The best measure of the effect of the climatic change on the glacier is not the recession of the ice front nor even the loss in thickness at any one place, but instead the average loss at several points on the glacier, in the névé as well as near the terminus, on the shady as well as on the sunny side, in short at points that will truly indicate the average loss over the entire surface of the glacier. It is only rarely possible to achieve this ideal, and failing this the best records are obtained from one or a few places in the central part of the glacier, where its surface is relatively smooth. A record of shrinkage in depth at some fixed point near the terminus is, to be sure, useful, but the persistence of ice at such a point may be limited to a few years or decades should the present rate of loss persist and, moreover, any increase in average depth that may take place as a result of heavier snowfalls will not be detected here until long after the change in climate occurred. Observations on Nisqually Glacier in Mount Rainier National Park (Washington State) (Harrison, 1951) indicate that this glacier increased in thickness by slightly more than 10 feet at a point about 2 miles upstream from its terminus in the 6 years between 1944 and 1950. At this same time the ice at the lower end of the glacier was continuing to shrink and the ice front to withdraw. Swelling of the ice, as a result of accelerated flow from above, took place at points 1 mile and more from the terminus in the period 1944-48, and at points as little as 0.6 miles from the terminus in the period 1948-50. The "wave" of swollen ice can be expected to reach the terminus of the glacier, and to initiate an advance in the ice front, some time in the mid 1950's.

Observations on the rate of movement of glacier ice are also of considerable significance, especially where these show marked change from time to time. At first sight it would seem simple to determine the shift in marked plates over a period of time, generally one or more years. Complications occur, however, when the ice melts away from the bottom of the stakes and they topple over, or when marked plates or boulders slip in crevasses or tumble down declivities on the ice surface. Measurements of the shift of a line of several plates or boulders give more reliable results than measurements of a single marker. The loss of a marker into a crevasse is then not serious; the sliding of one marker across the ice surface can generally be detected and the spurious value eliminated; and the remaining markers can be used to determine the average surface velocity and the variations in velocity from place to place across the glacier instead of the rate of movement at but a single point. Here again the observations should not be restricted to the terminal part of the glacier but are best if distributed over several parts of the glacier from névé to toe. Of interest are the measurements made on Nisqually Glacier where the surface velocity at one point increased

from 60 feet per year prior to 1948, when the ice at this place was still shrinking, to 155 feet per year in the period 1949-50 when the wave of swollen ice reached this part of the glacier.

Some mountaineers interested in glacier study may be discouraged from participating by the erroneous belief that it involves too much in the way of elaborate equipment. Though it is true that some types of glacier investigation need intricate, expensive, and weighty apparatus, nearly all the observations on the response of glaciers to climatic change can be made with but four simple tools: (1) a camera, (2) a surveyor's tape, or even a cord marked at known intervals, (3) a hand level or better still a clinometer, and (4) an "increment borer" for sampling trees in front of the glacier. None of these is difficult to obtain. Mountaineers, as a rule, will already possess a camera although a handy accessory for glacier study, an attached level bubble, may be lacking. A good 50 or 100 foot surveyor's "metallic" tape (actually a cloth tape with interwoven metallic threads to prevent shrinking and stretching with changes in humidity) is inexpensive, and its spool can be eliminated if weight is a serious problem. A clinometer, for measuring slope angles, though both light and compact, is more expensive. However this instrument can commonly be borrowed for specific uses from university or government departments interested in the results of glacier studies. An increment borer, a hollow augur 6 to 9 inches long, for obtaining pencil-shaped core samples from trees, can generally be obtained on loan from organizations interested in forestry research.

