

These were probably Reilly's last big expeditions. He had ascended Mont Blanc on August 18, and soon afterwards 'had an accident at Geneva and injured his knee so seriously that he was incapable of further hard climbing.' (Mumm, *A.C. Register*, I. 271.)

See also *A.ſ.* 49. 279 and *A.ſ.* 55. 262, where the year is given, apparently incorrectly, as 1870.

August 20-24, 1871. WM. MATHEWS, A. A. REILLY. From Zermatt to Kandersteg.

August 17, 1874. F. E. MARSHALL, J. A. GARTH MARSHALL. Johann Fischer of Meiringen with Ulrich Almer of Grindelwald took us up the Aletschhorn by the arête lying immediately N. of the top (time from the Faulberg to the top, 6 hours—snow in rather bad condition) and down to this place by the arête running S.W. from the top, which divides the head of the Ober Aletsch Gletscher. (Time to Bel Alp, 5 hours.)

J. A. G. Marshall and Johann Fischer were killed on the Brouillard Glacier fifteen days later.

August 7, 1875. WILLIAM DAVIDSON, W. E. DAVIDSON, LAURENT LANIER. From Aeggischhorn.

AN EXPEDITION TO THE LLOYD GEORGE MOUNTAINS OF NORTH-EAST BRITISH COLUMBIA

By F. S. SMYTHE

Read before the Alpine Club, March 2, 1948

THE Canadian Rockies S. of Mt. Robson, 12,972 ft., have been largely explored and mapped and the principal summits ascended.

Northwards of Mt. Robson where the Rockies extend for some 500 miles to the Liard river much less is known. One expedition to the Sir Alexander range climbed some of its higher peaks, but in the 25,000 square miles N. of the Peace river and between it and the Liard river not a single major mountain had been climbed before 1947 and the country was mostly unmapped and unexplored.

It was along the Peace river, and its main tributary the Finlay river, that the original pioneers travelled in their canoes to make contact with the local Indians and establish their fur trading posts. Today the country is little if any more populated than it was 100 years ago, for it is a country as savage and as remote as any in North America, one incapable of development except perhaps for minerals.

The Hudson Bay Company established a post at Fort Ware on the headwaters of the Finlay river and to this post towards the end of the last century came rumours from trappers, prospectors and Indians of a high mountain range with extensive glaciers to the N.E.

In 1893 R. G. McConnell of the Canadian Geological Survey ascended the Kwadacha river from Fort Ware to its junction with the Warneford river, at the head of which he observed a snowclad range. Nothing more was done until 1914, when Frank Swannell of the British Columbia Topographical Survey fixed the position of the range by rays from a hill above Fort Ware.

Fired by the accounts he had heard, an American traveller, Paul Leland Haworth, in 1916 set off in a canoe with a single companion from Prince George in the S. After weeks of arduous paddling they reached Fort Ware. They then attempted to ascend the Kwadacha river, but progress proved so slow and difficult that they ran out of food and might have died had they not shot and eaten a bear. But before retreating Haworth climbed a mountainside and from it saw a range of three high peaks surmounting an extensive icefield, undoubtedly the same as that observed by McConnell and Swannell. This he named the Lloyd George range after the British Prime Minister of whom he was a great admirer.

He returned in 1919 with a stronger party, but made a topographical error. Instead of turning away from the Kwadacha river up its tributary the Warneford river, he continued to follow it past the range to the S. Then he left his canoe and struck across country through the bush. Finally he and his companion, Dr. Chesterfield, arrived nearly exhausted and with their provisions running out at the southernmost end of the 6 miles long lake named after him. From the shores of the lake he gazed across its turquoise blue waters on the Promised Land which he had made such great efforts to reach, the Lloyd George Mountains supporting with walls of yellow limestone a vast expanse of shining icefield. And so once again he had to return, this time from the very threshold of his dreams.

