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THE

ALPINE JOURNAL.

NOVEMBER 1931.

(No. 243.)

THE CONQUEST OF MT. FAIRWEATHER.1

BY ALLEN CARPE.

MT. FAIRWEATHER, a prominent landmark of S.E. Alaska, lies on the backbone of the peninsula which separates Glacier Bay from the Pacific Ocean. Its summit is less than 20 miles from tidewater on either side. Its altitude is nearly that of Mont Blanc. Probably no other mountain rises so high so close to the sea. It is an uncommonly beautiful peak, standing clear of its neighbours and head and shoulders above them, its flanks mantled in magnificent glaciers that flow to the ocean. Its highest portion swings aloft in graceful curves from broad, white shoulders, but below these its slopes are formidable.

Nor is it, despite its proximity to the coast, an easy mountain to approach. The region which it dominates is one of austere ruggedness. The start must be made by boat. An attack from Glacier Bay appears almost hopeless: on the ocean side one faces the full sweep of the Pacific. There is no harbour close to the mountain. The weather is uncertain and notoriously wet, owing to the interaction of the warm Japan current with high snow-clad ranges. The precipitation supports a belt of dense forest along the coast through which supplies must be carried. Once there were Indians here, and

We have ventured to alter the original title, 'An Expedition to Mt. Fairweather,' to the above.—-Editor.

Russians traded for fur. Later there was a flurry of gold mining in the beach sands: the woods are full of decaying sluice-ways, tumble-down cabins and rusting equipment disintegrating before the inexorable advance of the wilderness. To-day the region is deserted. Twenty miles down the coast Lituya Bay, a beautiful harbour with a narrow and difficult entrance, is the natural base for operations.

Recently the mountain has acquired an added interest to climbers because of the failure of two expeditions to reach more than a moderate altitude on it. We ² first accepted its challenge in 1926. Favoured by exceptional weather, we achieved an altitude of some 9000 ft. in two weeks. A great cleft intervened between the buttress we had climbed and the N.W. ridge of the mountain proper. Our time was brief. We turned back, supplies and equipment immediately at hand being inadequate to press the attack. We encountered no difficulty in landing and re-embarking at Sea Otter Bight, a small indentation several miles above Cape Fairweather.

In 1930 a party under Mr. Bradford Washburn, failing to land at Cape Fairweather, made their way up the glacial valleys from the head of Lituya Bay to the mountain. They reached a height of 6700 ft. on the same buttress climbed by the 1926 party.

On April 4 of this year Dr. William Sargent Ladd, Terris Moore, Andrew Taylor and the writer embarked at Juneau on the Yakobi, Captain Tom Smith. But Lituya Bay, a 20-hour run in fair weather, eluded us. In Cross Sound choppy seas broke in solid sheets on the wheel-house windows and the boat leapt and dived like a thing alive. We made the successive acquaintance of Port Althorp, Soap Stone Point, Dixon Harbour. On the 14th we finally entered Lituya, but not until the 17th was the sea quiet enough to permit the run up the coast to Sea Otter Bight. Here renewed disappointment awaited. Where we had stood in easily in 1926 we found shoal water and breakers. Landing appeared risky if not impossible; we returned to Lituya Bay.

The mountains—when we saw them—were clothed in white, and snow fell repeatedly at sea-level. But it was a superficial cover. The winter had been exceptionally mild. There was not enough snow for the sleighs which we had brought. We examined the glacier used by the Washburn party and found it unpromising. We unloaded all our supplies on the beach

² Dr. W. S. Ladd, A. M. Taylor, A. Carpe.



Air Photo, U.S. Geol. Survey.]

Mt. Fairweather from Glacier Bay.

and on April 19 started to pack them up the shore toward Cape Fairweather. Fortunately there was a path most of the way along the edge of the timber, sparing us all but a mile or two of walking in the loose sand.

With the aid of two Russian trappers we made the first stage of $6\frac{1}{2}$ miles in four relays. From this point we advanced to Glacier Creek, one of the main streams flowing out of the Fairweather Glacier to Cape Fairweather; but we found the approach to the ice difficult and retreated to a smaller and more tractable outflow which we called 13-Mile Creek. During this

time we enjoyed much good weather.