Some mountaineers may be discouraged from participating in glacier research by the feeling that technical training is a necessity. Here again such a belief is incorrect. For the use of the surveying instruments described above no specialized training is needed—a knowledge of high school geometry and a little instruction in the use of the instruments themselves will suffice in field work, although it is true that an appreciation of the technique of surveying may shorten the task and perhaps improve its accuracy. Points on the glacier surface to be used for determining annual loss in depth or rate of flow can be established along a straight line between two conspicuous landmarks on either side of the glacier or between one side and a nunatak. The distances from one end of this line can be measured with the tape. Where the slope of the ice along the line is low, the tape can be kept horizontal; where the slope is high the tape should be kept parallel to the ice surface and its inclination measured with the clinometer. The horizontal equivalent of this slope distance and the difference in elevation between either end of the tape can be determined later by the use of tables or scale drawings. Elevations of the points on the ice, above or below a fixed marker, can also be measured directly by means of a hand level, or a clinometer set at the zero position, and a pole marked at regular intervals of say one foot. A year later the same points can be relocated and the change in elevation of the ice surface or the shift in markers set on the ice can be ascertained. A series of camera shots taken year after year from exactly the same marked point on the ground looking across a nearby ice surface toward other identifiable fixed points in the background can also provide records whereby the change in thickness of the ice can be determined. Distant photos of some ice tongue or névé taken year after year from the same point permit less accurate though often still useful determinations of the change in thickness of the ice if they show clearly a progressive shift in the position of the ice margin or a change in the size of nunataks Such photos are particularly valuable if they indicate any reduction in area of nunataks in the névé and hence a thickening of the upper reaches of the glacier. If such a change be established over two or more successive years, detailed studies of the rate of thickening and the rate at which the effect shifts downstream can then be initiated in ample time to adequately assess the response of the glacier to the climatic change which brought about the thickening.

Finally, a mountaineer should not be discouraged from taking part in glacier study by the

feeling that the demands on time are excessive. Many of the studies, particularly the examination and sampling of trees on and near the moraines, can be carried out on rest days or on those occasions when low clouds prohibit the ascent of peaks. The measurement of points on a line across the glacier can be carried out by an adequately prepared team in two or three spare hours of a day spent on an easy climb. The taking of photographs from predetermined points, clearly marked by cairns or splashes of paint so that they can be quickly located, should consume only a few minutes of the climber's time. The important thing to bear in mind is that a high proportion of the time involved in this type of glacier research is involved in getting the observer to the scene of his activities. To a non-mountaineer this expenditure of time in travel may prove prohibitive, but to the mountaineer it is a necessary incidental to the climb and the relatively short time spent in the study of the glacier can provide fruitful by-products of the ascent. For this very reason this field of glacier research falls, almost by default, to the mountaineer.

Glacier study is not complete when the climbing trip is over and the ice axe put away for the winter. Notes have still to be compiled and observations correlated. Tree rings in the core samples have still to be counted, measured, and interpreted (for techniques see Lawrence, 1950). Photos must be checked against earlier counterparts from the same camera stations. Maps may be drawn from other photos (for techniques see Wheeler, 1920). Profiles can be drawn up and changes from those of previous years noted. Summaries of the observations on changes in ice depth or in rate of flow are then prepared. These tasks, put off to the long winter evenings, are no tiresome fruitless chores; instead they bring back happy memories of past seasons among the ice-clad hills and at the same time they add still another link in the chain of evidence on climatic change and glacier response.

Any mountaineer can undertake the study of a particular glacier, or a group of glaciers, and record their changes from year to year; indeed the investigations are conducted best when one man, thoroughly familiar with past records and activities, takes charge of the work. Nevertheless several advantages accrue when not one person but a team performs the continuing study: the labor and time are shared instead of provided by an individual; the camera stations, the records, and the techniques become familiar to many and the work can be continued without interruption should one person be unable to make the annual pilgrimage; and cooperation both stimulates the work and broadens the basis of interpretations. The Alpine Club of Canada, with its annual gatherings in the mountains, provides both a source of manpower and the obvious means for establishing and co-ordinating an active program of glacier research in Canada, to operate in conjunction with the Dominion Water and Power Bureau (Meek, 1948) and the few independent workers already engaged in this vast field. Let it be hoped that the opportunity, indeed the obligation, is not passed by and that the club can revive the work that was carried on in bygone years by such worthy members as A. O. Wheeler, Mary Vaux, and A. A. McCoubrey.