The only other expedition to approach anywhere near the range was the Bedaux (Citroën) expedition of 1934 which with horses struck N.W. from the Peace river block in the S., and followed the Kwadacha river past the southern end of the Lloyd George range to Fort Ware. This powerfully manned and equipped expedition employed scores of packers to cut a passage through the bush and covered much new country.

In 1946 Major Rex Gibson of the Canadian Alpine Club and I discussed the possibility of an expedition to the range. To have proceeded by canoe, packhorse or on foot would have taken an impossibly long time having regard to the shortness of the summer in these latitudes and would have cost many thousands of dollars. There is only one way in which food and equipment can be transported quickly, easily and cheaply in such a country, and that is by aircraft. Having decided upon this Gibson arranged with the Central British

Columbia Airways for the charter of a seaplane capable of landing us on Haworth lake.

The expedition consisted of the following members : Henry Hall of Boston, John Ross of the Harvard University Mountaineering Club, David Wessel of Montana, Rex Gibson, N. E. Odell, my wife and myself. Odell came as both mountaineer and geologist. My wife was the cook to the expedition, and in addition to preparing meals at all hours of the day and night attended to all the make and mend required ; and limestone rocks are rough on the mountaineer's clothing.

The objects of the expedition were : to explore the range and icefield and ascend its highest peaks ; to make topographical and geological surveys, for the second of which Odell was responsible ; and to collect herbarium specimens of the flora. This last was my job.

We came together at Jasper, Alberta, in June 1947 and got off at the end of the month in two parties, one to Fort Nelson on the Alaskan Highway and the other to the seaplane base at Fort St. James. The second party was delayed by a freight train running off the rails and still more when the wrecking train en route to salve the wrecked train also ran off the rails.

When we of the second party arrived at Fort St. James on July 2 the air company professed that they had never heard of us though we had been corresponding with them for months, and had arranged every date and detail. It transpired that the Managing Director who had corresponded with us had left the firm after parking the correspondence in an envelope marked ' Miscellaneous.' However, a flight was promised for that same day, and after lunch we took off for Haworth lake, 300 miles to the N., in a Junkers all-metal float-plane with a single Pratt and Whitney engine. Our pilot was Mr. Pat Carey, one of those intrepid bush pilots who are doing so much to open up North-Western and Northern Canada to prospecting, mining, lumbering and agriculture. Not for him were the amenities of normal flying such as radio direction finding and weather reports. He had to fly by the light of nature and of his own great experience over a country largely unmapped or at best delineated at a scale of one in a million. When I asked him what he would do in the event of a forced landing, should there be no water handy, he replied casually : ' I guess I should put her down on the forest, she would go along the tree tops like a toboggan.'

For the greater part of the flight we were over one of the wildest and loneliest countries I have seen. We crossed the Finlay river above Fort Graham and enjoyed an interesting view of the great valley down which it flows, the geological fault popularly known as the Rocky Mountain Trench which traverses the Rockies from N. to S. for many hundreds of miles parallel to and to the W. of the watershed. Suddenly in the N. between the clouds a great sheet of snow shone out. It was our objective, the Lloyd George icefield some eighty miles away. Scores of minor rocky and snow-capped peaks slipped away beneath us, and between them we gazed into the depths of shadowy forest-filled valleys and rocky canyons in which glinted threadlike rivers.



Photo, F. S. Smythe.]

THE CLOUDMAKER GROUP AND HAWORTH LAKE FROM THE EDGE OF THE LLOYD GEORGE ICEFIELD.
(The position of the base camp is marked.)

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Photo, F. S. Smythe.]

THE LLOYD GEORGE ICEFIELD FROM THE E.

The three peaks are (left to right), Mts. Glendower, Lloyd George and Criccieth.

In a few minutes more we turned a corner and the mountains unfolded on one of the loveliest views we had seen : Haworth lake suddenly revealed set like an enormous glowing turquoise in a diadem of blue-green forest with above a circlet of golden limestone precipices supporting in their turn a vast field of snow. Then the engine was switched off and we were quietly gliding down, and in the quietness, the scene, which had seemed at first something cinematic and unreal, became suddenly real as the mountain walls and the séracs of a savage icefall rose to meet us. We swung round and in a few moments made a perfect landing on the mirrorlike surface of Haworth lake.