Ladd and Taylor now spent two days cutting a path through a vile thicket of alders and scrub growing at first on the moraine, then in loose surface débris overlying the live ice. Such growth is common on the large Alaskan glaciers, and there can hardly be a more unattractive place to carry a 60-lb. pack. The trail led out on to a rough expanse of moraine-covered glacier, where we marked the way with cairns. A march of 6 miles brought us within striking distance of the white ice. We were now in a constant and interminable drizzle, relieved occasionally by wet snow or hail. We could not resist the sad pun of 'More-Rain Camp.'

Striking up through a crevassed section along the medial moraine, we emerged upon a smooth field of ice which offered pleasant walking. This is the middle plain of the Fairweather Glacier, with an elevation of about 1000 to 1400 ft. We crossed it in the direction of our mountain and made a cache

on a high point of the moraine.

It is now necessary to explain that a sort of buttress or foothill stands in front of Mt. Fairweather on this side and divides the glaciers flowing from it. This little mountain is about 6000 ft. high, several miles across at its base, and is quite imposing from below. The glacier which encircles it from the left passes below the southern cliffs of our route of 1926. The one on the right comes down in two splendid cascades from a relatively low basin between Mt. Fairweather and a group of peaks centring about Mt. Lituya. The merger of the two has formed a crescent moraine around the base of the hill, and behind this there is a lovely little valley, visited by the Washburn party and called 'Paradise Valley' by the few persons who know of its existence.

We strained our eyes in vain for a glimpse of the mountain sufficient to choose a route. Ladd left a powerful glass at a place on the high moraine from which a view could be had in case of a clearing. Then we marched a few miles across a dreary jumble of morainic ridges and soft snow to the middle point of Paradise Valley, making this our base for whichever route might be chosen.

There was deep snow everywhere, and a terrific wind. We had to shovel out a place to camp, wet snow fell constantly. A blast ripped one tent asunder. The large extent of dry moraine and glacier encountered below had persuaded us to send skis and snowshoes back when our Russian friends left us. As we approached the crevassed upper glaciers, covered with treacherous snow, we felt the need of them. It was evident that the expedition would last longer than we had contemplated.

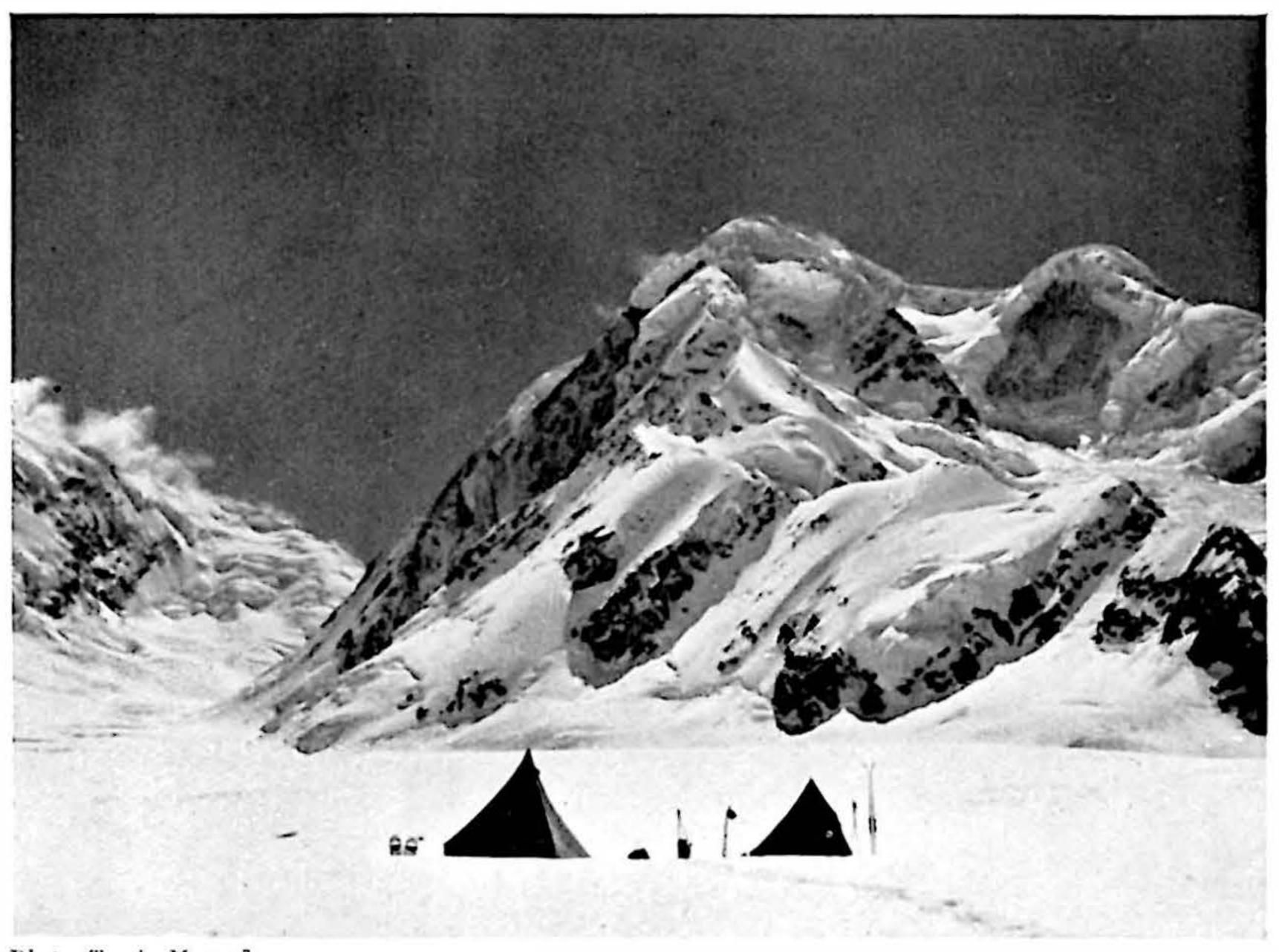
Terris made the 50-mile 'hike' back to Lituya, returning with his skis and a great load of beans. A few days later the writer followed suit, bringing up skis and snowshoes for the rest of the party. It seemed delightful to walk again on the beach trail, through mossy glens carpeted now with the fragile beauty of calypso—a dainty wild orchid—beneath the trees. It was a relief to sleep under a roof and to watch the rain