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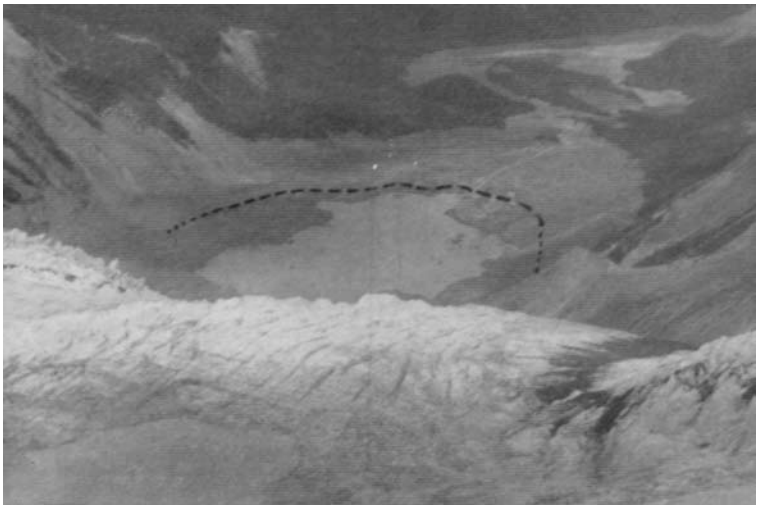
CHANGES IN SCOTT GLACIER 1924-52

The changes in Scott Glacier in the 28-year interval between 1924 and 1952 are strikingly shown by the illustrations on the opposite page. The lower part of the glacier which formerly covered a large proportion of the outwash plain on the valley floor has almost completely disappeared, the lower band of cliffs on the east side has emerged since 1924, and the nunatak in the center of the icefall has become much larger.

Scott Glacier is not particularly suited for detailed studies of changes in depth and velocity; it is too inaccessible and its surface is too rough. An examination of the trimline may, however, yield useful evidence as to the time when this glacier reached its maximum extent of recent centuries. Note that the trimline is not represented where the shifting meltwater streams have, at one time or another, destroyed the vegetation, but it is clearly developed on both sides of the valley above the level of the outwash plain. Widely scattered trees are springing up on the moraine on the slopes below the trimline, particularly on the eastern, or true right, side of the valley.

Scott Glacier From The Valley Floor In July, 1952.
Photo E.R. Gibson

Scott Glacier From The Valley Floor In July, 1924.
Photo J.M. Thorington



Looking Down The Scott Glacier, July, 1952.
Photo E.R. Gibson

Approximate position of the terminus in July 1924 shown by the broken line.

CLUB PROCEEDINGS

SKI-CAMP AT MT. ASSINIBOINE-1952

By Miss Isobel Spreat

Twenty minutes there, and ten hours back . . . such is one of the clearest memories most of us have who spent ten or so wonderful days skiing around Mt Assiniboine last March.

Clear weather . . . that almost unbelievable blue that strikes visitors to the Rockies so forcibly, enabled us all to fly in, two by two in Al Gaetz' little red and yellow plane. It was a memorable trip not only for a new angle on the terrain, and for extended horizons, but also for an eye-opener on what can be packed into a given "space," or rather lack of it. Two people, their sleeping bags, rucksacks, skis and poles, plus a side of bacon, bag or so of flour or sugar, in addition to the pilot. No wonder several people were asked to move their hefty ski-booted feet off one or other of the controls

Once there, the weather was not too kind to us, and grey skies, flat light, and blowing snow, were common, so few extended trips were made. Even so, the Towers, Cautley, Naiset, the Nubs, and Terrapin Glacier all became a maze of ski-tracks, and ‘’bath-tubs," and various gullies and lightly wooded slopes nearer camp were much visited in threatening weather.

One very grey day we climbed up the Terrapin Glacier taking note of a distressingly steep grade over a considerable part of the trail. Some of us stopped at a sort of shelf below the last steep stretch, while the rest struggled on up to the col between Terrapin and Magog.

The run down the steep areas estimated at 50° in places, in very heavy snow, was quite a chore, especially in such flat light.

However, a certain Wednesday dawned sunny and warm, so all grabbed skis and cameras in a frenzy to be off to explore more distant slopes.