As we stepped ashore we were met by millions of the voracious local man-eaters—mosquitoes, the curse of the Canadian North. However, we were well provided with nets and an oil which repelled them for hours. The base camp was pitched amidst the muskeg (swamp) close to the shore of the lake on some mossy ridges a few inches above water level, a damp and mosquito-infested place, but the only one suitable. This done we set about making ourselves comfortable. Trees were felled and a table and benches constructed ; more important still, a kitchen. There is much to be learned about living in the Canadian bush and he who learns will be far more comfortable than he who does not.

Our first impression of the country was that owing to the moist climate the forest of Engelmann spruce in which we were camped had never been burned. It was in its primeval condition, its tall trees draped with epiphytic mosses and beneath them a tangle of bush willows, alders and Labrador tea mixed with the deadfall of countless years. The profusion of colourful mosses and lichens was another indication of high precipitation of rain and snow.

The weather turned bad after our arrival and during our month's stay in the area granted us few fine days, indeed scarcely one unbroken by showers and thunderstorms. As we learned later, the summer of 1947 in the Canadian Rockies was the rainiest for forty years. During the first half of July the weather was in such poor shape that we did little more than make minor ascents and reconnaissances.

On July 3 the aircraft, which had flown on to Fort Nelson, returned with the three other members of the expedition, and on July 5 with the remainder of our provisions and equipment. On this last occasion we utilised it for a three hours' reconnaissance flight by Hall, Odell and myself over the neighbouring ranges. Some of these had been observed from the air and the Survey of Canada had named one the Churchill range, and a prominent peak Mt. Roosevelt. To complete this galaxy of the great, another peak N. of Tuchodi Lake, had been named Mt. Stalin. It was a singularly austere and forbidding mountain. This reconnaissance flight resulted in some interesting photographs of the Lloyd George range. Half an hour after we landed a heavy storm broke accompanied by a violent line squall, low mists and torrential hail and rain. We had returned only just in time.



Photo, F. S. Smythe.]

**MTS. GLENDOWER AND LLOYD GEORGE WITH ICEFIELD
OF LLANBERIS GLACIER. (Air photo.)**

The route up icefall was made up true right side.

During the flight Gibson, Ross and Wessel made a bold reconnaissance to the icefield up the steep glacier (Llanberis) to the N. of the base camp which forms an icefall over 4000 ft. in height. Having reached the icefield they had proceeded some distance when they were overtaken by the storm already mentioned. So unpleasant was the prospect of retreat across the exposed stormswept icefield that Gibson, ever a bold and skilful mountaineer, decided to force a route directly down the precipice below the edge of the icefield. This was only accomplished after much difficulty and the party arrived at the base camp shortly before dark.

An interesting discovery was that of a stagnant glacier. Enclosed in a narrow valley between rocks 4000 ft. high the ice of a glacier some 2 miles long had lain motionless and practically unmelting for hundreds, perhaps thousands of years. Débris falling from the cliffs above had accumulated on the ice and now plants and small shrubs and trees were growing in it. This is believed to be the only stagnant glacier to have been found S. of Alaska.

From the stagnant glacier a route was discovered up the second highest peak of the range (Mt. Glendower, 9400 ft.); and on July 15 this peak was climbed, after much hard work in a steep 4000 ft. high snow-filled gully by Gibson, Hall and Ross.