outside.

A final trip to the cache yielded at last the coveted view of Mt. Fairweather. The N.W. ridge was discarded. Tentative routes were outlined on the S. face. The steps in the glacier leading to it gave food for thought. The ice cascades extended the full breadth of the glacier and abutted sharply against its retaining walls. Here was a place to test the wisdom of our early start: we hoped to find marginal drifts and avalanche snows to fill the cracks and aid our ascent.

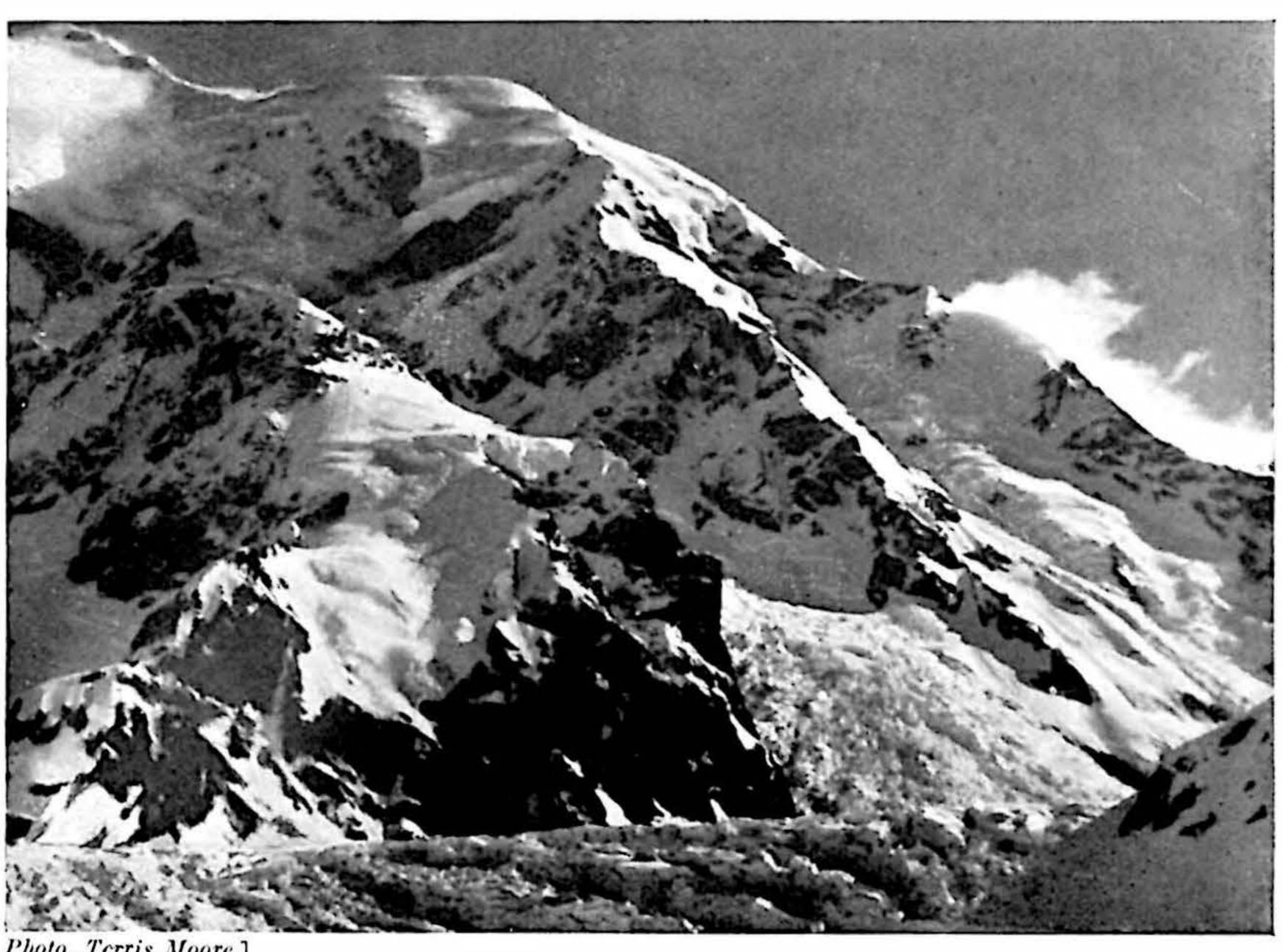
The glacier abounded with little black jumping fleas and snow worms. The latter—the existence of which is generally doubted by Alaskans—are about an inch long, the thickness of a pencil lead, and they thrive only where there is perpetual snow and ice. They are active on the surface in cloudy weather, but when the sun shines they burrow deep into the snow to escape it.