Some went to the Nubs, others to the Towers, and a large party to Wonder Pass and a little beyond.

That day we all enjoyed wonderful skiing and so much sun. Also, many shot a good deal of colour film.

Those of us who went over Wonder Pass and around behind the Towers, saw a magnificent view of Assiniboine ... so different from the Magog Lake view, which one usually sees.

Then came the blizzard which kept us in all of one day, and disrupted the flying-out schedule, which ended in almost all of us skiing out.

Strom's main cabin was a fine place to be holed up for a day around a big stove. Some played cards, some read, or knitted and gossiped. Thirty-five people seemed well able to put in the time very happily even if the space was a bit confining. Certainly there was no evidence of lack of appetite for the wonderful meals of Ken Jones and Mrs. Schiesser. Although it seemed a long way to some of the more distant sleeping cabins, they were very cosy when the fires were going; and the beds felt wonderful to weary skiers.

Eventually the weather cleared enough for us to tackle the job of skiing out . . . Sunday had come, so we just had to go.

We left about 5:30 a.m., threaded our way over and around the endless obstacles in the Valley of the Rocks, side-slipped furiously down a long, wide avalanche slope of now hard-frozen snow to the Porcupine hut, where we stopped briefly for a feed, before plodding up to Citadel Pass. On the way up there, we startled a bull moose floundering up to his chest in the deep snow.

Early Start - Also 2nd Place, Class B. *Photo E.R. Gibson*

Party Arriving At Assiniboine Ski Camp. *Photo John Manray*

WINNERS PHOTOGRAPHIC COMPETITION

Winter Vista. Class G. (Alpine Association).
Photo E.R. Gibson

Mt. Assiniboine From Wonder Pass. Class C Mountain Skiing.
Photo E.R. Gibson

Class A Climbing. Early Morning Shadows On Brazeau.
Photo E.R. LeChapelle

Winter Mountain Scene Class by Mrs. H. Winstone not available.

It snowed heavily just below the summit of the pass, but it cleared again for our trek across the flats to the "Sunshine Country," and we reached Sunshine Lodge after 10 hours travelling over 22 miles.

At Sunshine, we were welcomed with unlimited cups of tea, and found buses were organized to take us down to Banff The snow-mobile had even come out to pick up one member of the party who had sprained his ankle on the way . . . our only casualty through camp.

We discovered later that Al Gaetz, aloft for the first time after the bad weather, (we had seen him several times), had warned the Lodge of our impending arrival, and had also noticed the casualty. He had made several trips carrying about 6 of our members and all our freight, so that Sunday evening saw all of us and our belongings, safely back in Banff . . . reluctantly facing our return to civilization after another most enjoyable ski camp.

Since the 1952 camp was not at Easter, concern had been felt lest non-Calgarians would have difficulty in attending. However, to everyone's great satisfaction, especially Colin MacAllister's (our most able camp manager), a total of 35 members and friends finally came, of whom all but 14 came from other sections of Canada, and from the United States.

MOUNT ASSINIBOINE CAMP-1952

By J. J. G. McCue

The annual camp for 1952 occupied a rolling site just to the west of Lake Magog, about two miles north of Mt. Assiniboine. Nearly the same site had been used by the 1935 camp. Within easy reach of a late start were Wedgwood Peak and Mounts Sturdee, Magog, Terrapin and Towers, as well as some lesser heights.

Starting from the Clubhouse on a bus, we drove up Spray Canyon from Canmore to the Spray Lakes on the Calgary Power private road. Many of us were kindly ferried to the head of the lake by the power company's small boats. From there, it was an easy walk over about 15 miles of trail to the Camp. At the halfway camp set up for emergencies, Lady Wheeler was pouring tea of a very sustaining hue, to hearten us on the second part, of a very soggy hike. The rain that started as we left the boats was alleviated only by some wet snow on Assiniboine Pass.

The camp was functioning vigorously on its opening day thanks to three weeks of preparation under the leadership of Mr. Cuthbertson. At first, climbing was somewhat hampered by the weather, but soon all the nearby peaks except Assiniboine were doing a brisk business. Magog, Sturdee and Terrapin provided the most popular ascents, though Wedgwood, Towers, Naiset, and Wonder also received some attention. As usual, some of the finest climbers gave part of their time to the conduct of schools on rock, snow and ice.