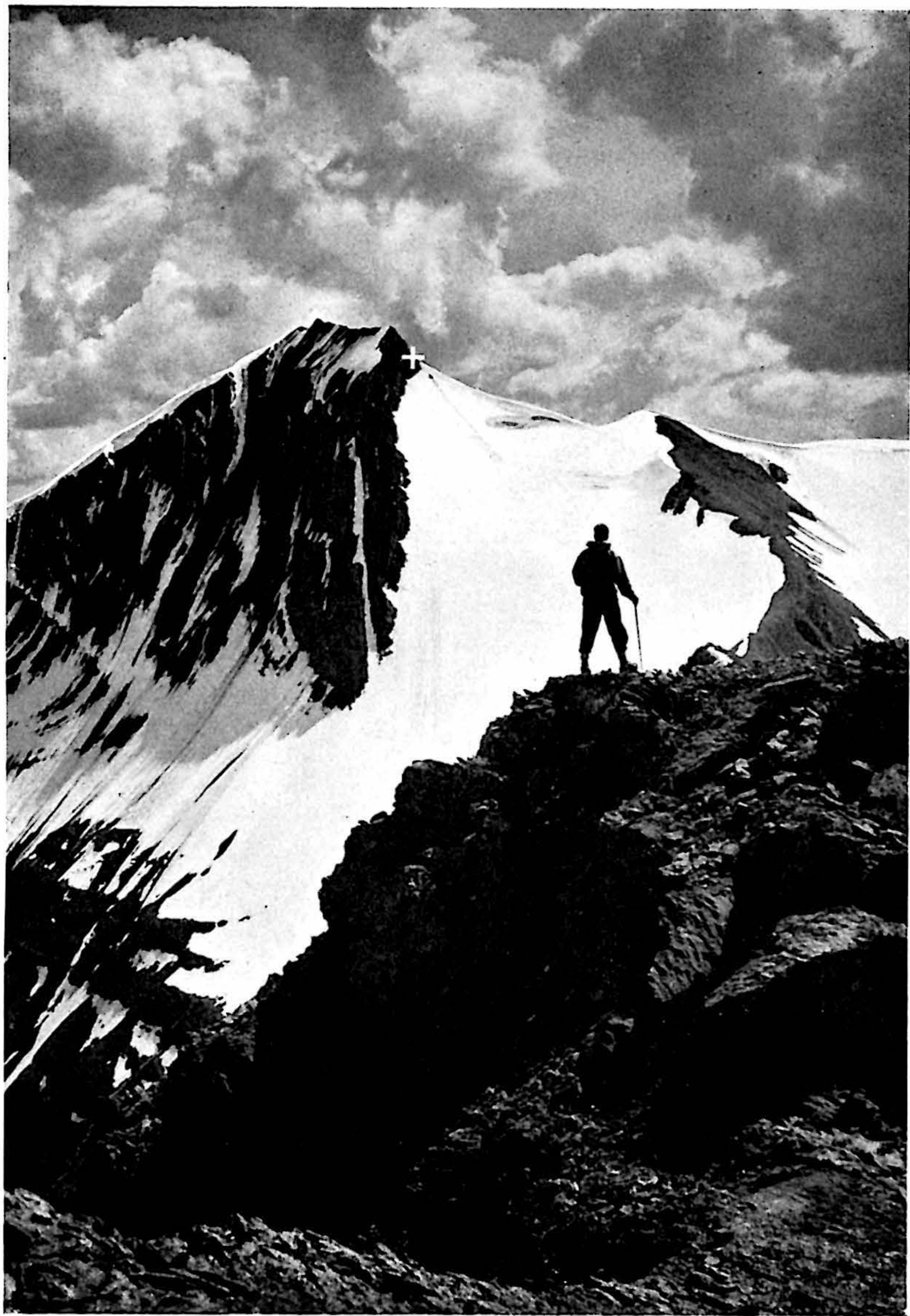
Two days later the whole party, excepting for my wife, who volunteered to remain alone at the base camp, set off to climb the highest peak of the range, Mt. Lloyd George, 9450 ft. As the base camp was situated at 3500 ft. this meant an ascent of nearly 6000 ft.