A full day's march was consumed in reaching the S. margin of the glacier. Here edge cracks made it difficult to get ashore. The next camp was above the first icefall, in a pleasant amphitheatre opening out to the south. Crossing this, we climbed very steep side slopes, subject to surface peels and with yawning marginal crevasses below, to a cache at the top of the upper icefall. Thence 2 or 3 miles across the gently rising, smooth white surface brought us to the very base of the S. face of the



Photo, Terris Moore.]

CAMP AT 5,000 FT.



Photo, Terris Moore.]

TELEPHOTO VIEW, DISTANT SIX MILES, OF FAIRWEATHER'S SOUTHERLY SLOPES. The line of ascent was by the middle of these three ridges. The 9,000 ft. camp was located half-way up this ridge.

[To face p. 224.



Photo, Terris Moore.]

CAMP AT 9,000 FT.



ON A RIDGE BELOW THE SHOULDER.
Line at top is horizon of Pacific Ocean.

mountain. Each of these stages was repeated several times, of course, with the loads.

Our camp was at about 5000 ft. A day of clearing accompanied its establishment, giving us views of unparalleled magnificence. We were at the entrance to a fine, broad cirque reaching out S. and E. beneath splendid peaks 12,000 ft. high. Save for Mt. Lituya, by no means the highest, they are unnamed. It was the 24th of May. Up here, mountain and valley were still in winter garb, and over everything was the blinding whiteness of the new-fallen snow. It seemed to me that this was altogether the most beautiful place I had ever

seen; but I confess to that perennial impression.

We could not see the summit of Fairweather. The highest point visible was a sharp little pinnacle against the sky, really an arête seen end-on, at perhaps 12,500 ft. This capped a fairly continuous rib terminating directly behind our camp. A much more pronounced ridge descends somewhat farther E. from the main S.E. shoulder of the mountain, at the base of which it is joined by the subsidiary rib. This juncture was just above what we could see. These two ridges impressed themselves upon us from below as possible routes up the mountain; now the secondary rib appeared the more feasible. At its top, near the sharp arête which we could see, were the steepest places. Here the glasses caught from far off the blink of naked ice, and we considered this place the crux of the ascent.