Snow on Assiniboine put that mountain far beyond its ordinary level of difficulty, and it was only attempted once. Edmund Petrig, a young Swiss guide recently from Zermatt, made a successful traverse of the peak with A. Lembeck and G. Hattersley-Smith as companions.

It was my first camp since becoming eligible for a tent in the married quarters. Although it seems to be harder to climb from these quarters than from the celibate ones, the net advantage is clearly on the married side. For one thing, there is the matter of clothes. There are only two sets instead of three or four, and these two are of manifestly different sizes and, usually, shapes. Hence there is little likelihood of realizing after sunrise that you are in the wrong clothes. Furthermore, stowing dunnage in the wrong bag carries no penalty, since it all winds up in the same heap after the trip is over. Then too, there is less snoring in the tent, and such as there is you are accustomed to.

Photos
Mrs. Don Munday

Coming Down Wonder Peak, Mt. Assiniboine Beyond

Mt. Assiniboine From Camp

Looking Across Lake Magog To Camp Marked With Arrow

Snow School Group Learning Knots

Making Good Steps At Snow School

Besides, its status as a platitude does not alter the fact that all your pleasures really are multiplied by having someone to share them with.

Of course, there were many activities aside from climbing. Those who brought fishing tackle found Lake Magog a fine source of cutthroat trout. In the fine weather of the second week, a few hardy spirits went for dips in the smaller lakes. Others, preferring the gentler stimulation of social life, stayed within easy distance of, the tea tent. The majority, on days of rest, chose the middle way—short hikes and scrambles that exposed new aspects of the mountain spectacle.

Numerous members had an opportunity to be of service to the passengers and pilot of a light plane that crashed on takeoff from a meadow near camp. The pilot, Al Gaetz of Banff, was not seriously hurt, but his two lady passengers were in need of medical care. Under Dr. Mitchell's direction, they were made as comfortable as possible for the night, attended by several members who are nurses. At dawn, a party of stretcher bearers carried the injured to the edge of Lake Magog, where a B.C. Forestry Service plane had been readied to receive them. Despite the early hour, a breeze from Mt. Assiniboine had sprung up by the time that all was ready. The downwind takeoff from the lake was a very tense affair. We later read in a Calgary newspaper that the ladies were expected to be in the hospital only a few days.

In the club itself there was only one serious accident, and that was not as serious as it might have been. A party that fell out of its steps on a snow slope did not stop until the rope tangled in some rocks at the head of a cliff. Although other members of the party were only shaken up, Mr. Capes fractured a rib or two. After a week's rest, he was able to walk out under his own power.

To give access to Mts. Eon and Aye, a fly camp was set up on Aurora Creek. The packer had instructions to put it near where Eon Creek flows into Aurora, about six miles south of the main camp and on the opposite side of Mt. Assiniboine. Alas! The packer found that Eon Creek is underground at the prescribed place, which therefore lacked water. The supply of wood and horse feed was also poor. He therefore placed the camp two miles farther up Aurora Creek. The result was a grand series of benightments of very able parties who came over the Sturdee-Assiniboine col and could, not find the camp where the map said it should be. Don Woods led two attempts on Mt. Eon from the fly camp, but had to turn back both times.

Although the coy behavior of Eon Creek turned the fly camp into a "snafu", the arrangements at the main camp were superb. Mr. Cuthbertson had to leave for home as soon as the camp was operating. The burden of management devolved on Eric Brooks, whose selfless and energetic leadership made all run smoothly in the largest encampment that the Club has ever held. At one time there were close to 200 people in camp. To mention one of the ways Eric spent his "vacation": When we were called at three o'clock to carry the crash victims to the rescue plane, we found that Eric had risen earlier and brewed us a breakfast.