The weather was perfect, the best of the expedition. Our route lay up the icefall of the Llanberis Glacier and for an hour we had to run the gauntlet of ice avalanches from unstable lines of séracs. It took five hours to reach the icefield and when we did we found soft, deep and laborious snow. It was not until another five hours later that we reached the summit of the mountain after climbing its S. ridge. It was a happy occasion, for as mountaineers of three nationalities we pulled together perfectly throughout the expedition. The visibility was brilliant, and the view extended over 100 miles in all directions. As we gazed it was amazing to realise that of a multitude of peaks and ranges not one had been trodden by man.

The snow was even worse on the descent and we did not arrive back in camp till 10 P.M., a day of 20 hours.

After this the eastern end of the icefield was explored and a number of peaks climbed. A base line was measured in the valley near the camp and three survey stations established, two above the icefield. From one of them the third highest peak of the range, Mt. Criccieth (9050 ft.), was climbed. In the course of one reconnaissance some axe cuts in the trees at the N.E. end of the lake, estimated to be twenty years old, were discovered. They must have been made by some wandering Indians or a prospector.

During this period I collected about 200 specimens of the flora. No new species were found but the geographical distribution of the



Photo, F. S. Smythe.]

THE CLOUDMAKER, 8500 FT., FROM THE SUMMIT OF THE LITTLE CLOUDMAKER.
(The point at which the thunderstorm overtook the party is marked.)

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Photo, F. S. Smythe.]

VIEW OF A PORTION OF THE ICEFIELD LOOKING E. FROM THE SUMMIT OF MOUNT LLOYD GEORGE.

existing species was interesting in that it included a large majority of plants found hundreds of miles to the S. This was due to the presence of the warm airs from the Pacific 400 miles away, which influence the climate along the whole of the Canadian Rockies. The colour motif of the flora was blue and it included delphiniums and lupins, blue borage, mertensia, forget-me-nots, monkshood, and large purple asters. High up many of these grew in dwarf form and there were many true Alpines including saxifrages, pedicularis, cassiope, gentians, and a host of beautiful miniature, almost stemless composites such as antennaria, artemisia, erigeron, senecio, arnica and asters. Then there was the red and yellow columbine of the Rockies and the famous Indian paint-brush in its red and yellow forms splashing the slopes with its brilliant colours.

Among the peaks ascended towards the end of the month was a fine twin-headed mountain opposite to the base camp which we had named the Cloudmaker on account of its tendency to manufacture clouds and storms. In order to reach the other side of the lake and avoid a traverse of its shores through wellnigh impenetrable bush, Wessel and I utilised a raft we had made, a heavy construction of four dead trees and a couple of cross pieces to hold them together.

We set out early one morning with three days' provisions and were poling and paddling along the shores of the lake when on turning a corner we suddenly came on a bear a few yards away seated on the bank. This bear was far larger than a grizzly and a light brown in colour. It transpired that it was an Alaskan brown bear and there is a fine specimen in the New York Natural History Museum which weighs 1550 lb. and stands about 8 ft. high.

As soon as he saw us the bear jumped into the water and commenced to swim for the raft making for the end on which I was balanced astride the logs. I had to turn round to face him and, in doing so, nearly upset the raft and tipped my companion and myself into the water. Then I yelled at the bear and beat at the water with my paddle. This was without effect and as he was only a yard or two from the raft I raised my paddle intending to hit him on the nose as a last resort. But suddenly he turned, swam to the bank and crashed off into the bush.

Later that day we had two narrow escapes from lightning when sheltering from a thunderstorm near the summit of the Cloudmaker. We were driven down, cold and soaked to the skin, but returned and managed to reach the summit. We descended to timberline in the last light and sat all night by a great fire. My companion summed up our adventures when he remarked, 'Well, Frank, I guess we can call it a day.'

Our concluding expedition was a traverse of the two highest peaks of the range in a single day, one which involved the passage of some fine snow and ice ridges and occupied 22 hours. On July 30 the aircraft returned and transported us back to a civilisation which for a month we had happily and thankfully forgotten.