On May 25 we got a camp up the very steep slopes to about 9000 ft. We carried one tent, two air mattresses, a stove, bedding and food for a few days. We held to the right of the actual crest of the rib, following first an avalanche fan which fortunately bridged some ugly marginal cracks in the glacier, then steep reaches of snow with two short rocky steps. In the steepest places the hard, dark ice of the glacier was very close under the surface. The rock was not difficult, but being covered with much snow and of a crumbling consistency required care. We used crampons on it.

There was little choice of camping places. The average inclination of the face was around 40°. A slight wave of snow covered the jutting point of a rock promontory; by shovelling away the surface drift we made a platform large enough for

the single tent.

But two days of good weather in succession were too much to be hoped for. Clouds came up and by the afternoon it was snowing. We were up at midnight, ready to go on if we could. It was still snowing. We waited a couple of hours. Towards morning we reluctantly put down the tent, stowing our supplies in it and weighting it down with such stones as we could dig out of the snow. Three hours of nasty going saw us back at the glacier camp.

The morning of May 27 dawned cloudy but became deceptively clear and very beautiful later. In the afternoon the storm commenced in earnest—a steady, heavy fall of snow and a high wind. On the 28th we dug a pit 5 ft. deep in the glacier floor and set the tent in it, as we feared that the wind would take it away. By the 29th the fresh snow was more than knee-deep. We shovelled twice a day to save the camp from burial. During a clearing interval on the 30th, Terris made a courageous trip below the icefalls on skis for a load of supplies, returning late after a long, hard day in soft snow.

Finally, late on May 31, the wind changed and a cold, clear night ensued. The temperature dropped to 5° F., unusually low for this elevation. Northern lights flared through the pale half-light of the Alaskan night. The morning of June 1 was gorgeous: warm sun, a few high clouds drifting lazily, snow and mist blowing off the ridges. There had been much snow high up and it lay deep on the rocks. Avalanches thundered on all sides. Conservatively, we awaited an improvement in snow conditions before starting up again, despite the danger of another reversal in the weather.

On June 2 a very early start brought us to the high camp just as the new-formed crust began to soften. The tent was completely covered: carefully we chipped it out of the frozen mass and set it up. At 1.30 A.M. on June 3 we started on. Two hot days and cold nights had made a good surface. Also, as it turned out, they had used up a large part of our destined period of good weather. A biting wind came down on us as we climbed. A dull red glow, like a distant fire, appeared behind Mt. Crillon; it was the moon rising. Before long we came upon an ice wall, up which Ladd cut rapidly. The slopes steepened as we approached two fine snow arêtes which joined our rib to the base of the S.E. shoulder of the mountain. Here was the bare ice step which we had feared: we could climb along the side where there was some snow. The sun met us as we topped the arête. Everything seemed very favourable and we forgot such misgivings as we may have felt in the early hours.

We were now on a rough, icy surface, so hard that the worn

spikes of our crampons barely took hold. The summitpyramid of the mountain stood in bright sunlight beyond the shadowed bulk of the shoulder. It looked quite formidable, with twisting cracks and strange extruded masses emphasized by the slanting light. An hour's pull put us on the shoulder. We looked down on the fearful S.E. ridge and out to the S. to Mts. Crillon and La Pérouse. A dull haze, as of smoke from forest fires, dimmed the view.

It was 9.20. A gently dipping ridge led half a mile or more to the foot of the summit-pyramid. The peak was perfectly clear in an azure sky. We felt that the mountain was won. We dug holes in the crisp drift to shelter us from the wind, and breakfasted. The thermometer registered 5°. At 10 we started on, so confident that we left our remaining willows behind.

We made slow progress, some of us feeling the altitude, or the exhaustion of the long climb. Halfway up the summitcone a steepening ice wall necessitated slow cutting; the snow above and below was thin and difficult. A cloud cap had suddenly formed on Mt. Crillon. Soon rivulets of a fine, dry hail began to cascade viciously over the bulge above us, filling our steps. When we emerged once more on to clear slopes, storm and clouds were upon us.