This year we had an exceptionally fine series of campfire talks. Among others, we heard Sir Oliver on Mt. Everest, Henry Hall on the big climbs then under way in various parts of the world, and Captain McCarthy on the first ascent of Mt. Logan, with an encore on dog catching. Major Gibson told of the successful reconnaissance of a site for next year's camp. It is the Whirlpool River area, near Mount Brown. Although much used by the early voyageurs, it has been little visited by climbers. Major Gibson also conducted the Sunday service, where he gave a highly apposite talk on the existence of God as manifested to the scientist by the works of Nature.

About the time we got to feeling that the camp was the only proper way to live, the two weeks were up and it was time to come home. The walk out was an ideal way of letting down the curtain. First a final look at the familiar side of Assiniboine from the end of Lake Magog, then

the slow rise toward Wonder Pass. Looking backward, one tried to fix in one's mind the colors of the little lakes. Looking to the right, a fine clear view of Mt. Towers was obtained and the climber congratulated himself on not having made any attempt on that broken mess. During the descent from the pass there were new views of Assiniboine and its neighbors, new lakes with new colors, and a gradual descent into the forest. Another ten miles, and there seemed to be no objection whatever to getting into an automobile.

MT. ASSINIBOINE CAMP

July 21 To August 3, 1952

The forty-seventh Annual Camp was held on the same site as the 1935 Camp, west of Magog Lake in Assiniboine Provincial Park.

By using the Calgary Power Company road from Canmore to the Spray Canyon Dam, people were able to reach the main Camp in one day, from Banff or Canmore. An intermediate Camp was located at Bryant Creek Meadows. Most of those attending came in over Assiniboine Pass and went out over Wonder.

While the weather was showery and unsettled during the construction of the Camp and for part of the first week, it could not have been finer during the last ten days.

With the skilful assistance of Edmund Petrig, Swiss Guide, and the many capable and willing volunteers as leaders, much climbing was accomplished. Climbs were made of: Assiniboine (once), Cautley, Magog, Naiset, Sturdee. The Nub, Terrapin, Towers, Wedgewood and Wonder.

The Management Committee have under consideration ways and means of increasing tentage available, feeding more persons at one time, providing heavier stoves (that can yet be packed on horses) and making use of stoves for a full 24 hours a day by means of a night-shift cook. They have also under consideration the question of persons coming to camp unannounced, which must be checked if camps are to be organized satisfactorily for the future.

Doctors and nurses, members of the Club, performed essential services with great dispatch when the accident occurred to the light airplane operated by Mr. Gaetz, in which he and two passengers were injured; a stretcher party from the Club also assisted in transporting the injured to another aircraft which came in for rescue work. A climbing accident, which fortunately turned out to be not so serious as thought at first, occurred on the cliffs above Lake Magog, and resulted in serious injury to Mr. Capes (who however has now completely recovered) and minor injuries to others of the same party; and a falling stone caused injury to one member of a party on Mt. Magog later in the Camp. Mr. Carlton Fuller also suffered a cut wrist due to collision with his ice-axe when another member of the party was forced to jump unexpectedly. All climbing injuries were treated by Club doctors and nurses and all injured were able to move "under their own steam".

In the main, Campfire weather was fortunate. The site was attractive even if it (being low) became chill about dark; we were in full view of Assiniboine and could watch—except for a very few evenings—the afterglow on that fine peak. Our most unfortunate evening was when Captain MacCarthy was speaking on the conquest of Mount Logan and we had to retire, hastily, to the tea-tent—where he concluded his most interesting address by the light of an incandescent lamp instead of the more inspiring logs of the fire. Other speakers at the Campfire included Mr. Henry Hall on King Peak and Sir Oliver Wheeler on Everest as well as Mr. Hind on the mountains round about us.

An innovation was the introduction of members, one to another by the person on the left, early in the Camp. This caused some amusement and provided a profitable evening. The Calgary Section provided a full evening's entertainment, the Camp Boys provided an amusing sketch one evening and Major Gibson and Mr. Carlton Fuller did yeoman service in directing and organizing singing on several evenings.

As is usual, the Sunday religious service was held round the Campfire conducted by Major Gibson with the music being led by Mrs. Walker on her accordion; as has so often happened, the weather was glorious. The General Meeting was also held round the fire and it was perhaps on this occasion that the chill of the low-lying ground was most felt, for it continued longer than anticipated. The minutes of the meeting appear elsewhere in this Gazette.