We tried to go on, but it was a forlorn hope. The wind and snow were quickly erasing our tracks. It was apparent that we might have a hard time finding our ice steps, and failing to find them would surely have difficulty in returning. One of us had an extra pair of black felt insoles in his pocket—what a fortunate chance that we had purchased the black variety!—and by planting them in the snow we made shift for trail markers. The route ahead was not clear; following the opinion of the majority we détoured far to the right, only to bring up against a maze of crevasses. At about 1 p.m. we called off the attack. It took us two hours to descend the ice steps,

It has been an interesting observation on all of the writer's Alaskan climbs that the atmospheric pressure on the summits has corresponded to elevations about 10% greater than the actual. This has been shown by a number of barometers, and may be largely explained by the low average temperature and consequent greater density of the column of air from sea-level up to the summit. Whatever the cause, the air pressures on Mt. Logan, Mt. Bona and Mt. Fairweather were those which, by the usual reckoning, should be encountered at elevations of 22,000, 18,000 and 17,000 ft., respectively.

one man at a time in the driving gale, anchored by a rope. At 4, still in the blizzard and seeing nothing, we were back at the shoulder. Aided now by the willows, we made a late return to

the high camp. The storm was general.

We were discouraged. Twice we had failed, because the intervals of good weather were not long enough for the climb from the glacier base, especially if one allow for consolidation of the snow. We were near the end of our allotted time. Supplies were limited; if we were still to succeed we must be ready to start on short notice, from the high camp. Should the storm be a long one, some of us would have to go below for more food. We were in an exposed position, far from our base, surrounded by slopes not altogether inviting in bad weather.

To our very great regret, Dr. Ladd decided that he, with Andrew Taylor, as the older men of the party, would go down the next morning. Terris Moore and the writer agreed to stick it out at the high camp and make a dash for the summit. The division of forces doubled, of course, our margin of food at the high camp; but the memory of our ultimate success will always be clouded by the absence of the two men who should have first credit for its accomplishment. For it is unlikely that our expedition would have been undertaken at all without Ladd's enthusiastic support; while Taylor's essential contributions to the whole technique of Alaskan mountaineering are too well known to require comment.

An exciting incident marked their departure. The tent overlooked a tremendous gorge or chute extending in one sweep from the ice breaks below the shoulder to the base of the mountain, a vertical drop of probably 7500 ft. The floor of this gorge was narrow and trough-like, occupied by an active glacier, but so scored and channelled by continual avalanching that its transverse crevasse system was almost completely covered. The packs were made up and placed outside the tent during breakfast. Imagine our dismay when one of the bed-rolls was found to have disappeared bodily, carried off by the wind. At first no trace of it could be seen; finally it was espied, through glasses, balanced on the brink of a crevasse, nearly 2000 ft. below us. Fortunately it was on the near side of the glacial gorge, likely to be accessible on the descent.

Ladd and Taylor left in gusty winds and flurries of snow. We turned in and slept. Suddenly I was aroused by the sound of an avalanche so large and so near at hand that the ground trembled. Outside was dense fog. We had no time-piece, and could only guess at the hour. Had our companions retrieved

the missing pack, or might they still be in the path of the slide? Anxiously we peered for a break in the clouds. When it came, the surface of the glacier was wholly changed, the bed was gone, no tracks were visible. We watched the camp below, whenever we could see it, for signs of life. Two days went by with no certain sign of occupancy. Then, on the third morning, the tent was gone. They had moved away; a load of anxiety was lifted.

We were alone on the mountain. It was not very cold. Below we imagined it to be raining, with disagreeable effects on our route of descent. At night the wind came up strong. We had to take the tent pole down and gather the straining canvas in our hands lest it be torn to shreds or carried over the precipice. The wet snow melted through and converted the interior into a lake which we bailed out with an empty tin. Small avalanches passed with a swish close to the tent. Waterfalls of drier snow poured over the cliffs high above. Once, while we looked, the whole surface sheet of powder snow coasted silently off the hidden reaches of the shoulder, took the air in great rolling waves, and quickly filled the glacial chute at our feet. There was no sound whatever.

Late on June 7 confused cloud movements presaged a change. Lituya and its neighbours shook off their cloud-caps at last and stood suffused by the rose and purple of the setting sun. The barometer remained strangely low. We lunched hurriedly and started, probably about 10 p.m., still a bit uncertain about the prospects. We took with us a sleeping robe, a tarp, shovel, and food enough for several days, ready to dig in and bide our chance if the storm should resume. We also carried our 7-ft. jointed steel tent pole and an extra parka to make a flag which we hoped might be seen from below.