ERRATA

Readers are requested to note in 1953 Journal there was an unfortunate error in Mr. Peter Robinson's map which related to his article "The Northern Purcells 1952". It is hoped to correct this in the next Journal.

Center photo facing page 121 (page 99 in this edition) originally was labeled "The Hord" but should read "The Horn" (the error has been corrected in this edition).

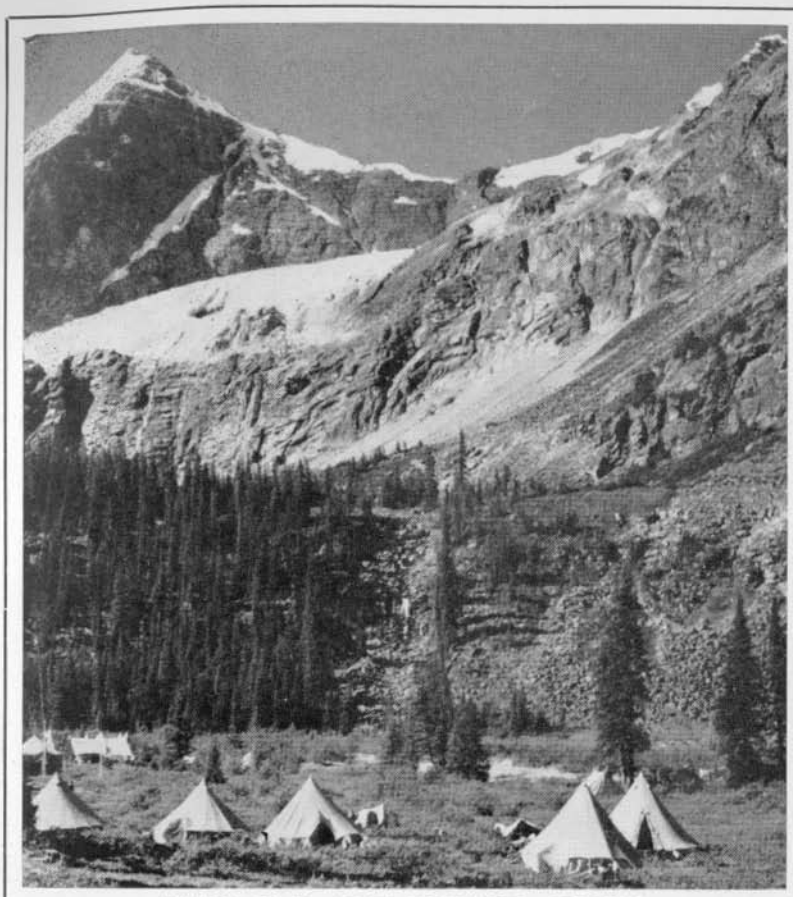
THE
ALPINE CLUB HOUSE AT BANFF

The Clubhouse will open the last week in June. Members and friends are invited.

The Clubhouse is situated on the Upper Hot Springs Road. Motorists who drive direct will find ample parking space provided.

The Charge for members is $5.50 a day, non-members $6.50 a day, children twelve years and under $4.00 a day. These charges include meals.

While we expect to be able to take care of all members and their friends who will come to the Clubhouse, it will assist the Committee if advance notification is given by letter or telegram stating date and time of arrival. Before June 15 write to the Chairman, House Committee, 180 8th St. West, Calgary, and after June 15 to the Manager, Alpine Club House, Banff, Alberta.



WORLD OF YOUR OWN

You'll enjoy your 1953 Alpine Club Camp in Upper Whirlpool Valley . . . land of alpine splendor . . . where colorful peaks hurl one challenge after another . . . a vast, towering wonderland created for timeless days of climbing.

When you leave the Valley come to our playground at Jasper, and holiday life at the new Jasper Park Lodge . . . famous showplace of the Rockies where you can golf, swim, play tennis, go trout fishing. Linger a while with us, and you'll never forget **this** summer.

CANADIAN NATIONAL