The going was pretty deep. We crawled, Indian fashion, on all fours, distributing our weight on knees and forearms. It was very cold, certainly well below zero. As we approached the arêtes we measured the grade with a clinometer: 55° was maintained over a long slope and the steepest place touched 60°. The surface was not what one would choose for walking at this angle, but it held up surprisingly well. High up everything was changed. Fantastic and unstable corniches draped the ridges and twice broke under our feet. In the W. the shadow of the mountain lay clear and immense upon a carpet of low sea-clouds; and around a point on the silhouette, corresponding to our own station on the mountain, was an iridescent halo. By it we observed our slow progress toward the shoulder. Here, at perhaps 6 a.m., the welcome sun met

us. Without a halt we went on to the ice steps of the preceding climb. Above them, we followed the crest of the ridge

straight to the top; this seemed the easiest way.

It was very clear, windy and bitterly cold. We saw Mts. St. Elias, Logan, Vancouver, McArthur, Lucania. The coast was like a chart from Dixon Harbour to Yakutat. Cape Fairweather seemed at our feet, while on the opposite side we glimpsed the waters of Glacier Bay between winding ridges and deep-cut valleys. Very striking was a long valley running N.W. to the Alsek, in prolongation of that occupied by the Grand Pacific Glacier at the head of Glacier Bay. As on our previous climb, Mt. Crillon stood out as the undisputed primate of its group. Mt. Root rose easily from a smooth plateau N. of us, whence icefalls seemed to discharge to the Grand Plateau Glacier. We tied the parka to our tent pole and set it up on the edge of the summit facing the sea.

After leaving the summit we had shelter from the wind. The sun became roasting hot and the snow was melting rapidly even at the altitude of the shoulder. We rested briefly and discarded unneeded provisions, but pushed on soon in fear of the condition of the snow below, which was indeed bad. With some care and more luck we got down to the tent about 4 P.M.

The descent of the remaining 4000 ft. was a nightmare. Sun and rain had got in their work, the season of night frosts was passing, the snow was wet and treacherous. Wide bands of hard, old ice had opened in the steepest places, requiring slow cutting. We were directly in the path of falling rocks. Despite an early start, it was afternoon when we reached the

site of the glacier camp.

The retreat from this point requires few words. Terris went on to Paradise Valley the same afternoon. The writer followed next day after a windy, cloudy night, coasting with the skis down the southern margin of the glacier and leaving them at the dry ice. They were a great help in crossing wide settling cracks which had opened in the steep snow track past the icefalls. In Paradise Valley the snow was gone and we walked barefoot among the tetragona heather and the pliant young willows. Abandoning what we could not carry, but still with heavy packs, the 25-mile jaunt to Lituya was made in one long march. Here we rejoined the other members of our party and found a waiting boat,⁴ in which we left on the afternoon tide, June 12, for Juneau.

⁴ The Pheasant, Capt. Maycock.

[We must congratulate the party on a magnificent expedition. The ascent of Mt. Fairweather is, we understand, the hardest yet accomplished among the 'Arctic' mountains of North America. We venture to reprint two sentences from a letter received from Mr. Carpe: . . . 'I wish that I could do justice to the careful and efficient arrangement of supplies in this expedition—largely the work of Ladd. We lived in luxury for two months on what we carried on our backs, and returned to civilization without a single unsatisfied craving. . . .'—Editor.

In the Mont Blanc Massif and the Oberland.1

By Miss MIRIAM E. O'BRIEN.

I.—MONT BLANC GROUP.

NO plan or systematic climbing programme guides my summer holidays. I normally summer holidays. I never attempt to do a series of climbs of the same type, or all the peaks in one region, or all of a certain height, or anything of an orderly and systematic nature. My choice is aimed rather at the greatest possible variety—a few climbs here and there, in the Dolomites or in the Dauphiné, in the Engelhörner or on skis in the Engadine, as fancy or-more often and more prosaically-weather and conditions may dictate. Sometimes with guides, sometimes guideless, and sometimes—best of all—manless (but that is another story). This paper, therefore, will not describe the carrying out of any purpose or definite aim in climbing, but will be, rather, a rambling story of some unrelated ascents, done in the last two or three years, that have seemed to me particularly interesting. And in order that the story shall have some semblance of unity, it shall be concerned with only two regions the Mont Blanc massif and the Oberland.

The Mont Blanc massif has always been a favourite of mine, because it strikes me as the region par excellence for such rock climbing as is at the same time high Alpine mountaineering. In the Dolomites and similar exclusively rock-climbing centres,

¹ We desire to express our indebtedness to Mrs. Dawson and Messrs. H. de Ségogne, R. L. M. Underhill, and Howard Palmer for permission to use extracts from journals edited by them.—*Editor*, A.J.